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12 **Attachments**

13 Attachment A: Wildlife Monitoring and Mitigation Plan

14 Attachment B: Habitat Mitigation and Revegetation Plan

15

16

LIST OF ABBREVIATIONS

1		
2		
3	APE	Area of Potential Effect
4	ASC	Application for a Site Certificate
5	BBS	Breeding Bird Survey
6	BLM	Bureau of Land Management
7	BPA	Bonneville Power Administration
8	BPAE	BP Alternative Energy North America Inc.
9	Council	Energy Facility Siting Council
10	CREP	Conservation Reserve Enhancement Program
11	CRGNSA	Columbia River Gorge National Scenic Area
12	CRMP	Cultural Resource Management Plan
13	CRP	Conservation Reserve Program
14	CSZ	Cascadia Subduction Zone
15	CWEC	California Wind Energy Collaborative
16	dBA	The “A-weighted” sound pressure level. The sound pressure level in decibels
17		as measured on a sound level meter using the A-weighted filter network. The
18		A-weighted filter deemphasizes the very low- and very high-frequency
19		components of the sound in a manner similar to the frequency response of the
20		human ear and correlates well with subjective reactions to noise.
21	Department	Oregon Department of Energy
22	DEQ	Oregon Department of Environmental Quality
23	DOGAMI	Oregon Department of Geology and Mineral Industries
24	DSL	Oregon Department of State Lands
25	EFSC	Energy Facility Siting Council
26	EFU	land zoned for “exclusive farm use”
27	ESCP	Erosion and Sediment Control Plan
28	FAA	Federal Aviation Administration
29	GHWF	Golden Hills Wind Farm LLC (or “Applicant”)
30	Golden Hills	Golden Hills Wind Project
31	IBC	International Building Code
32	IBR	Iberdrola Renewables
33	kV	kilovolt or kilovolts
34	KVAs	key viewing areas
35	LCDC	Land Conservation and Development Commission
36	MCE	Maximum Considered Earthquake
37	met tower	meteorological tower
38	MW	megawatt or megawatts
39	MPE	maximum probable
40	m/s	meters per second
41	NEPA	National Environmental Policy Act
42	NH	natural hazards
43	NOI	Notice of Intent
44	NPDES	National Pollutant Discharge Elimination System
45	NRCS	Natural Resources Conservation Service
46	O&M	operations and maintenance

1	ODA	Oregon Department of Aviation
2	ODFW	Oregon Department of Fish and Wildlife
3	ODOE	Oregon Department of Energy
4	ODOT	Oregon Department of Transportation
5	ONHIC	Oregon Natural Heritage Information Center
6	ONHP	Oregon Natural Heritage Program
7	PGA	peak ground accelerations
8	PUC	Oregon Public Utility Commission Safety and Reliability Section
9	RAI	ODOE request for additional information
10	SCADA	Supervisory Control and Data Acquisition
11	SCCP	Sherman County Comprehensive Plan
12	SCZO	Sherman County Zoning Ordinance
13	SHPO	State Historic Preservation Officer
14	USACOE	U.S. Army Corps of Engineers
15	USFWS	U.S. Fish and Wildlife Service
16	WEST	Western EcoSystems Technology, Inc.
17	WMMP	wildlife monitoring and mitigation plans
18	WSR	federal Wild and Scenic River

1 **GOLDEN HILLS WIND PROJECT**
2 **FINAL ORDER**

3
4 **I. INTRODUCTION**
5

6 This Final Order addresses the Application for a Site Certificate (ASC) for the
7 construction and operation of a proposed wind energy facility in Sherman County, Oregon. The
8 applicant is Golden Hills Wind Farm LLC (“GHWF” or the “Applicant”). The Applicant has
9 named the proposed facility the Golden Hills Wind Project (“Golden Hills”). The Oregon Energy
10 Facility Siting Council (“EFSC” or the “Council”) issues this Final Order based on its review of
11 the application and the comments and recommendations on the application by state agencies,
12 local governments, tribal organizations and the public.
13

14 ORS 469.320 requires a site certificate from the Council before construction of a
15 “facility.” ORS 469.300 defines “facility” as “an energy facility together with any related or
16 supporting facilities.” Golden Hills would be an “energy facility” under the definition in ORS
17 469.300(11)(a). A “site certificate” is a binding agreement between the State of Oregon and the
18 Applicant, authorizing the Applicant to construct and operate a facility on an approved site,
19 incorporating all conditions imposed by the Council on the Applicant.
20

21 It is the public policy of the State of Oregon that “the siting, construction and operation
22 of energy facilities shall be accomplished in a manner consistent with protection of the public
23 health and safety and in compliance with the energy policy and air, water, solid waste, land use
24 and other environmental protection policies of this state.” ORS 469.310. A site certificate issued
25 by the Council binds the state and all counties and cities and political subdivisions of Oregon.
26 Once the Council issues the site certificate, the responsible state agency or local government
27 must issue any necessary permits that are addressed in the site certificate without further
28 proceedings. ORS 469.401(3).
29

30 To issue a site certificate for a proposed facility, the Council must determine that “[t]he
31 facility complies with the standards adopted by the council pursuant to ORS 469.501 or the
32 overall public benefits of the facility outweigh the damage to the resources protected by the
33 standards the facility does not meet.” ORS 469.503(1). The Council, further, must decide
34 whether the proposed facility complies with all other applicable Oregon statutes and
35 administrative rules identified in the project order, excluding requirements governing design or
36 operational issues that do not relate to siting and excluding compliance with requirements of
37 federally delegated programs. ORS 469.401(4), 469.503(3). In addition, the Council must
38 include in the site certificate “conditions for the protection of the public health and safety, for the
39 time for completion of construction, and to ensure compliance with the standards, statutes and
40 rules described in ORS 469.501 and ORS 469.503.” ORS 469.401(2).
41

42 In accordance with ORS 469.370(1), the Oregon Department of Energy (“ODOE” or the
43 “Department”) issues a draft proposed order on an application. Following the issuance of that
44 draft, the Council must conduct at least one public hearing in the affected area. At the hearing,
45 the Council takes public comment on the application and draft proposed order. ORS 469.370(2).
46 Any issues that may be the basis for a contested case hearing must be raised by the public

1 hearing comment deadline or they are waived and cannot be considered in a contested case. ORS
2 469.370(3).

3
4 After the public hearing and the Council’s review of the *draft* proposed order, the
5 Department issues the proposed order recommending approval or rejection of the application.
6 The Department issues a public notice of the proposed order that includes notice that the Council
7 will conduct a contested case hearing on the application. The notice specifies a deadline for
8 requests to participate as a party in the contested case and the date for the initial prehearing
9 conference. ORS 469.370(4). Only those who appeared in person or in writing at the public
10 hearing on the application (described in the preceding paragraph) may request to become parties
11 to the contested case, and only those issues that were raised on the record of the public hearing
12 with sufficient specificity can be considered in the contested case. ORS 469.370(5).

13
14 After the conclusion of the contested case proceeding, the Council decides whether to
15 grant a site certificate and issues a final order that either approves or rejects the application based
16 on the standards adopted under ORS 469.501 and any additional state statutes, rules or local
17 government ordinances determined to be applicable to the proposed facility by the project order.
18 ORS 469.370(7).

19
20 The Council’s final order is subject to judicial review by the Oregon Supreme Court.
21 Only a party to the contested case may request judicial review, and the only issues that may be
22 subject to judicial review are issues that parties to the contested case have raised. A petition for
23 judicial review must be filed with the Supreme Court within 60 days after the date of service of
24 the Council’s final order. ORS 469.403.

25
26 The definitions in ORS 469.300 and OAR 345-001-0010 apply to terms used in this Final
27 Order.

28 29 **II. PROCEDURAL HISTORY**

30
31 On April 11, 2007, GHWF submitted to the ODOE a Notice of Intent (“NOI”) to submit
32 an ASC. ODOE issued public notice to the Council’s general mailing list and to adjacent
33 property owners on April 23, 2007, and also published notice of the NOI in *The Dalles*
34 *Chronicle*, a newspaper of general circulation in the area.

35
36 On May 16, 2007, ODOE held a public information meeting on the Golden Hills Wind
37 Project at the St. Mary’s Parish in Wasco, Oregon. Some individuals raised questions about the
38 applicability of the Oregon Department of Environmental Quality (“DEQ”) noise standards to
39 the project. There were no other issues raised. In its public notifications, ODOE requested
40 comments on the NOI from the public by May 31, 2007.

41
42 On August 10, 2007, GHWF submitted a Preliminary Application for a Site Certificate.
43 On October 8, 2007, ODOE sent GHWF a letter stating that the application was incomplete, and
44 requesting additional information (“RAI #1”). GHWF provided partial responses at various times
45 throughout late 2007 and early 2008. On May 22, 2008, ODOE issued a second RAI, restating
46 some questions from the first RAI and adding certain emergent issues. GHWF submitted

1 responses in June 2008, and provided additional noise maps and certain information regarding
2 cultural surveys in July 2008.

3
4 On August 4, 2008, the Department determined that the application was complete based
5 on additional information submitted by the Applicant in the time since the application was
6 submitted. As required under OAR 345-021-0055, the Applicant prepared a supplement to the
7 application and distributed copies of the supplement to the reviewing agencies and others
8 identified by the Department, together with the notice described in OAR 345-015-0200.

9
10 The Department issued public notice of the filing of the application by publishing the
11 notice in *The Dalles Chronicle*, a newspaper of general circulation available in the vicinity of the
12 proposed facility. On August 4, 2008, the Department mailed a notice of filing to the property
13 owners listed in Exhibit F of the application and to persons on the Council's general mailing list
14 and the special mailing list set up for the proposed facility, as described in OAR 345-015-0190.

15
16 On September 26, 2008, the Council appointed John Burgess as the hearing officer for
17 the public hearing and contested case proceedings for Golden Hills.

18
19 On October 6, 2008, the Department issued the Draft Proposed Order. The Department
20 issued notice of the Draft Proposed Order in *The Dalles Chronicle* and sent written notice to the
21 Council's mailing list and the list of all persons who were affected property owners, as identified
22 in the updated Exhibit F of the completed application, and to other persons who requested
23 notices on Golden Hills. In the notice, the Department announced that the hearing would be held
24 on October 27, 2008, in Moro, Oregon, and that public comments would be accepted until close
25 of business on November 10, 2008.

26
27 On October 13, 2008, the Department received a telephone call from Leland Anderson,
28 one of the affected property owners. Mr. Anderson stated that the list of townships and ranges
29 provided in the notice and in the Draft Proposed Order contained errors. On October 20, 2008,
30 the Department issued a second letter to the Council's mailing list and to the list of interested
31 persons and adjacent property owners. In the second notice, the Department provided a corrected
32 list of townships and ranges but did not change the date of the public hearing or the date for
33 public comments.

34
35 On October 27, 2008, Mr. Burgess held a public hearing on the Draft Proposed Order in
36 Moro, Oregon, and on October 31, 2008, Mr. Burgess continued the public hearing on the Draft
37 Proposed Order in The Dalles, Oregon. The comment period on the Draft Proposed Order closed
38 at 5:00 p.m. on November 10, 2008.

39
40 At an EFSC meeting in The Dalles, Oregon on January 23, 2009, the Department briefed
41 the Council on the Draft Proposed Order, on issues raised by the public comments, and the
42 Department's responses and recommendations regarding the public comments. The Department
43 received policy direction from the Council regarding the resolution of some of those issues,
44 particularly regarding the noise standard.

1 The Department considered all of the public comments and follow-up responses in
2 preparing the Proposed Order. The Department also incorporated the policy directions it had
3 received from the Council at the January 23, 2009 meeting. On March 16, 2009, the Department
4 issued the Proposed Order and provided the contested case notice required under ORS
5 345-015-0230(3).
6

7 The contested case notice specified a deadline of April 3, 2009 for interested persons to
8 request party status. Two requests for party status were received before the deadline, one from
9 Douglas and Carolyn Rhinehart and another from Donald Hilderbrand. By email message dated
10 April 21, 2009, the Rhineharts withdrew their request for party status, and by written response to
11 a request from the Department, dated April 9, 2009, Mr. Hilderbrand withdrew his request for
12 party status. On April 30, 2009, Mr. Burgess issued an Order concluding the contested case
13 proceeding. The Council considered the Department's Proposed Order at a public meeting in
14 Baker City, Oregon on May 15, 2009 and issued this Final Order.
15

16 **A. COMMENTS ON APPLICATION FOR A SITE CERTIFICATE**
17

18 In its notice of the ASC, ODOE requested public comments by September 8, 2008.
19 ODOE received four comments from the public, all from nearby property owners:
20

- 21 1. Don Richelderfer raised a concern about proper notification of the filed
22 application. ODOE contacted Mr. Richelderfer directly and learned that he had
23 actually received the notice as mailed by ODOE.
24
- 25 2. Sharon Carlson raised a concern about Golden Hills' impact on her ability to
26 work with another developer to place a wind turbine on her own property in the
27 future and stated that a setback ordinance adopted by Sherman County should
28 apply to Golden Hills. The concern regarding the ability to place a turbine on a
29 neighboring property is outside EFSC's siting authority. Moreover, the Sherman
30 County setback ordinance was adopted subsequent to August 2007, when the
31 application was submitted. Therefore, it is not applicable to Golden Hills.¹
32
- 33 3. In a letter dated September 7, 2008, Gary Van Gilder of Wasco, Oregon
34 commented that the Applicant had not yet received necessary waivers from
35 property owners where the ambient noise from the facility would increase more
36 than 10 dBA and stated that the Applicant had improperly overlooked his property
37 on Van Gilder Road. Conditions proposed under the DEQ noise standards would
38 require that all necessary waivers be in place prior to any construction. Also,
39 ODOE directed GHWF to locate the Van Gilder property and determine whether
40 it had been identified in the noise analysis in Exhibit X of the application. In any
41 case, that analysis is based on a hypothetical "worst case" configuration. The
42 actual as-built configuration will most likely be quite different, and proposed
43 conditions in the site certificate will require a complete noise analysis based on
44 the actual design configuration. Mr. Van Gilder also stated that an operational

¹ Sherman County acknowledged that the setback ordinance is not applicable to Golden Hills in a January 22, 2008 letter from Judge Gary Thompson, Sherman County Commissioner, to Adam Bless of ODOE.

1 phase noise-monitoring program should be required. A detailed discussion of the
2 noise analysis and required conditions are included in Section VI.A.1 of this Final
3 Order.
4

- 5 4. Mike McArthur spoke on the telephone and raised a concern about the noise and
6 about the general effect on his property. The Council's authority regarding
7 general property impacts is limited to the applicable substantive criteria from the
8 local government's land use plan, which is addressed in this Final Order under the
9 Council's Land Use Standard. The noise from the facility is addressed in detail
10 under discussion of the DEQ noise standards.
11

12 In response to the public comment² received on August 7, 2008 from Mr. Richelderfer,
13 ODOE directed GHWF to recheck its list of adjacent property owners. Some property owners
14 had changed either because properties had changed hands or because of minor changes in the
15 corridor footprints. Therefore, ODOE issued a second public notice of filing to the property
16 owners on an updated Exhibit F, and to persons on the Council's general mailing list. In the
17 second notice, ODOE requested comments from the public on the ASC by September 19, 2008.
18

19 **B. COMMENTS ON DRAFT PROPOSED ORDER**

20

21 Mr. Burgess held a public hearing on the Draft Proposed Order on October 27, 2008 in
22 Moro, Oregon and continued the hearing on October 31, 2008 in The Dalles, Oregon. Twenty-
23 five people or organizations made written or oral comments at the public hearing or provided
24 written comments to the Department by the deadline of 5:00 p.m. on November 10, 2008. This
25 section summarizes the public comments in a bullet format in alphabetical order by last name or
26 organization. The comments in full are in the record.
27

28 Sharon Carlson

- 29 • Concerned about location of the proposed facility as described in the public notice.
30

31 Sheila Dooley and Phil Swaim

- 32 • Concerned about noise from the proposed facility.
- 33 • Believe that allowing for noise variances is poor precedent and bad public policy.
34

35 John and Terri Folliard

- 36 • Concerned about noise from the proposed facility.
- 37 • Concerned about light from the proposed facility.
38

39 Golden Hills Wind Farm LLC

- 40 • Specific comments about draft proposed order are addressed in Section II.C of this Final
41 Order..
42

43 Brett Gray

² Email from Don Richelderfer to Adam Bless (Aug. 7, 2008).

- 1 • Believes shadow effect from turbine blades occurs for very short time when sun is low on
2 the horizon.
- 3 • Believes benefits of wind energy facilities may outweigh bad effects.

4

5 Brad and Donna Lohrey

- 6 • Concerned about noise from the proposed facility.
- 7 • Concerned about light from the proposed facility.
- 8 • Concerned about health effects of wind energy facilities, including sleep problems,
9 headaches, dizziness, ringing in the ears, and childhood “night terrors.”
- 10 • Concerned about “shadow flicker” effect from wind turbines.
- 11 • Concerned about “wind turbine syndrome.”
- 12 • Concerned about devaluation of real property as a consequence of installation of wind
13 turbines nearby.
- 14 • Suggest that one solution to their concerns would be to disallow placement of wind
15 turbines within two miles of existing residences in the absence of permission from the
16 landowner.

17

18 Gerald and Dawn Lohrey

- 19 • Concerned about devaluation of real property as a consequence of installation of wind
20 turbines nearby.

21

22 James and Dorene Macnab

- 23 • Concerned about lack of notice as an affected property owner.
- 24 • Concerned about noise from the proposed facility.
- 25 • Concerned about potential impact of proposed facility on development of wind energy
26 facilities on neighboring properties.

27

28 Mike and Jeanney McArthur

- 29 • Concerned about lack of contact by the Applicant during planning and application
30 process.
- 31 • Concerned about the Applicant’s failure to comply with Sherman County setback
32 requirements.
- 33 • Concerned about noise from the proposed facility.
- 34 • Concerned about potential human health risks and hazards of wind energy facilities.
- 35 • Concerned about visual impacts of wind energy facilities.
- 36 • Concerned about cumulative impacts of wind energy facilities in Sherman, Gilliam and
37 Morrow counties.

38

39 Jenine McDermid

- 40 • Concerned about location of the proposed facility as described in the public notice.

41

42 Ernie Moore

- 43 • Concerned about the Applicant’s failure to comply with Sherman County setback
44 requirements.
- 45 • Concerned about noise from the proposed facility

- Concerned about light from the proposed facility.

Oregon Department of Aviation (“ODA”)

- Concerned about protection of airspace adjacent to Wasco State Airport.

Oregon Historic Trails Advisory Council

- Asked that Applicant be required to place Oregon Trail interpretive signage at an appropriate location within the facility site to promote lasting recognition of history.

Douglas and Carolyn Rhinehart

- Concerned about location of the proposed facility as described in the public notice.
- Concerned about lack of notice as an affected property owner.
- Concerned about noise from the proposed facility.
- Concerned about light from the proposed facility.
- Concerned about visual impacts of wind energy facilities.
- Concerned about devaluation of real property as a consequence of installation of wind turbines nearby.

Jonathan Rolfe

- Concerned about Applicant’s failure to comply with Sherman County setback requirements.

Sherman County Court

- Concerned about noise from the proposed facility.
- Concerned about certification of wind turbine corridors such that ambient noise levels at noise sensitive properties could be increased beyond allowable limits.

Gary Van Gilder

- Concerned about noise from the proposed facility.

C. RESPONSE TO PUBLIC COMMENTS ON THE DRAFT PROPOSED ORDER

This section responds to public comments that raised issues within the Council’s jurisdiction, offered sufficient specificity to allow the Department to respond, and provided evidence to allow further analysis.

1. Notice and Location of Proposed Facility

Several people, including Jenine McDermid, Sharon Carlson, James and Dorene Macnab, and Douglas and Carol Rhinehart, stated that the location of the proposed facility was incorrectly described in the Draft Proposed Order or that they were not given proper notice of the application under consideration.

The required public notices are described at OAR 345-015-0190 and OAR 345-015-0220. The first of these, OAR 345-015-0190, describes the notice that the Department must issue when the application is determined by the Department to be complete. It states that the Department shall send written notice to the list of property owners in Exhibit F of the ASC.

1
2 The Department issued this notice on August 4, 2008. On August 7, 2008, the
3 Department received a written comment from Don Richelderfer, stating that his property was
4 adjacent to the proposed facility and he had not received written notice from ODOE.
5

6 In response to this comment, ODOE directed GHWF to check its latest maps with the
7 County Tax Assessor's office and determine which properties required notice. GHWF submitted
8 a revised Exhibit F, including some names that had not appeared in the filed Exhibit F. On
9 August 28, 2008, ODOE issued a revised notice to the entire list of adjacent property owners,
10 including the new names described above. In the revised notice, ODOE extended the date for
11 public comment on the ASC until September 19, 2008. The extension applied to all members of
12 the public.
13

14 On October 4, 2008, the Department issued the Draft Proposed Order and issued the
15 notice of Draft Proposed Order and Public Hearing as required by OAR 345-015-0220. In that
16 notice, ODOE included a description of the site, listing township and range information. On
17 October 21, 2008, ODOE received a comment from Jenine McDermid, an appraiser for Sherman
18 County, stating that the list of townships and ranges did not appear to match the maps of the
19 facility. At ODOE's request, GHWF rechecked the list of townships and ranges and provided the
20 correct list in its comments on the Draft Proposed Order. ODOE issued a correction letter to all
21 persons who had been sent the October 4 notice of Public Hearing. The letter corrected the
22 township and range information but did not make other changes in the hearing or public
23 comment process.
24

25 At the October 27 hearing, Gary Van Gilder also commented that he had not received
26 initial notice of the complete application. However, Mr. Van Gilder confirmed at the hearing that
27 he had received subsequent notices,³ and provided additional comments on the need for
28 variances from the noise standard.
29

30 Finally, at the October 27 public hearing, Douglas Rhinehart stated that his property was
31 within 500 feet of one of the proposed corridors and he had not received any written notice of the
32 complete application or Draft Proposed Order. Mr. Rhinehart also asked questions about noise
33 and impact on his property in his oral comments at the hearing. In the following days, GHWF
34 checked the maps and confirmed that Mr. Rhinehart's property is within 500 feet of a proposed
35 corridor. The Department acknowledges that Mr. Rhinehart was entitled to notice under OAR
36 345-015-0190 and OAR 345-015-0220, and notes that Mr. Rhinehart did comment on the record
37 of the hearing on the Draft Proposed Order.
38

39 In summary, the original Exhibit F, as filed on August 4, 2008, did not include the most
40 up-to-date list of adjacent property owners. However, GHWF corrected this problem and the
41 Department issued a supplemental notice to those property owners it had missed in the original
42 August 4, 2008 notice. The Department also extended the comment period on the ASC to ensure
43 that all adjacent property owners had the chance to comment. The Department also corrected the
44 errors in the list of township and ranges, and has included the correct information in this Final
45 Order at Section III.B.

³ See Transcript of October 27, 2008 hearing at 37.

1
2 Other individuals commented that even if the Council’s rules were followed regarding
3 notice, the 500-foot distance required by OAR 345-021-0010(1)(f) is inadequate because the
4 impacts are felt at a much greater distance.⁴ OAR 345-021-0010(1)(f) implements ORS
5 469.370(2)(a), which in turn requires compliance with ORS 197.763(2), which sets the standard
6 for notice generally in the land-use context. The Department did not recommend departing from
7 this commonly used standard in this instance, and noted that rulemaking would be necessary to
8 change the requirement.
9

10 The Council therefore finds that, although proper notice was delayed in several instances,
11 the Department did comply with applicable law and implement appropriate remedies in the form
12 of supplemental notices, extended comment periods, and opportunity to comment on the record
13 of the hearing on the Draft Proposed Order.
14

15 **2. Noise**

16 Several people, including Sheila Dooley, Phil Swaim, John and Terri Folliard, Brad and
17 Donna Lohrey, James and Dorene Macnab, Mike and Jeanney McArthur, Ernie Moore, Douglas
18 and Carol Rhinehart, Gary Van Gilder and the Sherman County Court, stated they were
19 concerned about the impact of noise from the proposed facility. The complete discussion of the
20 noise issue is included in the Noise analysis section of this Final Order, at Section VI.A.1.
21

22 **3. Sherman County Setback Ordinance**

23 Several people, including Mike and Jeanney McArthur, Ernie Moore and Jonathan Rolfe,
24 stated they were concerned about GHWF’s failure to comply with Sherman County Ordinance
25 #39-2007 requiring that wind energy facilities be located at least one mile from incorporated
26 cities, *i.e.*, the Sherman County setback ordinance. GHWF submitted its ASC for Golden Hills
27 on August 10, 2007, and Sherman County adopted Ordinance #39-2007 on November 21, 2007.
28 GHWF elected to obtain a Council determination that the proposed facility complies with the
29 statewide planning goals adopted by the Land Conservation and Development Commission
30 (“LCDC”). To make that determination, the Council must find that the proposed facility
31 complies with applicable substantive criteria. OAR 345-022-0030(3) provides that applicable
32 substantive criteria are “criteria from the affected local government’s acknowledged
33 comprehensive plan and land use ordinances that are required by the statewide planning goals
34 and that are in effect on the date the applicant submits the application.”
35

36 In a letter dated January 22, 2008 the Sherman County Court noted that it had adopted the
37 new setback ordinance after the date GHWF submitted its application. The court stated that the
38 ordinance would not apply to Golden Hills under “goalpost law.”⁵ The court stated that the new
39 ordinance would, however, apply to any future phases of Golden Hills.
40

41 Therefore, the Council finds that the Sherman County setback ordinance does not apply
42 to the proposed facility.
43

44 **4. Lighting**

⁴ See, e.g., comments of Ernie Moore, Transcript at 63.

⁵ Sherman County letter from Gary Thompson to Adam Bless (Jan. 22 2008).

1 Several people, including John and Terri Folliard, Brad and Donna Lohrey, Ernie Moore
2 and Douglas and Carolyn Rhinehart, stated that they were concerned about the disturbing effects
3 of flashing lights on turbine towers located in close proximity to their residential property.
4 Ms. Folliard, for example, commented that darkness is “essential to biological welfare.”
5 However, such lights would be mounted on the turbine towers in accordance with applicable
6 Federal Aviation Administration (“FAA”) regulations for the sole purpose of making the towers
7 visible to approaching aircraft. The Council finds unnecessary any associated changes in the
8 Final Order.

9 10 **5. Health Impacts**

11 Some commenters⁶ listed human health impacts as a concern. These included impacts to
12 human health due to alleged effects such as “wind turbine syndrome.” The Department is aware
13 of this concern, but did not recommend that the Council find that GHWF had failed to meet any
14 siting standard as a result of these concerns, or that the Council impose any additional health and
15 safety conditions solely in response to these concerns under its authority as provided by ORS
16 469.401(2). The Council finds that the current allegations do not warrant any Council action
17 based on the information available. The Council encourages GHWF to place its turbines as far
18 from residentially zoned land as practical, but does not have sufficient basis for a condition
19 establishing an enforced setback based solely on “wind turbine syndrome.”
20

21 **6. Visual Impacts**

22 Mike and Jeanney McArthur and Douglas and Carol Rhinehart stated that they were
23 concerned about the visual impacts of the proposed facility. The proposed order includes
24 conditions designed to offset the visual impacts of the proposed facility [Condition (IV.G.1),
25 Condition (IV.G.2) and Condition (IV.G.3)].
26

27 Some commenters acknowledged that the Sherman County Comprehensive Plan element
28 regarding scenic resources specifically names John Day Canyon, Deschutes Canyon, trees and
29 rock outcroppings as protected resources. However, the commenters stated that the open spaces
30 are also an essential characteristic of the viewshed in Sherman County. The commenters urged
31 Sherman County to update its plan to protect the open spaces rather than limiting this protection
32 to the features currently listed.⁷
33

34 The Department acknowledged these concerns but noted they are not relevant to the
35 determination of whether GHWF has met the requirements of OAR 345-022-0080 (scenic
36 resources) or ORS 469.504 (statewide planning goals). The Department did not recommend any
37 additional conditions to address visual impacts based on these concerns.
38

39 **7. Oregon Department of Aviation**

40 The ODA stated that the FAA had pointed out that the Golden Hills turbines could create
41 a safety hazard when navigating to and from Wasco State Airport. The ODA asked that it be
42 given notice of GHWF’s proposed construction plans contemporaneously with the FAA, because

⁶ *E.g.*, testimony of Jeanney McArthur (Oct. 27, 2008).

⁷ *See, e.g.*, statements of Ernie Moore, Transcript at 25; *see also* written comments of Colin McArthur (Nov. 10, 2008).

1 the ODA has implemented regulations regarding aviation safety that differ from the FAA
2 regulations. The Department recommended that the Council adopt Condition (IV.I.7) requiring
3 GHWF to submit a Notice of Proposed Construction or Alteration to the FAA and the Oregon
4 Department of Aviation before beginning construction of the proposed facility. The Council
5 finds unnecessary any additional conditions to address air traffic safety issues.
6

7 **8. Oregon Historic Trails Advisory Council**

8 John Chess, Chair, Oregon Historic Trails Advisory Council, pointed out that the
9 proposed facility and other existing wind energy facilities have changed the character of the land
10 in the vicinity of the proposed facility. Mr. Chess stated that “the fact that the Oregon Trail was
11 there and that there was a massive migration that led to our statehood should not be forgotten”
12 and suggested that “Oregon Trail interpretive signage be placed at an appropriate location within
13 the project area so that there is a lasting recognition of the history that has taken place there.”
14 The Council adopts the following condition [Condition (V.B.10)] in recognition of this concern:
15

16 **(V.B.10) Upon completion of construction, the certificate holder shall consult with**
17 **the Oregon Historic Trails Advisory Council regarding the appropriate**
18 **content of an interpretive sign. After such consultation, the certificate**
19 **holder shall place in a publicly accessible location a sign giving notice of**
20 **the historic background of the facility site and surrounding areas.**
21

22 **9. Golden Hills Wind Farm LLC**

23 GHWF requested several substantive changes to the draft proposed order as discussed
24 below:
25

- 26 a. Because turbine technology and supply is changing quickly, rather than be
27 restricted to the two turbine types discussed in the application GHWF requested
28 the ability to use any turbine with a hub height of up to 80 meters (263 feet) and a
29 blade-tip height of up to 128 meters (420 feet). The Department has modified its
30 recommended Condition (III.A.1) and the associated text of the proposed order to
31 allow for the use of alternative turbines subject to specific restrictions.
32
- 33 b. GHWF expects that some portion of the 34.5-kilovolt (“kV”) power collection
34 system may need to be installed above ground to avoid impacts or to address
35 unforeseen geotechnical issues. The facility retirement and site restoration
36 estimate has been modified to include a unit cost for aboveground installation of
37 the power collection system to be applied in calculating the applicable financial
38 assurance amount.
39
- 40 c. GHWF has reached agreement with Pacific Wind Development LLC allowing for
41 the installation of its 230-kV transmission line on transmission towers serving the
42 Hay Canyon Wind Farm. Therefore, the Department recommended elimination of
43 conditions relating to future negotiations with Pacific Wind Development
44 respecting this issue.
45

- 1 d. GHWF requested that it be allowed to prorate the amount of the financial
2 assurance bond or letter of credit based on the amount of the facility that is
3 actually built. The applicable condition makes allowance for this approach by
4 providing for the application of unit costs to the final design configuration.
5 Therefore, the Council finds unnecessary any change in conditions to
6 accommodate this concern.
7
- 8 e. GHWF requested that the condition relating to design and construction of private
9 access roads be modified to provide for consultation with affected landowners.
10 The Department agreed with this request and modified its recommended
11 Condition (IV.D.3) to accommodate this request.
12
- 13 f. GHWF requested that aboveground power collection lines and junction boxes be
14 included among the components that may be located within 50 feet of property
15 lines under Sherman County Zoning Ordinance Section 3.1.4, subject to
16 qualification for a Goal 3 exception. The Department recommended that the
17 Council find the addition of these components acceptable and modified the text of
18 this Final Order accordingly.
19
- 20 g. GHWF requested revision of Condition (IV.D.5) to provide that aboveground
21 transmission structures not be placed in areas that show gross indicators of
22 landslide activity or marginal stability. The Department modified its
23 recommended condition accordingly.
24
- 25 h. GHWF requested revision of Condition (IV.D.6) to allow for flexibility in the
26 aboveground placement of power collection lines. The Department modified its
27 recommended condition accordingly.
28
- 29 i. GHWF requested deletion of the statement that National Environmental Policy
30 Act (“NEPA”) review with respect to the facility’s interconnection to Bonneville
31 Power Administration’s (“BPA”) transmission system would take the form of an
32 Environmental Impact Statement, because, according to GHWF, BPA would
33 probably do some other level of NEPA review. The Department modified its
34 recommended condition accordingly.
35
- 36 j. GHWF requested revision of Condition (IV.E.6) to remove limitations on the
37 amount of water that could be used for blade washing. The Department modified
38 its recommended condition accordingly.
39
- 40 k. GHWF requested revision of Condition (IV.G.3) to allow for nighttime lighting as
41 required during construction of the proposed facility and as otherwise required to
42 comply with federal, state or local law. The Department modified its
43 recommended condition accordingly.
44

- 1 l. GHWF also requested changes to conditions for Fish and Wildlife Habitat,
2 Cultural Resources, and Noise. The Council’s findings regarding those standards
3 are found at the sections of this Final Order covering those standards.
4
- 5 m. GHWF requested deletion of Condition (IV.D.14) (as numbered in the Draft
6 Proposed Order) requiring the certificate holder to record a Covenant Not to Sue
7 in the Sherman County real property records. Condition (IV.D.13) (as numbered
8 in the Draft Proposed Order) already requires the certificate holder to record a
9 Farm Management Easement. These two tools are intended to accomplish the
10 same protection of existing farm operations, and thus constitute duplicative
11 requirements. Further, Sherman County requested that the certificate holder
12 record a Farm Management Easement. The Department accordingly removed the
13 condition pertaining to a Covenant Not to Sue.
14
- 15 n. GHWF requested revision of Condition (IV.M.9) requiring the certificate holder
16 to avoid temporary disturbance of Category 1 and Category 2 habitat. Instead,
17 GHWF requests that Condition (IV.M.9) be consistent with the impacts related to
18 Category 1 and Category 2 habitat as shown in Table IV.M.1 of this Final Order.
19 The Department modified its recommended condition accordingly.
20

21 **III. GENERAL FINDINGS**

22 **A. DESCRIPTION OF THE PROPOSED FACILITY**

23 **1. Project Overview**

24 The Applicant provided information about the components of the proposed facility in
25 Exhibit B of the ASC. The proposed Golden Hills Wind Project is an electric power generating
26 plant that would produce power from wind energy.
27
28
29

30 The combined peak generating capacity of the Golden Hills Wind Project would be up to
31 400 megawatts (“MW”). The average electric generating capacity would be up to 133 MW.⁸ The
32 facility could consist of up to 267 GE sle 1.5-MW turbines or some combination of turbines
33 subject to specific restrictions. Turbines would be mounted on tubular steel towers. The turbine
34 towers would be up to 80 meters (263 feet) tall at the turbine hub and would have an overall
35 height of up to 128 meters (420 feet) including the radius swept by the turbine blades. The
36 turbines would be sited within 900-foot corridors, and their precise locations within each corridor
37 would be determined by GHWF based on the wind turbine model selected and various siting
38 criteria. The facility would be located on private land subject to long-term wind energy leases
39 that GHWF has negotiated with the landowners.
40

41 **2. The Energy Facility**

42 ORS 469.300(11)(a)(J) defines the “energy facility” in this case as “[a]n electric power
43 generating plant with an average electric generating capacity of 35 megawatts or more if the
44 power is produced from ... wind energy at a single energy facility.” The proposed “electric

⁸ ORS 469.300(4) defines the “average electric generating capacity” of a wind energy facility as the peak generating capacity divided by 3.00.

1 power generating plant” would consist of up to 267 wind turbine locations, each consisting of a
2 turbine tower and foundation, turbine pad area, nacelle, rotor and blade assembly, and step-up
3 transformer. Wind turbines would be placed in survey corridors as shown in the site certificate
4 application.⁹ Golden Hills would have a peak electric generating capacity of up to 400 MW and
5 an average electric generating capacity of about 133 MW.
6

7 GHWF has not yet selected the wind turbine model or models that would be installed in
8 the facility. GHWF is requesting a site certificate that would allow the installation of up to 267
9 GE sle 1.5-MW turbines or any combination of turbines subject to specific restrictions. Under
10 maximum conditions, turbine towers would measure up to 80 meters (263 feet) at the rotor hub,
11 and the diameter of the rotor-swept area would be 96 meters (315 feet).
12

13 A wind turbine features a nacelle mounted on a tubular steel tower. The nacelle houses
14 the generator and gearbox and supports the rotor and blades at the hub. The turbine tower
15 supports and provides access to the nacelle. Each turbine unit sits on a concrete pad that
16 accommodates the turbine pedestal, a step-up transformer, and a turnout area for service
17 vehicles. The purpose of the step-up transformer is to increase the output voltage of the wind
18 turbine to the voltage of the power collection system. Underlying the pad would be a deep
19 concrete turbine foundation with a surface area dependent upon the type and size of wind turbine
20 selected.
21

22 3. Related or Supporting Facilities

23 GHWF proposes to construct the following related or supporting facilities:

- 24 • Power collection system
- 25 • Substations
- 26 • 230-kV transmission line
- 27 • 500-kV transmission line
- 28 • Meteorological towers
- 29 • Supervisory Control and Data Acquisition (“SCADA”) System
- 30 • O&M facility
- 31 • Access roads
- 32 • Temporary laydown areas
33

34 **Power Collection System.** About 62 miles of power collection system, operating at 34.5
35 kV, would transport the power from the wind turbines to the substations. Some portion of the
36 power collection system may be installed aboveground to avoid impacts or to accommodate
37 unforeseen geotechnical conditions.
38

39 **Substations.** The proposed facility would include two substations, one in the eastern
40 section of the Project site and another in the western section of the Project site. Each substation
41 would occupy a graveled and fenced area about 2 acres in size to facilitate a transformer,
42 switching equipment and a parking area.
43

⁹ ASC, Ex. B, Fig. B-3, incorporated herein by this reference.

1 **230-kV Transmission Line.** The substation in the eastern section of the Project site
2 would interconnect with an existing PPM Energy transmission line by means of an aboveground
3 0.7-mile 230-kV transmission line.
4

5 **500-kV Transmission Line.** The substation in the western section of the Project site
6 would interconnect with the existing BPA John Day Substation by means of an aboveground
7 500-kV transmission line about 11 miles long.
8

9 **Meteorological Towers.** GHWF proposes to install up to six permanent meteorological
10 (“met”) towers. The met towers would be unguyed tubular structures about 85 meters (279 feet)
11 tall and set in concrete foundations.
12

13 **SCADA System.** A fiber optic communications network would link the wind turbines to
14 a central computer at the O&M facility. The SCADA system would collect operating and
15 performance data from each wind turbine and the Project as a whole and provide for remote
16 operation of the wind turbines.
17

18 **O&M Facility.** A 5,000-square-foot operations and maintenance (“O&M”) building
19 would be constructed at one or the other of two locations proposed by GHWF.¹⁰ The O&M
20 building would house office and workshop areas, a control room for the SCADA system, and a
21 kitchen, bathroom and shower. The five-acre O&M facility site would include parking for
22 vehicles. Domestic water use would not exceed 5,000 gallons per day, and domestic water would
23 be obtained from an on-site well. Domestic wastewater would be drained into an on-site septic
24 system.
25

26 **Access Roads.** Approximately 50 miles of new roads would be constructed to provide
27 access to the turbine strings and other facility components. Access roads would connect to
28 graveled turbine pad areas at the base of each wind turbine. The roads would be 20 feet wide and
29 constructed with crushed gravel. In addition, GHWF would improve and widen some existing
30 county and farm roads.
31

32 **Temporary Laydown Areas.** Up to seven principal, temporary laydown areas would be
33 used to stage construction and store supplies and equipment during construction. In addition,
34 temporary laydown areas would be required at the base of each proposed wind turbine. The
35 laydown areas would be covered with gravel, and the gravel would be removed and the areas
36 would be restored to their pre-construction conditions following completion of construction.
37

38 The Council adopts the following condition in the site certificate:
39

40 **(III.A.1) The certificate holder shall construct a facility substantially as described in**
41 **the site certificate and may select GE sle 1.5-megawatt or some combination**
42 **of other turbines, subject to the following restrictions and compliance with**
43 **other site certificate conditions. Before beginning construction, the certificate**
44 **holder shall provide to the Department a description of the turbine types**
45 **selected for the facility demonstrating compliance with this condition.**

¹⁰ ASC, Ex. C, Fig. C-2.

- 1 (a) The total number of turbines at the facility must not exceed 267
2 turbines.
- 3 (b) The combined peak generating capacity of the facility must not exceed
4 400 megawatts.
- 5 (c) The turbine hub height must not exceed 80 meters and the maximum
6 blade-tip height must not exceed 128 meters.
- 7 (d) The minimum blade-tip clearance must be 32 meters above ground.
- 8 (e) The maximum combined weight of metals in the tower (including
9 ladders and platforms) and nacelle must not exceed 324 US tons per
10 turbine.
- 11 (f) The certificate holder shall request an amendment of the site
12 certificate to increase the combined peak generating capacity of the
13 facility beyond 400 megawatts, to increase the number of wind
14 turbines to more than 267 turbines, to install wind turbines with a
15 hub height greater than 80 meters or a blade-tip height greater than
16 128 meters, or to install turbines with a maximum combined weight of
17 metals in the tower (including ladders and platforms) and nacelle
18 greater than 324 U.S. tons per turbine.

19
20 **B. LOCATION OF THE PROPOSED FACILITY**

21
22 The Applicant provided information about the location of the proposed facility in
23 Exhibit C of the ASC. The proposed Golden Hills site would occupy about 30,000 acres and
24 would be located near Wasco in Sherman County, Oregon. More particularly, the site would
25 occupy portions of Sections 9, 10, 14-16, 22-26 and 34-36, Township 2 North, Range 16 East;
26 Sections 29-32, Township 2 North, Range 17 East; Sections 1-3, 13, 24, 25 and 36, Township 1
27 North, Range 16 East; Sections 5-8, 14-22, 25, and 27-36, Township 1 North, Range 17 East;
28 Sections 1-6, 8-14, 16 and 17, Township 1 South, Range 17 East; and Sections 6-8, Township 1
29 South, Range 18 East, Willamette Meridian, Sherman County, Oregon. The Applicant included
30 in the ASC a preliminary description of the proposed facility site by means of a map showing the
31 preliminary locations of turbine corridors and related or supporting facilities.¹¹ In accordance
32 with Condition (III.C.1), before beginning construction the Applicant must provide to the
33 Department, the Oregon Department of Fish and Wildlife (“ODFW”), and the Planning Director
34 of Sherman County detailed maps of the facility site showing the final locations where the
35 Applicant proposes to build facility components and a table showing the acres of temporary and
36 permanent habitat impact by habitat category and subtype.

37
38 **C. THE SITE AND SITE BOUNDARY**

39
40 For the purpose of analysis in the ASC, the “site boundary” is defined under OAR 345-
41 001-0010(53) as “the perimeter of the site of a proposed energy facility, its related or supporting
42 facilities, all temporary laydown and staging areas and all corridors and micro-siting corridors
43 proposed by the applicant.” The Applicant seeks the flexibility to determine the final turbine
44 locations within 900-foot-wide corridors before construction, but after a site certificate has been
45 issued. Factors affecting final turbine placement would include geotechnical considerations

¹¹ ASC, Ex. C, Fig. C-2.

1 based on site-specific geotechnical investigation and other micro-siting factors. Before beginning
2 construction of the facility, the certificate holder would determine the final turbine locations and
3 submit a legal description of the facility site to the Department. OAR 345-001-0010(52) defines
4 the facility “site” as “all land upon which an energy facility is located or proposed to be located.”
5 A “facility” includes the energy facility and its related or supporting facilities (OAR 345-001-
6 0010(20)). The facility would include the following components:

- 7
- 8 • Turbines – The site would include the area within 150 feet in all directions from a line
9 interconnecting the several turbines comprising each turbine string.
- 10
- 11 • Meteorological towers and underground data lines – The site would include the area
12 within 30 feet of the met tower locations and the centerline of underground met tower
13 data lines.
- 14
- 15 • Collector transmission lines – The site would include the area within 30 feet of the
16 centerline of the underground electric collector system.
- 17
- 18 • Access roads – The site would include the area within 30 feet of the centerline of all
19 access roads.
- 20
- 21 • Substation – The site would include two two-acre substations.
- 22
- 23 • O&M Facility – The site would include one five-acre O&M facility.
- 24

25 The Council adopts the following condition in the site certificate:

26

27 **(III.C.1) Before beginning construction and after considering all micro-siting factors,**
28 **the certificate holder shall provide to the Department, the Oregon**
29 **Department of Fish and Wildlife (“ODFW”) and the Planning Director of**
30 **Sherman County detailed maps of the facility site, showing the final locations**
31 **where the certificate holder proposes to build facility components and a table**
32 **showing the acres of temporary and permanent habitat impact by habitat**
33 **category and subtype. The maps shall include the locations of temporary**
34 **laydown areas and areas of temporary ground disturbance associated with**
35 **the construction of all transmission lines. The detailed maps of the facility**
36 **site shall indicate the habitat categories of all areas that would be affected**
37 **during construction. In classifying the affected habitat into habitat**
38 **categories, the certificate holder shall consult with ODFW. The certificate**
39 **holder shall not begin ground disturbance in an affected area until the**
40 **habitat assessment has been approved by the Department. The Department**
41 **may employ a qualified contractor to confirm the habitat assessment by on-**
42 **site inspection.**

43

44 **D. CONSTRUCTION DEADLINES**

45

1 OAR 345-027-0020(4) requires a certificate holder to begin and complete construction of
2 a facility by the dates specified in the site certificate. GHWF proposes to begin construction in
3 spring 2009 and complete construction by December 31, 2014. The Council adopts the following
4 conditions in the site certificate:

5
6 **(III.D.1) The certificate holder shall begin construction of the facility within three**
7 **years after the effective date of the site certificate. Under OAR 345-015-**
8 **0085(8), a site certificate is effective upon execution by the Council Chair and**
9 **the Applicant. The Council may grant an extension of the deadline to begin**
10 **construction in accordance with OAR 345-027-0030 or any successor rule in**
11 **effect at the time the request for extension is submitted.**

12
13 **(III.D.2) The certificate holder shall complete construction of the facility within six**
14 **years after the effective date of the site certificate. Construction is complete**
15 **when (1) the facility is substantially complete as defined by the certificate**
16 **holder’s construction contract documents; (2) acceptance testing has been**
17 **satisfactorily completed; and (3) the energy facility is ready to begin**
18 **continuous operation consistent with the site certificate. The certificate**
19 **holder shall promptly notify the Department of the date of completion of**
20 **construction. The Council may grant an extension of the deadline for**
21 **completing construction in accordance with OAR 345-027-0030 or any**
22 **successor rule in effect at the time the request for extension is submitted.**

23
24 **(III.D.3) Before beginning construction, the certificate holder shall notify the**
25 **Department in advance of any work on the site that does not meet the**
26 **definition of “construction” in ORS 469.300(6), excluding surveying,**
27 **exploration or other activities to define or characterize the site, and shall**
28 **provide to the Department a description of the work and evidence that its**
29 **value is less than \$250,000.**

30
31 **IV. COUNCIL FACILITY SITING STANDARDS: DISCUSSION AND CONCLUSIONS**

32
33 The Council must decide whether Golden Hills complies with the facility siting standards
34 adopted by the Council. ORS 469.503. In addition, the Council must impose conditions for the
35 protection of the public health and safety, for the time of commencement and completion of
36 construction, and to ensure compliance with the standards, statutes and rules addressed in the
37 project order. ORS 469.401(2).

38
39 The Council is not authorized to determine compliance with regulatory programs that
40 have been delegated to another state agency by the federal government. ORS 469.503(3).
41 Nevertheless, the Council may consider these programs in the context of its own standards to
42 ensure public health and safety, resource efficiency and protection of the environment.

43
44 The Council has no jurisdiction over design or operational issues that do not relate to
45 siting, such as matters relating to employee health and safety, building code compliance, wage
46 and hour or other labor regulations, or local government fees and charges. ORS 469.401(4).

1
2 **A. INTRODUCTION: GENERAL STANDARD OF REVIEW, OAR 345-022-0000**
3

- 4 (1) *To issue a site certificate for a proposed facility or to amend a site certificate, the*
5 *Council shall determine that the preponderance of evidence on the record*
6 *supports the following conclusions:*
7 (a) *The facility complies with the requirements of the Oregon Energy Facility*
8 *Siting statutes, ORS 469.300 to ORS 469.570 and 469.590 to 469.619, and*
9 *the standards adopted by the Council pursuant to ORS 469.501 or the*
10 *overall public benefits of the facility outweigh the damage to the resources*
11 *protected by the standards the facility does not meet as described in*
12 *section (2);*
13 (b) *Except as provided in OAR 345-022-0030 for land use compliance and*
14 *except for those statutes and rules for which the decision on compliance*
15 *has been delegated by the federal government to a state agency other than*
16 *the Council, the facility complies with all other Oregon statutes and*
17 *administrative rules identified in the project order, as amended, as*
18 *applicable to the issuance of a site certificate for the proposed facility. If*
19 *the Council finds that applicable Oregon statutes and rules, other than*
20 *those involving federally delegated programs, would impose conflicting*
21 *requirements, the Council shall resolve the conflict consistent with the*
22 *public interest. In resolving the conflict, the Council cannot waive any*
23 *applicable state statute.*
24

25 We address the requirements of OAR 345-022-0000 in the discussion, recommended
26 conditions, and conclusions in the sections that follow. Upon consideration of all of the evidence
27 in the record, we state our recommended general conclusion regarding the ASC in Section VIII.
28

29 **B. ORGANIZATIONAL EXPERTISE, OAR 345-022-0010**
30

- 31 (1) *To issue a site certificate, the Council must find that the applicant has the*
32 *organizational expertise to construct, operate and retire the proposed facility in*
33 *compliance with Council standards and conditions of the site certificate. To*
34 *conclude that the applicant has this expertise, the Council must find that the*
35 *applicant has demonstrated the ability to design, construct and operate the*
36 *proposed facility in compliance with site certificate conditions and in a manner*
37 *that protects public health and safety and has demonstrated the ability to restore*
38 *the site to a useful, non-hazardous condition. The Council may consider the*
39 *applicant's experience, the applicant's access to technical expertise and the*
40 *applicant's past performance in constructing, operating and retiring other*
41 *facilities, including, but not limited to, the number and severity of regulatory*
42 *citations issued to the applicant.*
43
44 (2) *The Council may base its findings under section (1) on a rebuttable presumption*
45 *that an applicant has organizational, managerial and technical expertise, if the*

1 *applicant has an ISO 9000 or ISO 14000 certified program and proposes to*
2 *design, construct and operate the facility according to that program.*

3
4 (3) *If the applicant does not itself obtain a state or local government permit or*
5 *approval for which the Council would ordinarily determine compliance but*
6 *instead relies on a permit or approval issued to a third party, the Council, to issue*
7 *a site certificate, must find that the third party has, or has a reasonable likelihood*
8 *of obtaining, the necessary permit or approval, and that the applicant has, or has*
9 *a reasonable likelihood of entering into, a contractual or other arrangement with*
10 *the third party for access to the resource or service secured by that permit or*
11 *approval.*

12
13 (4) *If the applicant relies on a permit or approval issued to a third party and the third*
14 *party does not have the necessary permit or approval at the time the Council*
15 *issues the site certificate, the Council may issue the site certificate subject to the*
16 *condition that the certificate holder shall not commence construction or operation*
17 *as appropriate until the third party has obtained the necessary permit or approval*
18 *and the applicant has a contract or other arrangement for access to the resource*
19 *or service secured by that permit or approval.*

21 **Discussion**

22 The Applicant provided evidence about its organizational expertise in Exhibit D and
23 about permits needed for construction and operation of the proposed facility in Exhibit E of the
24 ASC.

25 26 **1. Applicant Qualification and Capability, OAR 345-022-0010(1)**

27 BP Alternative Energy North America Inc. (“BP AE”), the corporate parent of GHWF, in
28 50-percent partnership with Babcock & Brown, is currently constructing a 300-MW wind energy
29 facility in northern Colorado. BP AE is also engaged in the development of three wind energy
30 projects totaling 250 MW. Currently, BP AE operates one 11-MW wind energy facility in
31 Southern California and has or will soon have operating responsibilities for 230 MW of wind
32 energy facilities in Texas and California.

33
34 GHWF has not identified specific personnel for management of the design, construction
35 and operation of the proposed facility, but its affiliates have qualified and experienced
36 employees.¹² BP AE has not received any regulatory citations in the course of constructing and
37 operating wind energy facilities. GHWF would hire qualified contractors with significant
38 experience in the wind industry to engineer and construct the proposed facility.

39 40 **2. Applicant Qualification and Capability: ISO Programs, OAR 345-022-0010(2)**

41 GHWF does not currently have an ISO-certified program.

42 43 **3. Third-Party Services and Permits, OAR 345-022-0010(3) and (4)**

44 GHWF states it has entered into an agreement under which the proposed facility would
45 transmit power to the Klondike-Schoolhouse Substation by means of an existing third-party

¹² ASC, Ex. D, at 1.

1 transmission line serving the Hay Canyon Wind Farm and owned by Pacific Wind Development
2 LLC, a wholly owned subsidiary of PPM Energy, Inc. (now Iberdrola Renewables (“IBR”)).
3 GHWF included in its ASC Supplement a copy of the Sherman County Planning Commission
4 Order granting Pacific Wind Development a Conditional Use Permit authorizing construction
5 and operation of the Hay Canyon Wind Farm. The Department also obtained the staff report by
6 the Sherman County Planning Director, recommending approval of the Hay Canyon project with
7 the associated transmission line to Klondike Schoolhouse Substation. GHWF states that: “No
8 impacts to permits held by the Hay Canyon Wind Farm project are anticipated to result from this
9 agreement.” GHWF would therefore be placing its conductors on transmission poles already
10 permitted and constructed by Pacific Wind Development. The steps and impacts associated with
11 placing two sets of conductors on existing transmission poles rather than just one set are
12 essentially the same as a single set, because the major impacts of transmission construction are
13 those associated with the poles. Therefore, the Department recommends that the Council find
14 that the four-mile 230-kV transmission line running along Sandon Road and connecting Golden
15 Hills to the Klondike Schoolhouse Substation is a “third party permit,” subject to OAR 345-022-
16 0010(3). GHWF has provided the Department with evidence of its agreement with Pacific Wind
17 Development, and the Golden Hills 230-kV transmission line has been mounted on the Pacific
18 Wind Development transmission poles.

19
20 To find that GHWF complies with OAR 345-022-0010, the Council adopts the following
21 conditions in the site certificate:
22

23 **(IV.B.1) The certificate holder shall report promptly to the Department any change in**
24 **its corporate relationship with BP Alternative Energy North America Inc.**
25 **(“BPAAE”). The certificate holder shall report promptly to the Department**
26 **any change in its access to the resources, expertise and personnel of BPAAE.**
27

28 **(IV.B.2) Before beginning construction, the certificate holder shall notify the**
29 **Department of the identity and qualifications of the major design,**
30 **engineering and construction contractor(s) for the facility. The certificate**
31 **holder shall select contractors that have substantial experience in the design,**
32 **engineering and construction of similar facilities. The certificate holder shall**
33 **report to the Department any change of major contractors.**
34

35 **(IV.B.3) If the certificate holder chooses a third-party contractor to operate the**
36 **facility, the certificate holder shall submit to the Council the identity of the**
37 **contractor so the Council may review the qualifications and capability of the**
38 **contractor to meet the standards of OAR 345-0022-0010. If the Council finds**
39 **that a new contractor meets these standards, the Council shall not require an**
40 **amendment to the site certificate for the certificate holder to hire the**
41 **contractor.**
42

43 **(IV.B.4) Any matter of noncompliance under the site certificate shall be the**
44 **responsibility of the certificate holder. Any notice of violation issued under**
45 **the site certificate shall be issued to the certificate holder. Any civil penalties**
46 **assessed under the site certificate shall be levied on the certificate holder.**

1
2 **(IV.B.5) The certificate holder shall contractually require the engineering and**
3 **procurement contractor and all independent contractors and subcontractors**
4 **involved in the construction and operation of the facility to comply with all**
5 **applicable laws and regulations and with the terms and conditions of the site**
6 **certificate. Such contractual provision shall not operate to relieve the**
7 **certificate holder of responsibility under the site certificate.**

8
9 **(IV.B.6) The certificate holder shall obtain, or shall ensure that its contractors obtain,**
10 **necessary federal, state and local permits or approvals required for the**
11 **construction, operation and retirement of the facility. The certificate holder**
12 **shall work with local and state fire officials to ensure compliance with all fire**
13 **code regulations regarding public buildings.**

14
15 **(IV.B.7) During construction, the certificate holder shall have an on-site assistant**
16 **construction manager who is qualified in environmental compliance to**
17 **ensure compliance with all construction-related site certificate conditions.**
18 **During operation, the certificate holder shall have a project manager who is**
19 **qualified in environmental compliance to ensure compliance with all ongoing**
20 **site certificate conditions. The certificate holder shall notify the Department**
21 **of the name, telephone number, fax number and email address of these**
22 **managers and shall keep the Department informed of any change in this**
23 **information.**

24
25 **(IV.B.8) Within 72 hours after discovery of conditions or circumstances that may**
26 **violate the terms or conditions of the site certificate, the certificate holder**
27 **shall report the conditions or circumstances to the Department.**

28
29 **Conclusion**

30 The Council finds that GHWF, subject to the conditions stated in this Final Order, has
31 demonstrated that it has the organizational expertise to construct and operate the proposed
32 facility. Based on these findings and recommended conditions, the Council concludes that the
33 Applicant has met the Organizational Expertise Standard.

34
35 **C. RETIREMENT AND FINANCIAL ASSURANCE, OAR 345-022-0050**

36
37 *To issue a site certificate, the Council must find that:*

38
39 (1) *The site, taking into account mitigation, can be restored adequately to a useful,*
40 *non-hazardous condition following permanent cessation of construction or*
41 *operation of the facility*

42
43 (2) *The applicant has a reasonable likelihood of obtaining a bond or letter of credit*
44 *in a form and amount satisfactory to the Council to restore the site to a useful,*
45 *non-hazardous condition.*

1
2 **Discussion**

3 **Retirement.** The wind facility is expected to have a useful life of 25 to 30 years. The
4 trend in the wind energy industry has been to “repower” older wind energy facilities by
5 upgrading or replacing existing towers and other infrastructure with more efficient turbines and
6 related equipment. Therefore, the proposed facility could have a useful life exceeding 30 years.
7

8 OAR 345-022-0050(1) ensures that the facility site can be restored to a useful, non-
9 hazardous condition at the end of the facility’s useful life. For the purpose of the standard, a
10 “useful, non-hazardous condition” is a condition consistent with the applicable local
11 comprehensive land use plan and land use regulations. The proposed Golden Hills Wind Project
12 is located on land zoned Exclusive Farm Use (“EFU”). To satisfy the standard, GHWF must
13 show that the site can be restored to a non-hazardous condition suitable for agricultural use and
14 forest.
15

16 The certificate holder is obligated to retire the facility upon permanent cessation of
17 construction or operation. Before restoring the site, the certificate holder must submit a final
18 retirement plan for approval by the Council. The retirement plan must describe the activities
19 necessary to restore the site to a useful, non-hazardous condition. After Council approval of the
20 plan, the certificate holder would obtain the necessary authorization from the appropriate
21 regulatory agencies to proceed with restoration of the site. In addition, the certificate holder is
22 obligated to maintain a bond or letter of credit to ensure that funds would be available to the
23 Council to restore the site if the certificate holder does not retire the facility as required.
24

25 Restoring the site to a useful, non-hazardous condition upon retirement would involve
26 dismantling all aboveground structures, including the wind turbines, met towers, transmission
27 lines, O&M facility and substations; removing foundations; and grading and replanting the
28 affected area. Nacelles and rotors would be removed, and the turbine towers would be
29 dismantled. Pad-mounted transformers and related aboveground equipment would be removed.
30 Gravel would be removed from adjacent turbine pad areas. Concrete turbine and transformer
31 pads and underground foundations would be removed to a minimum depth of three feet below
32 grade. At a depth of three feet, buried materials are not expected to interfere with farming
33 practices. Aboveground transmission lines and support structures would be removed.
34 Underground transmission lines and communication cables that are at least three feet below
35 grade would be left in place. All excavated areas would be filled with topsoil. The surface would
36 be graded as appropriate for agricultural uses. The affected areas, including areas temporarily
37 disturbed during site restoration activities, would be replanted with native plant seed mixes or
38 agricultural crops, as appropriate, based on the use of surrounding lands.
39

40 Facility access roads would be removed. Road areas would be restored with topsoil,
41 graded and replanted with native plant seed mixes or agricultural crops, as appropriate.
42 Alternatively, access roads on private property might be left in place based on landowner
43 preference.
44

45 Demolition waste material would be transported for disposal at authorized sites.
46

1 The proposed facility would not have any underground storage tanks or other on-site bulk
2 storage of hazardous materials. Small quantities of lubricants, vehicle fuel and herbicides might
3 be transported over and across the site during operation, and leaks, spills and improper handling
4 of these materials could occur. Given the small amounts of such materials used on the site, soil
5 contamination is unlikely.

6
7 To find that GHWF complies with OAR 345-022-0050(1), the Council adopts the
8 following standard conditions in the site certificate:

9
10 **(IV.C.1) The certificate holder shall retire the facility if the certificate holder**
11 **permanently ceases construction or operation of the facility. The certificate**
12 **holder shall retire the facility according to a final retirement plan approved**
13 **by the Council, as described in OAR 345-027-0110, and prepared pursuant to**
14 **Condition (IV.C.2).**

15
16 **(IV.C.2) Two years before closure of the energy facility, the certificate holder shall**
17 **submit to the Department a proposed final retirement plan for the facility**
18 **and site, pursuant to OAR 345-027-0110, including:**

- 19 (a) **A plan for retirement that provides for completion of retirement**
20 **within two years after permanent cessation of operation of the energy**
21 **facility and that protects the public health and safety and the**
22 **environment;**
23 (b) **A description of actions the certificate holder proposes to take to**
24 **restore the site to a useful, non-hazardous condition suitable for**
25 **agricultural use; and**
26 (c) **A detailed cost estimate, a comparison of that estimate with the dollar**
27 **amount secured by a bond or letter of credit and any amount**
28 **contained in a retirement fund, and a plan for ensuring the**
29 **availability of adequate funds for completion of retirement.**

30
31 **(IV.C.3) The certificate holder shall prevent the development of any conditions on the**
32 **site that would preclude restoration of the site to a useful, non-hazardous**
33 **condition to the extent that prevention of such site conditions is within the**
34 **control of the certificate holder.**

35
36 The Council finds that the actions necessary to restore the site are feasible and that
37 restoration of the site to a useful, non-hazardous condition could be achieved.

38
39 **Estimated Cost of Site Restoration.** OAR 345-022-0050(2) addresses the possibility
40 that the certificate holder is unable or unwilling at any time to restore the site upon permanent
41 cessation of construction or operation of the facility. A bond or letter of credit provides a site
42 restoration remedy to protect the State of Oregon and its citizens if the certificate holder fails to
43 perform its obligation to restore the site under any circumstances. To provide a fund that is
44 adequate for the State of Oregon to pay site restoration costs if the certificate holder fails to
45 perform its obligation, the Council assumes circumstances under which the restoration cost
46 would be greatest.

1
2 The Applicant estimated the cost of site restoration would be \$4,438,000, including an
3 allowance for scrap metal in the amount of \$5,006,400. The Department obtained an independent
4 cost estimate, based on the estimating procedure outlined in the draft Facility Retirement Cost
5 Estimating Guide. The Council finds that the total cost of site restoration (in 2008 dollars) is
6 \$16,491,000 as shown in Table IV.C.1.¹³
7

Table IV.C.1 - Cost Estimate for Site Restoration (2008 Dollars)			
Cost Estimate Component	Quantity	Unit Cost	Extension
Disconnect electrical and ready for disassembly (per turbine)	267	\$1,033	\$275,811
Remove turbine blades, hubs and nacelles (per turbine)	267	\$5,491	\$1,466,097
Remove turbine towers (per net ton of steel)	86,508	\$70.86	\$6,129,957
Remove and load pad transformers (per turbine)	267	\$2,473	\$660,291
Turbine foundation removal (per cubic yard of concrete)	8,811	\$33.42	\$294,464
Restore turbine pads (per turbine)	267	\$1,310	\$349,770
Met Towers			
Dismantle and dispose of met towers (per tower)	6	\$7,715	\$46,290
Substations and O&M Facility			
Dismantle and dispose of substations (per unit)	2	\$58,425	\$116,850
Dismantle and dispose of O&M facility (per unit)	1	\$112,492	\$112,492
Transmission Line			
Removal of 34.5-kV aboveground collector line (per mile)	1	\$5,924	\$5,924
Removal of 230-kV transmission line wire (per mile)	5	\$627	\$3,135
Removal of 500-kV transmission line (per mile)	11	\$13,896	\$152,856
Junction boxes - remove electrical to 4' below grade (per unit)	28	\$1,394	\$39,032
Access Roads			
Road removal, grading and seeding (per mile)	50	\$48,797	\$2,439,850
Temporary Areas			
Grade and seed temporarily disturbed areas (per acre)	179	\$5,837	\$1,044,823
General Costs			
Permits, mobilization, engineering, overhead, utility disconnects (unit cost)	1	\$468,849	\$468,849
SUBTOTAL			\$13,606,491
Performance Bond		1%	\$136,065
GROSS COST			\$13,742,556
Administration and Project Management		10%	\$1,374,256
Future Developments Contingency		10%	\$1,374,256
TOTAL SITE RESTORATION COST			\$16,491,068
TOTAL SITE RESTORATION COST (ROUNDED TO NEAREST \$1,000)			\$16,491,000

8
9 **Ability of the Applicant to Obtain a Bond or Letter of Credit.** The Department
10 recommends that the Council find that the value of the financial assurance bond or letter of credit

¹³ The Facility Retirement Cost Estimating Guide computes the retirement and site restoration cost in terms of mid-2004 dollars. The computation has been adjusted to reflect preliminary 2008 dollars by application of a multiplier of 1.1183. The multiplier is generated by dividing preliminary 2008 annual Gross Domestic Product Implicit Price Deflator (GDP) of 122.45275 by the average of the Second Quarter 2004 GDP (109.185) and Third Quarter 2004 GDP (109.807).

1 for restoring the site of the proposed Golden Hills Wind Project at full build-out would be
2 \$16,491,000 in 2008 dollars adjusted annually as described in Condition (IV.C.4). This bond or
3 letter of credit would remain in force until the certificate holder has fully restored the site.
4

5 OAR 345-022-0050(2) requires the Council to decide whether the Applicant has a
6 reasonable likelihood of obtaining a bond or letter of credit in a form and amount satisfactory to
7 the Council to restore the site to a useful, non-hazardous condition. GHWF provided information
8 about its financial capability in Exhibits D and M of the ASC. GHWF proposes to provide a
9 financial assurance bond or letter of credit in a form approved by the Council before beginning
10 construction of the energy facility and to maintain that performance bond or letter of credit in
11 effect until the facility is retired and the site has been restored.
12

13 GHWF has provided a letter from JPMorgan Chase Bank, N.A., dated June 27, 2008.
14 JPMorgan states it would presently be willing to issue a standby letter of credit for \$16,000,000
15 as security for performance by GHWF. The letter of credit would be for a period of up to one
16 year and would provide for automatic renewals for one year unless JPMorgan notifies the State
17 of Oregon of its election not to renew the letter of credit. Though this letter does not constitute a
18 firm commitment from JPMorgan to issue the bond or letter of credit, it is credible evidence that
19 GHWF could obtain the necessary bond or letter of credit.
20

21 It is customary for a performance bond to contain provisions allowing the surety to
22 complete construction of a project in order to reduce its potential liability. Oregon law and
23 Council rules require a site certificate to construct or operate an energy facility. ORS 469.320(1);
24 OAR 345-027-0100(1). Accordingly, the Council requires the certificate holder to ensure that the
25 surety has agreed to comply with all applicable statutes, Council rules and site certificate
26 conditions if the surety retains the right to complete construction, operate or retire the energy
27 facility. In addition, the Council requires that the surety seek Council approval before
28 commencing construction, operation or retirement activities. These requirements are included in
29 Condition (IV.C.5).
30

31 To find that GHWF complies with OAR 345-022-0050(2), the Council adopts the
32 following conditions in the site certificate:
33

34 **(IV.C.4) Before beginning construction, the certificate holder shall submit to the State**
35 **of Oregon through the Council a bond or letter of credit in the amount**
36 **described herein naming the State, acting by and through the Council, as**
37 **beneficiary or payee. If the certificate holder elects to build the facility in a**
38 **single phase, the initial bond or letter of credit amount is \$16,491,000 (in**
39 **2008 dollars), adjusted to the date of issuance as described in (b), or the**
40 **amount determined as described in (a). If the certificate holder elects to build**
41 **the facility in more than one phase, the amount of the initial bond or letter of**
42 **credit for each phase of construction shall be the amount determined as**
43 **described in (a). The certificate holder shall adjust the amount of each bond**
44 **or letter of credit on an annual basis thereafter as described in (b).**

45 **(a) The certificate holder may adjust the amount of each bond or letter of**
46 **credit based on the final design configuration of the facility by**

1 applying the unit costs and general costs illustrated in Table IV.C.1 of
2 the Final Order on the Application to the final design and calculating
3 the financial assurance amount as described in that order, adjusted to
4 the date of issuance as described in (b) and subject to approval by the
5 Department.

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

9 (i) Adjust the subtotal component of the bond or letter of credit
10 amount (expressed in 2008 dollars) to present value, using the
11 U.S. Gross Domestic Product Implicit Price Deflator, Chain-
12 Weight, as published in the Oregon Department of
13 Administrative Services' "Oregon Economic and Revenue
14 Forecast" or by any successor agency (the "Index") and using
15 the annual average index value for 2008 dollars and the
16 quarterly index value for the date of issuance of the new bond
17 or letter of credit. If at any time the Index is no longer
18 published, the Council shall select a comparable calculation to
19 adjust 2008 dollars to present value.

20 (ii) Calculate the adjusted performance bond amount as 1 percent
21 of the new subtotal (i).

22 (iii) Add the subtotal (i) to the adjusted performance bond amount
23 (ii) for the adjusted gross cost.

24 (iv) Calculate the adjusted administration and project
25 management costs as 10 percent of the adjusted gross cost (iii).

26 (v) Calculate the adjusted future developments contingency as
27 10 percent of the adjusted gross cost (iii).

28 (vi) Add the adjusted gross cost (iii) to the sum of adjusted
29 administration and project management costs (iv) and the
30 adjusted future developments contingency (v) and round the
31 resulting total to the nearest \$1,000 to determine the adjusted
32 financial assurance amount.

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

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

37 (e) The certificate holder shall describe the status of the bond or letter of
38 credit in the annual report submitted to the Council under Condition
39 (VII.21.a.ii).

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

42
43 (IV.C.5) If the certificate holder elects to use a bond to meet the requirements of
44 Condition (IV.C.4), the certificate holder shall ensure that the surety is
45 obligated to comply with the requirements of applicable statutes, Council
46 rules and this site certificate when the surety exercises any legal or

1 contractual right it may have to assume construction, operation or
2 retirement of the energy facility. The certificate holder shall also ensure that
3 the surety is obligated to notify the Council that it is exercising such rights
4 and to obtain any Council approvals required by applicable statutes, Council
5 rules and this site certificate before the surety commences any activity to
6 complete construction, operate or retire the energy facility.
7

8 **(IV.C.6)** The certificate holder shall report to the Department any release of
9 hazardous substances, pursuant to Oregon Department of Environmental
10 Quality (“DEQ”) regulations, within one working day after the discovery of
11 such release. This obligation shall be in addition to any other reporting
12 requirements applicable to such a release.
13

14 **(IV.C.7)** If the certificate holder has not remedied a release consistent with applicable
15 Oregon DEQ standards within six months after the date of the release, the
16 certificate holder shall submit to the Council for its approval an
17 independently prepared estimate of the additional cost of remediation or
18 correction within such six-month period.

- 19 (a) Upon approval of an estimate by the Council, the certificate holder
20 shall increase the amount of its bond or letter of credit by the amount
21 of the estimate.
- 22 (b) In no event, however, shall the certificate holder be relieved of its
23 obligation to exercise all due diligence in remedying a release of
24 hazardous substances.
25

26 **(IV.C.8)** All funds received by the certificate holder from the salvage of equipment
27 and buildings shall be committed to the restoration of the energy facility site
28 to the extent necessary to fund the approved site restoration and
29 remediation.
30

31 **(IV.C.9)** The certificate holder shall pay the actual cost to restore the site to a useful,
32 non-hazardous condition at the time of retirement, notwithstanding the
33 Council’s approval in the site certificate of an estimated amount required to
34 restore the site.
35

36 **(IV.C.10)** If the Council finds that the certificate holder has permanently ceased
37 construction or operation of the facility without retiring the facility
38 according to a final retirement plan approved by the Council, as described in
39 OAR 345-027-0110 and prepared pursuant to Condition (IV.C.2), the
40 Council shall notify the certificate holder and request that the certificate
41 holder submit a proposed final retirement plan to the Department within a
42 reasonable time not to exceed 90 days.

- 43 (a) If the certificate holder does not submit a proposed final retirement
44 plan by the specified date or if the Council rejects the retirement plan
45 that the certificate holder submits, the Council may direct the

1 Department to prepare a proposed a final retirement plan for the
2 Council's approval.

- 3 (b) Upon the Council's approval of the final retirement plan prepared
4 pursuant to subsection (a), the Council may draw on the bond or
5 letter of credit described in Condition (IV.C.4) and shall use the funds
6 to restore the site to a useful, non-hazardous condition according to
7 the final retirement plan, in addition to any penalties the Council may
8 impose under OAR Chapter 345, Division 29.
- 9 (c) If the amount of the bond or letter of credit is insufficient to pay the
10 actual cost of retirement, the certificate holder shall pay any
11 additional cost necessary to restore the site to a useful, non-hazardous
12 condition.
- 13 (d) After completion of site restoration, the Council shall issue an order to
14 terminate the site certificate if the Council finds that the facility has
15 been retired according to the approved final retirement plan.
16

17 Conclusion

18 The Council finds that the Golden Hills site, taking into account mitigation, can be
19 restored adequately to a useful, non-hazardous condition following permanent cessation of
20 construction or operation of the facility. The Council further finds that \$16,491,000 in 2008
21 dollars adjusted annually is a reasonable estimate of the cost to restore the site to a useful, non-
22 hazardous condition at full build-out. This amount will be prorated as needed to account for
23 phased construction or construction of something less than the total facility. The Council finds
24 that GHWF, subject to the conditions stated in this Final Order, has demonstrated a reasonable
25 likelihood of obtaining a bond or letter or credit, satisfactory to the Council, in an amount
26 adequate to restore the site to a useful, non-hazardous condition. Based on these findings and
27 conditions, the Council concludes that the Applicant has met the Retirement and Financial
28 Assurance Standard for the proposed Golden Hills facility.
29

30 D. LAND USE, OAR 345-022-0030

- 31
- 32 (1) *To issue a site certificate, the Council must find that the proposed facility*
33 *complies with the statewide planning goals adopted by the Land Conservation*
34 *and Development Commission.*
- 35 (2) *The Council shall find that a proposed facility complies with section (1) if:*
36 *....*
- 37 (b) *The applicant elects to obtain a Council determination under ORS*
38 *469.504(1)(b) and the Council determines that:*
- 39 (A) *The proposed facility complies with applicable substantive criteria*
40 *as described in section (3) and the facility complies with any Land*
41 *Conservation and Development Commission administrative rules*
42 *and goals and any land use statutes directly applicable to the*
43 *facility under ORS 197.646(3);*
- 44 (B) *For a proposed facility that does not comply with one or more of*
45 *the applicable substantive criteria as described in section (3), the*
46 *facility otherwise complies with the statewide planning goals or an*

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

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

8 (3) *As used in this rule, the “applicable substantive criteria” are criteria from the*
9 *affected local government’s acknowledged comprehensive plan and land use*
10 *ordinances that are required by the statewide planning goals and that are in*
11 *effect on the date the applicant submits the application. If the special advisory*
12 *group recommends applicable substantive criteria, as described under OAR 345-*
13 *021-0050, the Council shall apply them. If the special advisory group does not*
14 *recommend applicable substantive criteria, the Council shall decide either to*
15 *make its own determination of the applicable substantive criteria and apply them*
16 *or to evaluate the proposed facility against the statewide planning goals.*

17 (4) *The Council may find goal compliance for a proposed facility that does not*
18 *otherwise comply with one or more statewide planning goals by taking an*
19 *exception to the applicable goal. Notwithstanding the requirements of ORS*
20 *197.732, the statewide planning goal pertaining to the exception process or any*
21 *rules of the Land Conservation and Development Commission pertaining to the*
22 *exception process, the Council may take an exception to a goal if the Council*
23 *finds:*

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

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

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

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

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

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

42 **Discussion**

43 GHWF provided information about compliance with the Council’s Land Use Standard in
44 Exhibit K of the ASC and elected to have the Council make the land use determination under
45

1 OAR 345-022-0030(2)(b) (quoted above). The analysis area for the Land Use Standard is the
2 area within the site boundary and one-half mile from the site boundary.
3

4 The proposed facility would lie entirely on land within the land use jurisdiction of
5 Sherman County. The energy facility and its related or supporting facilities, as well as staging
6 areas needed during construction, would be on privately owned land zoned EFU (F-1).¹⁴ A
7 detailed description of the facility components and any related or supporting facilities is provided
8 in Section III.A of this Final Order.
9

10 The land use analysis begins with identification of the “applicable substantive criteria” to
11 be recommended by the Special Advisory Group. On August 17, 2007, the Council appointed the
12 Sherman County Board of Commissioners the Special Advisory Group for the ASC. The
13 Department requested that the Sherman County Court identify the applicable substantive criteria
14 in effect on the date GHWF submitted the ASC (August 10, 2007).¹⁵
15

16 The Sherman County Land Use planner commented on September 7, 2007¹⁶ and
17 provided the Sherman County Comprehensive Plan (“SCCP”), as updated June 2007. The
18 County did not recommend specific sections of the SCCP as containing applicable substantive
19 criteria, but Sherman County Zoning Ordinance (“SCZO”) 5.2.1 requires compatibility with the
20 SCCP. OAR 345-022-0030(3) provides that if the Special Advisory Group does not recommend
21 applicable substantive criteria, “the Council shall decide either to make its own determination of
22 the applicable substantive criteria and apply them or to evaluate the proposed facility against the
23 statewide planning goals.”
24

25 The Council finds that Article 5 of the SCZO contains the applicable substantive criteria
26 for the proposed facility. The Council has previously found that SCZO Article 5 is the set of
27 applicable substantive criteria for the Klondike III and Biglow Canyon wind facilities, which are
28 also located in the EFU zone in Sherman County.¹⁷ Article 5 satisfies the other requirements of
29 “applicable substantive criteria” provided in OAR 345-022-0030(3): Article 5 provides criteria
30 from Sherman County’s acknowledged comprehensive plan and land use ordinances that are
31 required by the statewide planning goals and in effect on the date the Applicant submitted the
32 ASC. At the Department’s request, the Sherman County Land Use Planner confirmed that the
33 SCZO did not change after May 31, 2006, the date of the Proposed Order for Klondike III, and
34 that the SCZO criteria used for Klondike III and Biglow Canyon are correct for Golden Hills as
35 well.¹⁸
36

37 The Council’s Land Use Standard (OAR 345-022-0030) must be applied in conformance
38 with the requirements of ORS 469.504. The Oregon Supreme Court recently held that “under
39 ORS 469.504(1)(b) and (5), the council may choose to determine compliance with statewide
40 planning goals by evaluating a facility under subparagraph (A) or (B) or (C), but ... it may not

¹⁴ ASC, Ex. K, at K-5.

¹⁵ Request for Comments on Completeness of the Application (Aug. 10, 2007).

¹⁶ Georgia Macnab letter to Shelley Carlson (Sept. 7, 2007).

¹⁷ See Final Order in the Matter of the Application for a Site Certificate for the Klondike III Wind Project at 22 and Final Order in the Matter of the Application for a Site Certificate for the Biglow Canyon Wind Farm at 32.

¹⁸ Telephone communication, Adam Bless and Georgia Macnab (Oct. 1, 2007).

1 combine elements or methods from more than one subparagraph, except to the extent that the
2 chosen subparagraph itself permits.” *Save Our Rural Oregon v. Energy Facility Siting Council*,
3 339 Or 353, 367, 1221 P3d 1141 (2005).

4
5 The Council may find compliance with statewide planning goals under ORS
6 469.504(1)(b)(A) if the Council finds that the proposed facility “complies with applicable
7 substantive criteria from the affected local government’s acknowledged comprehensive plan and
8 land use regulations that are required by the statewide planning goals and in effect on the date
9 the application is submitted.” For the reasons discussed below, the Council finds that the
10 proposed facility does not comply with all of the applicable substantive criteria.

11
12 If the proposed facility does not comply with one or more of the applicable substantive
13 criteria, then the Council must proceed under ORS 469.504(1)(b)(B) and must determine
14 whether the proposed facility “otherwise [complies] with the applicable statewide planning
15 goals.”¹⁹ The court held in *Save Our Rural Oregon* that “subparagraph (B) necessarily requires
16 an evaluation of the same applicable substantive criteria as subparagraph (A) and, to the extent
17 those criteria are not met, directs the council to consider statewide planning goals.” The Council
18 finds that the applicable statewide planning goal is Goal 3 and that an exception to Goal 3 is
19 justified, for the reasons discussed below.

20
21 The substantive criteria contained in Article 5 of the SCZO are in Sections 5.2 and 5.8 of
22 the ordinance. The other sections of the article are procedural. The Council makes findings
23 regarding these criteria as discussed below.

24 **1. Applicable Substantive Criteria**

25 SCZO Section 5.2: General Criteria

26
27 *In determining whether or not a Conditional Use proposal shall be approved or denied, it*
28 *shall be determined that the following criteria are either met or can be met through*
29 *compliance with specific conditions of approval.*

- 30 1. *The proposal is compatible with the County Comprehensive Plan and applicable*
31 *Policies.*
- 32 2. *The proposal is in compliance with the requirements set forth by the applicable*
33 *primary Zone, by any applicable combining zone, and other provisions of this*
34 *Ordinance that are determined applicable to the subject use.*
- 35 3. *That, for a proposal requiring approvals or permits from other local, state and/or*
36 *federal agencies, evidence of such approval or permit compliance is established*
37 *or can be assured prior to final approval.*
38
39
40
41
42

¹⁹ Where the special advisory group does not recommend applicable substantive criteria within the stated time, the Council may elect, under ORS 469.504(1)(b)(C) (5), to evaluate a proposed facility solely against applicable statewide planning goals. However, for the reasons stated above, the Department recommends that the Council find that SCZO Article 5 provides the applicable substantive criteria. Therefore, ORS 469.504(1)(b)(C) does not apply.

- 1
2 4. *The proposal is in compliance with specific standards, conditions and limitations*
3 *set forth for the subject use in this Article and other specific relative standards*
4 *required by this or other County Ordinance.*
5
6 5. *That no approval be granted for any use which is or expected to be found to*
7 *exceed resource or public facility carrying capacities, or for any use which is*
8 *found to not be in compliance with air, water, land, and solid waste or noise*
9 *pollution standards.*
10
11 6. *That no approval be granted for any use violation of this Ordinance.*
12

13 SCZO Section 5.2.1: Compatibility with the Comprehensive Plan
14

15 SCZO Section 5.2.1 requires that the proposal (construction and operation of the facility)
16 be compatible with the SCCP and applicable policies. As updated in June 2007, SCCP Sections I
17 through X contain an introduction, definitions and procedural directives to the county
18 commissioners. These sections do not contain applicable substantive criteria. Sections XI
19 through XVI articulate the County’s substantive land use goals. In addition, Section XVIII
20 provides requirements for certain land designations.
21

22 Each section contains findings and goals, and policies designed to further the goals.
23 Section XI contains goals and policies regarding the County’s physical characteristics. Several
24 goals address specific resources within the County that would not be affected in any way by the
25 proposed facility. Goal III (aggregate resources) does not apply because GHWF does not propose
26 to develop any aggregate resources and will purchase gravel from local operations that already
27 have applicable permits in accordance with Sherman County standards. Goal IV calls for an
28 investigation of groundwater resources. The facility will use a small amount of groundwater. The
29 new O&M facility will be served by a new well. No permit will be required because Oregon law
30 allows the facility to use up to 5,000 gallons per day from a groundwater well without a water
31 right or permit. Goal V (Bureau of Land Management (“BLM”) lands) does not apply because
32 the site does not include any BLM lands. Goal XII (use of resources within the Deschutes and
33 John Day Oregon State Scenic Waterways) does not apply because the facility has no effect on
34 these waterways. SCCP Section XIII (housing) does not apply because the facility has no effect
35 on housing availability.²⁰ The proposed facility is compatible with the remaining goals and
36 applicable policies for the reasons discussed in the sections that follow.
37

38 (a) Goal I: Quality of the Physical Environment
39

40 *Goal I: Improve or maintain the existing quality of the physical environment within*
41 *the County. [SCCP Section XI]*
42

²⁰ The project’s effect on the scenic quality of the State Scenic Waterways is addressed in relation to SCCP Goal X (Landscape) and in the discussion of the Scenic Resources Standard in this Final Order. We discuss the project’s effect on housing availability in the Public Services Standard section of this Final Order.

1 GHWF would maintain the existing quality of the physical environment within the
2 County. The single policy listed under this goal (Policy I) requires that erosion control provisions
3 be incorporated into the subdivision ordinance, which is not applicable to the facility.
4

5 Nonetheless, as discussed in the Soils Protection Standard section of this Final Order, the
6 site certificate holder would implement measures to decrease soil exposure during the
7 construction of the facility. Temporary impacts to land within the facility area will occur with the
8 creation of staging areas and excavation for underground collector lines. To minimize soil
9 exposure during installation of collector lines, GHWF will endeavor to open only as much trench
10 in a day as can be excavated and backfilled, and in no case will a trench remain open for more
11 than the seven days allowed under the general National Pollutant Discharge Elimination System
12 (“NPDES”) construction storm water permit issued by DEQ.
13

14 Establishing the proposed staging areas will involve stripping and temporarily stockpiling
15 topsoil before placing gravel on laydown areas. Because stockpiling will occur during the time of
16 year when rainfall is lowest, very little erosion will result from precipitation. Construction will
17 be conducted pursuant to a NPDES Storm Water Discharge General Permit (1200-C) issued by
18 DEQ. The NPDES permit will require the use of best management practices to minimize the
19 potential for erosion. The NPDES permit will require the use of best management practices to
20 minimize the potential for erosion.
21

22 (b) Goal II: Natural Hazards
23

24 *Goal II: To protect life and property from natural disasters and hazards. [SCCP*
25 *Section XI]*
26

27 The proposed facility would meet the requirements of Goal II. Policy II under Goal II
28 requires the evaluation of lands designated as potential natural hazard areas before construction
29 of any permanent structure. The site includes certain lands within the Natural Hazards
30 Combining Zone. Nonetheless, as discussed in the Structural Standard section of this Final
31 Order, GHWF would conduct appropriate site-specific geotechnical evaluation prior to
32 construction to identify and avoid geological hazards. Golden Hills will comply with the
33 substantive requirements for the Natural Hazards Combining Zone, as discussed below.
34

35 Policy III under Goal II is not applicable because it addresses construction within flood-
36 prone areas, and the facility site is not within a flood-prone area.
37

38 (c) Goal VI: Landscape
39

40 *Goal VI: Encourage preservation of the rural nature [of] the Sherman County*
41 *landscape. [SCCP Section XI]*
42

43 The features of the Sherman County landscape are addressed in SCCP Section XI,
44 Finding XI, which identifies rock outcroppings, trees, the John Day River Canyon and the
45 Deschutes River Canyon as the “all-important features of the County’s landscape.” The finding
46 also notes certain segments of I-80, US 97, OR 206 and OR 216 were designated as “scenic

1 highways.” The facility would preserve the integrity of these landscape features. It would not be
2 located in the John Day River Canyon or the Deschutes River Canyon, and would not be located
3 adjacent to I-80 or OR 216. Visual impacts from highways US 97 and OR 206 are addressed in
4 the Scenic Resources Standard section of this Final Order. Neither construction, nor operation,
5 nor retirement of the facility is anticipated to affect rock outcroppings.²¹ The facility would be
6 visible from U.S. 97 and OR 206. However, as discussed in the Scenic Resources Standard
7 section of this Final Order, the facility will not have any significant effect on the scenic qualities
8 of any of these resources. The single policy under Goal VI calls for retaining trees when
9 practical. The Golden Hills site is in a largely treeless landscape and is not expected to impact
10 any trees. Development of Golden Hills will not require removal of any trees.²²

11
12 (d) Goal VII: Fish and Wildlife

13
14 *Goal VII: Encourage preservation of fish and wildlife habitat in the County. [SCCP*
15 *Section XI]*

16
17 Golden Hills is compatible with this goal and associated policies. Construction and
18 operation of the facility would comply with ODFW habitat mitigation goals and standards, and
19 would not cause any significant adverse impact to protected or sensitive plant or animal species,
20 as discussed in the Fish and Wildlife Habitat Standard and the Threatened and Endangered
21 Species Standard sections of this Final Order. There are approximately 2.9 acres of ODFW
22 Category 1 habitat in the analysis area, none of which will be affected by Golden Hills.
23 Approximately 92 percent of the permanent impact, and 68 percent of the temporary impact, will
24 be on agricultural land considered habitat category 5 or 6.

25
26 The SCCP lists four policies under this goal: Policies IX, X, XI and XII.

27
28 Policy IX does not apply to Golden Hills because it addresses range management
29 programs.

30
31 Policy X states: “*Fencerows, ditch banks and brush patches should be considered for*
32 *retention for wildlife use.*” No fence rows, ditch banks or brush patches would be affected by
33 Golden Hills because the site is primarily in large-scale wheat crop production.²³

34
35 Policy XI does not apply to Golden Hills because it addresses maintenance by ODFW of
36 “existing habitat plantings and water developments constructed for wildlife use.”

37
38 Policy XII discusses the Rufus Bar and Maryhill Islands, which are not in the Golden
39 Hills site or affected by the facility.

40

²¹ ASC, Ex. R, at R-5.

²² ASC, Ex. K, at K-16.

²³ ASC, Ex. K, at K-17.

1 (e) Goal XIII: Plant and Animal Diversity

2
3 *Goal XIII: Encourage the diversity of plant and animal species within the County.*
4 *[SCCP Section XI]*

5
6 The June 2007 SCCP lists no policies under this goal. As described in the sections of this
7 Final Order that address the EFSC Fish and Wildlife Habitat and Threatened and Endangered
8 Species standards, Golden Hills is not expected to significantly affect any listed endangered or
9 threatened species or adversely affect fish and wildlife species or habitat. Exhibit Q indicates that
10 there no direct facility-related impacts to federal- or state-listed species, and there is little or no
11 habitat in the analysis area to support such species. Conditions proposed under the Fish and
12 Wildlife Habitat Standard will impose monitoring plans developed in consultation with ODFW.

13
14 (f) SCCP Section XII, Social Characteristics

15
16 *Goal I: To improve or maintain the current level of social services available with the*
17 *County and to assure the provision of public facilities consistent with the intensity of*
18 *land use. [SCCP Section XII]*

19
20 There are 10 specific policies under Section XII Goal I. Policies that are applicable to the
21 proposed facility are discussed below. The overall concern of Goal XIV is the adequacy of
22 public services in Sherman County. Golden Hills is consistent with this goal because it meets the
23 EFSC Public Services Standard, as addressed further in this Final Order. Based on the findings in
24 that discussion and the discussion here, the proposed facility is compatible with Goal I.

25
26 Policy I states: “*The County Court shall encourage the location of industries, businesses*
27 *and commercial services to diversify activities within the County consistent with the desired*
28 *population growth and other goals and policies.*”

29
30 Policy IX under this goal states: “*The continuing loss of economic opportunities for*
31 *resident of the County is of great concern to the residents. The reduction of need for agricultural*
32 *based jobs due to improved farming technology and practices, the inability to keep families*
33 *employed or offer employment opportunities to attract new citizens or the children of existing*
34 *residents results in a stagnant or declining population. It is a matter of great urgency that the*
35 *Court gives increased consideration to land use applications which will increase economic*
36 *diversity and employment opportunities. This increased consideration shall not be made to the*
37 *detriment of existing residential structures. This consideration should focus on long-term job*
38 *creation and should not be used as a means to allow residential and commercial uses to locate*
39 *outside urban growth and rural service center (communities) boundaries.*”

40
41 Golden Hills is not expected to have a significant impact on local population. During its
42 operating life, the facility would employ 10 to 15 full-time and part-time employees. Project
43 construction is expected to take about nine months and employ an estimated 175 workers at peak
44 periods. GHWF states that construction workers will include locally hired workers as local
45 expertise and availability allows. Development of the facility will increase economic diversity
46 within the County and offer non-agricultural employment. The facility will provide agricultural

1 property owners with an additional revenue stream to supplement farm income, and insulate
2 agricultural owners from market and weather fluctuations.²⁴ The facility is consistent with
3 Policies I and IX.
4

5 Policies II and III under this goal deal with the adequacy of school and landfill services,
6 respectively. As discussed in both the Public Services Standard and the Waste Minimization
7 Standard sections of this Final Order, the facility would not have any adverse impacts on the
8 availability of these services.
9

10 Policies IV and V address maintenance and improvement of the road system. GHWF
11 states that no new public roads or highways will be constructed as part of the facility. GHWF has
12 committed²⁵ that the design for private access roads and for the improvements to existing public
13 roads will meet or exceed road standards for the road classifications in the County's TSP and
14 Zoning Ordinance because roads will require a more substantial section to bear the weight of the
15 vehicles and turbine components than would usually be constructed by the County. The Biglow
16 Canyon site certificate contains an identical condition, and the Council adopts this commitment
17 as a condition for Golden Hills. The Council also adopts Condition (IV.D.2) below, which the
18 Council imposed on Biglow Canyon, as a condition for Golden Hills.
19

20 **(IV.D.1) The certificate holder shall construct the public road improvements**
21 **described in the site certificate application to meet or exceed road standards**
22 **for the road classifications in the County's Transportation System Plan and**
23 **Zoning Ordinance because roads will require a more substantial section to**
24 **bear the weight of the vehicles and turbine components than would usually**
25 **be constructed by the County.**
26

27 **(IV.D.2) The certificate holder shall ensure that no equipment or machinery is parked**
28 **or stored on any county road except while in use.**
29

30 Policy V provides that the "construction of new public roads and highways shall be
31 located whenever possible to avoid dividing existing farming units." GHWF will not build any
32 new public roads or highways as part of the facility. However, GHWF stated in the ASC that it
33 would design and construct new private access roads to minimize dividing existing farm units.²⁶
34 The Council adopts the statement as the following condition in the site certificate:
35

36 **(IV.D.3) The site certificate holder shall, in consultation with affected landowners,**
37 **design and construct private access roads to minimize the division of existing**
38 **farm units.**
39

40 Policy VI concerns the Wasco State Airport. As discussed in the Siting Standards for
41 Wind Energy Facilities section of this Final Order, the certificate holder would install and
42 maintain aviation warning lights on the turbine strings as required by FAA safety regulations.
43 The proposed facility is also subject to review by the FAA for a determination of whether the

²⁴ ASC, Ex. K, at K-19.

²⁵ ASC, Ex. K, at K-20.

²⁶ *Id.*

1 facility would interfere with flight paths. As discussed in the Public Health and Safety Standards
2 section in this Final Order, the certificate holder would submit a Notice of Proposed
3 Construction or Alteration to the FAA identifying the proposed final locations of the turbines and
4 related or supporting facilities.
5

6 Finally, Golden Hills would be compatible with Policy X, which contains the County’s
7 transportation planning policies. Subsection A.1 does not apply because the facility is not a
8 public road or highway project, and subsection A.2 does not apply because no new public roads
9 would be built for the proposed facility. Subsection A.3 provides that “maintenance, repair and
10 preservation of existing transportation facilities shall be allowed without land use review, except
11 where specifically regulated.” As noted above, GHWF would improve segments of existing
12 county roads to meet or exceed County standards because certain roads will require a more
13 substantial section to bear the weight of the vehicles and turbine components than would usually
14 be constructed by the County. Subsections A.4 and A.5 do not apply to the facility, because the
15 improvements are not designated in the Transportation Service Plan and Golden Hills does not
16 require an Environmental Impact Study or Environmental Assessment.
17

18 Section B of Policy X concerns local-state coordination policies. Subsection B.1 does not
19 apply. Subsection B.2 requires the County to notify Oregon Department of Transportation
20 (“ODOT”) of land use applications and development permits for properties that have direct
21 frontage or access onto state highways. GHWF is coordinating with ODOT about one proposed
22 new and improvements to two existing access points along highway OR 206. GHWF is also
23 coordinating with ODOT about one new access point and improvements to one existing access
24 point along highway US 97.
25

26 Section C of Policy X requires the County to consider the proposal’s impact on existing
27 and planned transportation facilities in all land use decisions. Subsection C.3 requires the County
28 to protect the function of existing or planned roadways through application of appropriate land
29 use regulations. As noted above, GHWF is coordinating with ODOT for improvements to
30 existing highways, and has submitted applications to ODOT for highway improvements and
31 access. GHWF proposes a 6-inch gravel overlay on some local roadways prior to use by
32 construction vehicles, to accommodate the length and width of vehicles that will deliver turbines
33 and other machinery. We consider traffic impacts in detail under the Council’s Public Services
34 Standard, OAR 345-022-0110, and recommend a finding that the facility will not create a
35 significant adverse impact on traffic safety in our discussion of that standard, Section V.C of this
36 Final Order.
37

38 *Goal II: To protect historical, cultural and archeological [sic] resources from*
39 *encroachment by incompatible land uses and vandalism. [SCCP Section XII]*
40

41 As discussed in the Historic, Cultural and Archaeological Resources Standard section of
42 this Final Order, historic, cultural and archaeological resources would be protected during
43 construction and operation of the proposed facility. The SCCP has two policies under this goal.
44 Policy XI identifies specific areas and structures considered historically, archaeologically or
45 culturally significant, and Policy XII calls for protection of these areas. The proposed facility is
46 consistent with the County policies because it would not affect any of these significant areas or

1 structures. GHWF submitted a detailed cultural resource survey that was reviewed by the State
2 Historic Preservation Officer (“SHPO”). The SHPO determined that the cultural resource survey
3 was adequate, as discussed in more detail in the Historic and Cultural Resources Standard
4 section of this Final Order. The conditions recommended under that standard provide the
5 required protection for historic, cultural and archeological resources.
6

7 (g) SCCP Section XIV: Economics Base and Viability of Agriculture
8

9 This section of the SCCP contains one goal and four policies. The goal is:
10

11 *Goal I: Diversify the economic base of the County and maintain the viability of the*
12 *agricultural sector. [SCCP Section XIV]*
13

14 The four policies under Goal I are not directly applicable to the proposed facility. Policy I
15 requires the County to evaluate the feasibility of creating a countywide port district. Policy II
16 calls for the adoption of zoning and other necessary ordinances “to assure conservation and
17 retention of agricultural lands in agricultural uses,” applies indirectly through the provisions of
18 the SCZO that address protection of agricultural uses (see discussion of SCZO Section 5.8.16
19 below). Policies III and IV place requirements on the County but do not apply to Golden Hills.
20 The facility is consistent with the language of the goal itself. It would diversify the economic
21 base of the County by providing non-agricultural sector jobs and investment. The facility would
22 also help to maintain the viability of the agricultural sector by being compatible with surrounding
23 farm uses and providing a stable source of revenue, through wind facility lease payments, to
24 farm operators. GHWF notes in the ASC that the additional revenues received by farmers from
25 wind projects will supplement farm income and help ensure that lessor-landowners’ farming
26 operations can remain viable in years with low crop yields or prices.²⁷
27

28 (h) SCCP Section XV: Energy Resources
29

30 This section of the SCCP has a single goal:
31

32 *Goal I: Conserve energy resources. [SCCP Section XV]*
33

34 The SCCP has two policies under this goal. Policy I calls for cooperation in the use and
35 development of renewable resources. The proposed facility is a renewable resource energy
36 facility. Policy II concerns rail, highway and barge transportation services at Biggs Junction and
37 Rufus and is inapplicable to the proposed facility.²⁸
38

39 (i) SCCP Section XVI: Land Use
40

41 *Goal I: To provide an orderly and efficient use of the lands within Sherman County.*
42 *[SCCP Section XVI]*

²⁷ ASC, Ex. K, at K-19.

²⁸ The Biglow and Klondike Final Orders addressed Policy III, which required new transmission lines with voltage in excess of 230 kV to be located within or adjacent to existing electrical transmission right-of-way. However, this policy is not in the June 2007 update to the SCCP and therefore does not apply to GHWF.

1
2 This section of the SCCP has a single goal and four policies. With the exception of
3 Policy IV, the policies under Goal I of Section XVI are not applicable to the proposed facility.
4 Policy IV states that “commercial businesses, except those related to agricultural uses, should be
5 located within the incorporated cities or within areas served by the Biggs or Kent special service
6 districts.” The proposed facility is a “commercial utility facility,” which is a use conditionally
7 allowable in Sherman County’s EFU zone.
8

9 SCZO Section 5.2.2: Compliance with Zoning Requirements
10

11 *“The proposal is in compliance with the requirements set forth by the applicable primary*
12 *Zone, by any applicable combining zone, and other provisions of this Ordinance that are*
13 *determined applicable to the subject use.”*
14

15 (a) Applicable Primary Zone and Applicable Combining Zone
16

17 Under SCZO Section 5.2.2, the proposed facility must comply with the requirements of
18 the applicable primary zone and any applicable combining zone. The proposed facility would be
19 located entirely within the EFU zone, which is designated “F-1” under SCZO Section 3.1.
20 Portions of the micro siting corridors cross the Natural Hazards Combining Zone. We discuss
21 compliance with the Natural Hazards Combining Zone in the discussion of SCZO 3.7, below.
22

23 Section 3.1.2 lists uses permitted outright in the F-1 zone, and subsection (g) allows
24 “reconstruction or modification of public roads.” The proposed facility would include
25 improvement of certain segments of public roads to support the weight of vehicles and turbine
26 components.²⁹ GHWF has submitted Applications for State Highway Approach to ODOT for
27 five improvements on highways U.S. 97 and OR 206.
28

29 Section 3.1.3 lists uses “and their accessory uses” conditionally permitted in the F-1 zone.
30 Subsection 3.1.3(e)(17) conditionally allows “operations conducted for” “commercial utility
31 facilities.” SCZO Section 1.4.136 defines a “utility facility” to include “any major structure
32 owned or operated by a...private...electric...company for the generation, transmission,
33 distribution or processing of its products...but excluding local...power distribution lines, and
34 similar minor facilities.”³⁰ SCZO Section 1.4.6 defines “[a]ccessory use or structure” as “[a] use

²⁹ SCZO Section 3.1.2, which lists permitted uses in the F-1 zone, is not entirely consistent with ORS 215.283(1). ORS 215.283(1) lists uses that are permitted under state law and includes “utility facilities necessary for public service” (ORS 215.283(1)(d)) and “reconstruction ... of public roads, *including the placement of utility facilities overhead and in the subsurface of public roads and highways along the public right of way...*” (ORS 215.283(1)(L) (emphasis added)). While SCZO Section 3.1.2(g) contains the introductory language for 215.283(1)(L) permitting “reconstruction or modification of public roads,” it does not contain the additional language permitting placement of utilities “along the right-of-way.” However, the County cannot narrow the application of uses permitted under ORS 215.283(1). *Brentmar v. Jackson County*, 321 Or 481, 900 P.2d 1030 (1995). Furthermore, ORS 758.010 grants to any person or corporation the right to place utility service lines along public roads. Thus, under ORS 215.283(1)(L), utility facilities such as transmission lines and junction boxes may be placed in the public right-of-way as a matter of right.

³⁰ SCZO Section 3.1.3(e)(17) appears to be modeled on ORS 215.283(2)(g), which conditionally allows “commercial utility facilities for the purpose of generating power for public use by sale.” However, the definition of

1 or structure, or a portion of a structure, the use of which is incidental and subordinate to the main
2 use of the property or structure and located on the same premises as the main or primary use
3 and/or structure.” The proposed wind turbines and met towers, power collection system,
4 aboveground transmission lines, collector substations, and the O&M building are structures that
5 meet the definition of a “utility facility.”³¹
6

7 The proposed access roads are “transportation improvements” that are separately allowed
8 as a conditional use under SCZO Section 3.1.3(f).³² “Transportation improvements” are subject
9 to four requirements (in addition to the other applicable requirements of Article 5). The proposed
10 access roads comply with these four requirements. Subsection (1)(A) requires that the facility be
11 designed to be compatible with existing land use and social patterns, including noise generation,
12 safety and zoning. The access roads will be compatible with existing land use patterns. As
13 discussed below, in reference to SCZO 5.8.16, the proposed facility, including the access roads,
14 will be compatible with farm uses (the primary land use in the vicinity). The private access roads
15 will not increase traffic in the area but will provide improved access by land managers and
16 farmers to their fields.
17

18 Subsection (1)(B) requires that the facility be designed to minimize unavoidable
19 environmental impacts to identified wetlands, wildlife habitat, air and water quality, cultural
20 resources, and scenic qualities. The new access roads will minimize unavoidable environmental
21 impacts to these resources as discussed in the Public Services; Fish and Wildlife Habitat;
22 Threatened and Endangered Species; Scenic Resources; Historic, Cultural and Archaeological
23 Resources; and Recreation sections of this Final Order. GHWF has modified the facility to bore
24 under wetland areas so that the facility will not require a removal-fill permit from the Oregon
25 Department of State Lands (“DSL”). There will be no substantial adverse impact on air quality
26 from the construction or operation. Construction activities for the facility will create dust.
27 However, GHWF will use best management practices to control dust and wind erosion, such as
28 spraying with water. We discuss erosion control measures further in the section of this Final
29 Order addressing the Council’s Soil Protection Standard, OAR 345-022-0022.
30

31 Subsection (1)(C) requires that the facility “preserves or improves the safety and function
32 of the facility through access management, traffic calming, or other design features.” General
33 usage of the public roads intersecting the proposed access roads is low, and the trips on the
34 access roads generated by the 10 to 15 operational staff will not have a significant impact on
35 traffic. Therefore, the Council finds that the access roads preserve the safety and function of

“utility facility” in SCZO Section 1.4.136 is overbroad and includes some utility facilities, such as transmission lines, that are permitted outright under ORS 215.283(1)(d), subject to compliance with ORS 215.275. Thus, under SCZO Section 3.1.3, some uses that are allowed outright under applicable state law are improperly subjected to additional conditions under SCZO Section 3.1.3. *Brentmar*, 321 Or 481.

³¹ The proposed met towers and O&M building may alternatively be allowed as “accessory uses” rather than being considered parts of the “utility facility.” The power collection system and the substations might also be considered “accessory uses,” but we believe that these structures fit more directly within the definition of utility facility structures for “transmission, distribution or processing” of electricity.

³² GHWF treated access roads as Transportation Improvements subject to SCZO Section 3.1.3(f). ASC, Ex. K, at K-9. This is consistent with the Klondike III and Biglow Canyon Final Orders, in which the Council found that access roads for those projects complied with the requirements that are specific to “transportation improvements.”

1 intersecting public roads without the need for access management, traffic calming, or other
2 design features.

3
4 Subsection (D) requires that the facility “includes provision for bicycle and pedestrian
5 circulation as consistent with the comprehensive plan and other requirements of this ordinance.”
6 As discussed below, SCZO Section 4.15, which relates to pedestrian and bicycle facilities, is not
7 applicable to the proposed facility. There are no other provisions of the SCCP or SCZO that
8 would require bicycle and pedestrian facilities for the proposed facility.

9
10 The conditional uses listed in SCZO Section 3.1.3 and their “accessory uses” are
11 permitted in an F-1 zone “when authorized in accordance with the requirements of Article 5 of
12 this Ordinance and this Section.” In context, “this Section” includes the dimensional standards of
13 SCZO Section 3.1.4. The wind turbines, O&M building, substations and met towers are
14 “buildings” under the definition in SCZO Section 1.4.20 and are therefore subject to applicable
15 setback requirements. In the ASC, the Applicant stated that all of the turbines and aboveground
16 elements of the proposed facility, with the exception of aboveground power collection and
17 transmission lines and poles and junction boxes, would be located at least 50 feet from any
18 property line.³³ The Council imposes this commitment as a condition on the site certificate, as
19 Condition (IV.D.4) below.

20
21 The Department recommended a condition requiring a 50-foot setback for all
22 aboveground facility structures, based on the Applicant’s statement in the ASC. However,
23 exclusion of the aboveground power collection and transmission lines and poles and junction
24 boxes from the setback requirements, as requested by the Applicant, would conflict with SCZO
25 Section 3.1.4. The Council finds that the facility does not meet SCZO Section 3.1.4 if the site
26 certificate condition removes aboveground power collection and transmission lines and poles and
27 junction boxes from the setback requirements.

28
29 Under ORS 469.504(1)(b)(B), if a facility does not meet the applicable substantive
30 criteria recommended by the special advisory group pursuant to ORS 469.504(5), the Council
31 may nevertheless approve the facility if it complies with applicable statewide planning goals.
32 The applicable statewide planning goal is Goal 3, which is the state’s Agricultural Lands goal.

33
34 Goal 3 requires that non-farm uses within EFU zones not have significant adverse effects
35 on accepted farm or forest practices. The Applicant noted that the permanent occupation of
36 farmland by facility structures could cause some small-scale changes in agricultural practices,
37 including changes in harvest patterns.³⁴ To avoid these impacts as a result of placement of
38 aboveground power collection and transmission lines and poles and junction boxes, the
39 Department recommended a condition to require placement of aboveground power collection
40 and transmission lines and poles and junction boxes along road rights-of-way or property lines to
41 the extent practicable.

42
43 The Council adopts the following condition in the site certificate:
44

³³ ASC, Ex. K, at K-10.

³⁴ ASC, Ex. K, at K-32.

1 **(IV.D.4) The certificate holder shall not locate any aboveground facility structure**
2 **(including wind turbines, O&M building, substations and met towers, but not**
3 **including aboveground power collection and transmission lines and poles and**
4 **junction boxes) within 50 feet from any property line or within 50 feet from**
5 **the right-of-way of any arterial or major collector road.**
6

7 (b) Natural Hazards (“NH”) Combining Zone (SCZO 3.7)
8

9 GHWF states that no turbines will be located in the NH zone. However, collector lines
10 and transmission lines may be located in the NH zone and must be analyzed for compliance.
11 These components are not an outright permitted use because they require excavation and, in the
12 case of the transmission line, require transmission towers. GHWF therefore requests a finding of
13 compliance as a conditional use under SCZO 3.7.3:
14

15 *“Conditional Uses - In any Zone with which the (NH) Zone is combined, all uses*
16 *permitted by the primary Zone, except those set forth in Subsection (2) above, shall be permitted*
17 *only as Conditional Uses and subject to the provisions of this Zone and the primary Zone. Said*
18 *permits shall be processed in accordance with the provisions set forth for a Conditional Use, or*
19 *as set for by this Ordinance.”*
20

21 All facility components are a conditional use within the primary (F-1) zone, as shown
22 above. The facility complies with the SCZO conditional use standards and supplemental
23 development standards, as shown in the discussion of SCZO 5.2 and 3.1.
24

25 Section 4 of SCZO 3.7 requires a permit prior to any construction, and states that *“no*
26 *permit shall be issued unless the use or development will be determined to be reasonably safe*
27 *from the applicable hazard, and otherwise in compliance with the provisions of this Section, the*
28 *Zone, this Ordinance and other applicable regulations.”*
29

30 This requirement is met because GHWF cannot begin construction until the site
31 certificate is issued. The Department has recommended conditions under the Council’s Structural
32 Standard, OAR 345-022-0020. These conditions are based on geotechnical information supplied
33 in Exhibit H of the ASC and require a detailed final geotechnical investigation prior to
34 construction. All development in the NH zone will be characterized for geological hazards and
35 designed to protect against those hazards.
36

37 Section 5 of SCZO 3.7 lists the County’s application requirements for a use in the NH
38 zone. It includes the following County information requirements:
39

40 (a) *Site Investigation Report: An application for a use or development in a (NH) Zone*
41 *requires a site investigation report for the subject-affected area. The site investigation*
42 *report shall provide information on the site of the proposed use or development and*
43 *surrounding and adjacent lands that are most likely to be affected thereby. Unless the*
44 *County determines that specific items are not required, the report shall include the*
45 *information described in this Subsection, together with appropriate identification of*
46 *information sources and the date of the information. The approved site investigation*

1 *report may be required to be referenced in the deed and other documents of sale, and*
2 *may be required to be recorded with the deed of record.*
3

4 The ASC evaluates all land within the facility lease area and vicinity and provides the
5 necessary information to comply with the standards set forth in the NH zone. The lease area is
6 shown in Figure K-1 of the ASC. Exhibit H of the ASC provides analysis of the geologic
7 conditions of the facility lease area, including the area within the NH zone. The methodology
8 used in investigating the site is described in greater detail in this Final Order in the analysis of
9 compliance with the Council’s Structural Standard.

10
11 The Applicant states that transmission lines do not cross or pass near areas that show
12 gross indicators of landslide (recent, historic and ancient) activity or marginal stability. The
13 Council finds that this statement by the Applicant shall be considered a commitment, and made a
14 condition under OAR 345-027-0020(11):
15

16 **(IV.D.5) Aboveground transmission line structures shall not occupy areas that show**
17 **gross indicators of landslide activity or marginal stability.**
18

19 GHWF also states in the ASC that collector lines within the NH zone will be placed
20 underground, and that native soil and bedrock stability concerns at cuts, fills and culvert
21 crossings will be addressed during site-specific geotechnical studies. This work will include
22 development of design and construction recommendations that minimize the potential for
23 destabilizing marginally stable slopes and minimize the potential for stream erosion at stream
24 crossings. The Council finds that this commitment by the Applicant shall be added as a condition
25 to the site certificate:
26

27 **(IV.D.6) Collector lines in the Natural Hazards Combining Zone (“NH zone”) shall be**
28 **placed under ground except in instances where it is more practical to install**
29 **aboveground power collection lines and provided that the aboveground**
30 **power collection lines will be designed to minimize slope stability and other**
31 **NH zone hazards. The site-specific geotechnical investigation required prior**
32 **to construction shall address native soil and bedrock stability concerns at**
33 **cuts, fills and culvert crossings, and shall include design and construction**
34 **recommendations to minimize the potential for destabilizing marginally**
35 **stable slopes and the potential for stream erosion.**
36

37 *(b) Background Data in Report. At a minimum, the Site Investigation Report shall contain*
38 *the following background information:*
39

40 1) *A general analysis of the affected site and general area’s topography and*
41 *geology, including faults, folds, geologic and engineering geologic units, and any*
42 *soils, rock and structural details important to the engineering or geological*
43 *interpretations and the their [sic] relative activity.*
44

1 The analysis described in this ordinance is described in the section of this Final Order
2 analyzing the facility for compliance with the Structural Section, and greater detail is provided in
3 Exhibit H of the ASC. The material includes all of the information required by this ordinance.
4

- 5 2) *Location and approximate depths of seasonal surface water accumulations and*
6 *groundwater tables, and location and direction of all watercourses, including*
7 *intermittent flows.*
8

9 The site topography generally consists of rolling hills, with shallow bedrock depths and a
10 deep groundwater table. Exhibit J (Wetlands) identifies all wetlands, streams and riparian areas
11 in the vicinity of the facility. These include Locust Grove Canyon, China Hollow, Mud Hollow,
12 Spanish Hollow and Grass Valley Canyon. These major drainage features are all tributaries of
13 the Columbia River and considered jurisdictional waters. Of these, only Grass Valley Canyon is
14 within the NH zone. The Grass Valley Canyon heads eastward and continues out of the wetland
15 analysis area to join the John Day River north to the Columbia River. During June site visits,
16 water was observed in and Grass Valley Canyon. Depth of water in the Grass Valley drainage
17 during the site visit was approximately 12 inches. Groundwater in this arid area is deep, in some
18 areas tens to hundreds of feet deep.
19

- 20 3) *A history of soil and water related problems on the site and adjacent lands, which*
21 *may be derived from discussions with local residents and officials and the study of*
22 *old photographs, reports and newspaper files.*
23

24 An analysis of the entire facility site, including areas outside of the NH zone, was
25 completed as part of the Golden Hills ASC. As discussed in greater detail in the discussion of the
26 Council's Structural Standard, the preliminary geotechnical analysis provided in the ASC does
27 not indicate soil- or water-related problems on land that is proposed as turbine sites. The final
28 site-specific geotechnical analysis required prior to construction will provide more detailed
29 information on any potential soil or water problems.
30

- 31 4) *The extent of the surface soil formation and its relationship to the vegetation of*
32 *the site, the activity of the landform, and the locations on the site and surrounding*
33 *areas.*
34

35 The information required here is provided in Exhibits I and J of the ASC.
36

- 37 5) *The following ground photographs of the site and surrounding areas with*
38 *information showing the scale and date of photographs and their relationship to*
39 *the topographic map and profiles:*
40 A. *A view of the general area.*
41 B. *The site of the proposed development.*
42 C. *Any features which are important to the interpretation of the hazard*
43 *potential of the site, including all sites of erosion, surface or groundwater*
44 *accumulations, or accretion.*
45

1 Per SCZO 3.7.5(a), the Department recommended that site-specific photographs are not
2 required. Ground photographs are not currently available for the facility, but the Golden Hills
3 ASC and supporting documentation provides extensive information for the entire facility site,
4 including areas within the NH zone. Project area maps using U.S. Geological Survey (“USGS”)
5 information are included in Exhibit H of the ASC. Furthermore, a detailed design geotechnical
6 investigation will be conducted prior to the start of construction for the entire facility, including
7 those components within the NH zone. This study will include a detailed study of all facility
8 components, including those within the NH zone.
9

- 10 (c) *Topography Map. A topography base map at a scale of not more than 1:100 with a*
11 *contour interval of 2 feet shall be prepared identifying the following features and*
12 *accompanied by references to the source(s) and date(s) of information used.*
- 13 1) *Position of lot lines.*
 - 14 2) *Boundaries of the property.*
 - 15 3) *Each geological feature classification type.*
 - 16 4) *Areas of open ground and the boundaries and species identification of major*
17 *plant communities.*
 - 18 5) *Any springs, streams, marshy areas, standing bodies of water, intermittent*
19 *waterways, drainage ways, and high groundwater areas with highest annual*
20 *levels.*
 - 21 6) *Cut terraces, erosion scarps, and areas exhibiting significant surface erosion due*
22 *to improper drainage and runoff concentration.*
 - 23 7) *Geological information, including lithologic and structural details important to*
24 *engineering and geologic interpretations.*
25

26 Per SCZO 3.7.5(a), the Department recommended that, due to the large size of the facility
27 area, a topography map at 1:100 with a contour interval of two feet is not required. The ASC
28 provides the features required by (c) at a feasible scale. Exhibit C (Figure C-2) identifies lot lines
29 and the facility’s lease area, Exhibit H provides detailed site and geology maps, and Exhibit J
30 identifies water bodies.
31

- 32 (d) *Subsurface Analysis. If upon initial investigation if [sic] it appears there are critical*
33 *areas where the establishment of geologic conditions at specific depths is required, a*
34 *subsurface analysis obtained by drilling holes, well logs, and other geophysical*
35 *techniques shall be conducted, or caused to be conducted by a qualified expert, by the*
36 *person responsible for the site, and investigation report to include the following data as*
37 *appropriate:*
- 38 1) *The lithology and compaction of all subsurface horizons to bedrock.*
 - 39 2) *The depth, width, slope and bearing of all horizons containing significant*
40 *amounts of silt and clay and any other subsurface layers which could reduce the*
41 *infiltration of surface waters.*
42

43 A detailed design geotechnical investigation will be conducted prior to the start of
44 construction for the entire facility, including those components within the NH Zone. This design
45 study will include exploratory test drilling at key locations where site improvements are
46 proposed. Where needed to enhance understanding of subsurface soil/rock conditions in some

1 areas and provide details on bulk shear wave velocity and other properties, down-hole and
2 surface geophysical studies will be conducted. As needed, field resistivity and other non-
3 destructive geophysical testing will be conducted to evaluate bulk properties.
4

5 Soil and rock samples obtained during explorations will be utilized to evaluate soil and
6 rock characteristics in a laboratory. Such testing will include an array of tests including some or
7 all of the following: index tests to identify general characteristics, shear and compressive tests,
8 soil modulus tests for pavement design, thermal conductivity tests, and a series of tests to
9 evaluate corrosion potential.
10

11 Geotechnical engineering analysis of the field and laboratory data will be conducted.
12 Design recommendations will be prepared to address a myriad of design and construction
13 considerations including geotechnical aspects related to foundations, site grading, utilities,
14 roadways and improvements to existing infrastructure (e.g., roads, culverts and bridges).
15

16 (e) *Development Proposal. The site investigation report shall include the following*
17 *information on the proposed development as applicable:*

- 18 1) *Plans and profiles showing the position and height of each structure, paved areas,*
19 *and areas where cut and fill is required for construction.*
- 20 2) *The percent and location of the surface of the site, which will be covered by*
21 *impermeable surfaces.*
- 22 3) *A stabilization program for the development describing:*
 - 23 A. *How much of the site will be exposed during construction and what*
24 *measures will be taken to reduce erosion and soil movement during*
25 *construction.*
 - 26 B. *A revegetation plan designed to return open soil areas, both preexisting*
27 *and newly created, to a stable condition as soon as possible following*
28 *construction and the period of time during which revegetated areas will*
29 *receive revegetation maintenance.*
 - 30 C. *Areas to be protected from vegetation loss or ground water pollution shall*
31 *be identified and means for protection described.*

32
33 Exact locations for the transmission lines and underground collector facilities have not
34 been determined; therefore, plan and profile drawings have not yet been completed.
35 Transmission towers will likely be single pole towers approximately 100 to 110 feet tall.
36 Transmission tower bases will be direct embedded into the ground, using no concrete. Assuming
37 seven to eight transmission towers will be located within the NH zone, less than two square feet
38 of new impervious surface would be created, affecting a very small percentage of land within the
39 NH zone. Underground collector lines will not add any additional impervious surface. No other
40 impervious surface will be created within the NH zone. Because the plan and profile drawings
41 will not be available until prior to construction, the Council finds that provision of these
42 drawings to the Sherman County Planning Department be made a condition in the site certificate:
43

44 **(IV.D.7) Prior to start of construction, the certificate shall submit for Sherman**
45 **County Planning Department concurrence the plans and profiles described**
46 **at SCZO 3.7.5(e).**

1
2 Construction of the transmission towers will require approximately 1,000 square feet per
3 tower. GHWF states that construction areas will be minimized to the greatest extent practicable
4 by limiting staging areas to areas outside of the NH zone. The Council finds that this
5 commitment shall be made a condition in the site certificate:
6

7 **(IV.D.8) Construction staging areas shall be limited to areas outside the NH zone.**
8

9 Areas affected during construction will be revegetated after construction is completed. As
10 described in Exhibit I of the ASC, the facility will also comply with the NPDES 1200-C permit
11 requirements by implementing the erosion control plan submitted with the ASC.
12

13 *(f) Conclusions in the Site Investigation:*

- 14 1) *The site investigation report shall contain conclusions stating the following:*
15 A. *How the intended use of the land is compatible with the natural*
16 *conditions; and*
17 B. *Any existing or potential hazards noted during the investigation.*
18 2) *Mitigating recommendations for specific areas of concern shall be included.*
19 3) *Conclusions shall be based on data included in the report, and the sources of*
20 *information and facts relied upon shall be specifically referenced.*
21

22 These conclusions appear in detail in the section of this Final Order addressing the
23 Council's Structural Standard.
24

25 Section 6 of SCZO 3.7 includes standards for building construction in the NH zone, as
26 follows:
27

- 28 (a) *Building construction shall only be approved under conditions that do not adversely*
29 *affect geological stability, surface or ground waters, or vegetation.*
30 (b) *The grading of land and the orientation and design of buildings shall avoid creating*
31 *conditions that will cause erosion or accretion of soil, or surface and ground water*
32 *contamination. Where there is some risk of these conditions occurring, a Qualified*
33 *Geological or Hydrological Expert, whichever is applicable, shall certify that the design*
34 *and control measures will comply with this standard.*
35 (c) *Construction work shall be scheduled and conducted to avoid erosion, and temporary*
36 *stabilization measures may be needed until permanent installations are accomplished.*
37

38 Under SCZO Section 1.4.20, a transmission tower may be considered a building.
39 However, GHWF has committed that no buildings will be placed in the NH zone, other than the
40 placement of up to eight transmission towers. The facility components in that zone would be
41 underground collector lines and possibly a short section of the 230-kV transmission line. The
42 exact location and layout of these components is not known yet. However, to the extent that
43 these criteria apply, the site-specific geotechnical investigation required prior to construction will
44 be signed by a geologist or hydrogeologist licensed in the State of Oregon. Moreover, the
45 federally required 1200-C permit will include an Erosion and Sediment Control Plan ("ESCP").
46

1 Section 7 of SCZO 3.7 includes standards for building an access route in the NH zone, as
2 follows:

3
4 *Standards for an Access Route in a NH Zone - An access route within a (NH) Zone shall comply*
5 *with the following provisions:*

- 6 (a) *A road or street shall be stabilized by planking, gravel or pavement as deemed*
7 *necessary; and*
8 (b) *Roadways shall be built without installation of excessive fill, diversion of water,*
9 *or excessive cuts unless the site investigation determines that such conditions will*
10 *not be detrimental to the area or create unwarranted maintenance problems or*
11 *additional hazards.*

12
13 The requirements above are construction requirements that the Council finds shall be
14 made conditions under the Council’s Land Use Standard.

15
16 **(IV.D.9) Roads or streets in the NH zone shall be stabilized by planking, gravel or**
17 **pavement as deemed necessary; and roadways shall be built without**
18 **installation of excessive fill, diversion of water, or excessive cuts unless the**
19 **site investigation determines that such conditions will not be detrimental to**
20 **the area or create unwarranted maintenance problems or additional hazards.**

21
22 (c) Other Applicable Provisions

23
24 In addition to consideration of the requirements of the primary zone and any combining
25 zone, Section 5.2.2 requires consideration of other provisions of the SCZO that are determined
26 “applicable to the subject use.” Many provisions of the SCZO are clearly not applicable to the
27 proposed facility, and are not discussed here. In the Klondike III and Biglow Canyon Final
28 Orders, the Council found that SCZO 4.9, 4.13, 4.14, 11.1, 11.2 and 11.8 were applicable to
29 those facilities. GHWF has analyzed its proposed facility for compliance with those ordinances
30 as well.

31
32 Sections 4.9 and 4.13 are applicable to the proposed facility. Section 4.9 provides:
33 “Approval of any use or development proposal pursuant to the provisions of this Ordinance shall
34 require compliance with and consideration of all applicable State and Federal agency rules and
35 regulations.” This provision is similar to language in the Council’s General Standard of Review,
36 which requires a finding that “except for those statutes and rules for which the decision on
37 compliance has been delegated by the federal government to a state agency other than the
38 Council, the facility complies with all other Oregon statutes and administrative rules identified in
39 the project order.” ORS 469.503(3). The project order for the proposed facility identifies all
40 applicable state agency permits, rules and regulations. The Department’s recommendations
41 regarding the General Standard of Review are discussed above.

42
43 Exhibit E of the ASC identifies the applicable federal agency rules and regulations.
44 Federal agencies having regulations that are potentially applicable are the FAA, the U.S. Army
45 Corps of Engineers (“USACOE”), the BPA and the U.S. Fish and Wildlife Service (“USFWS”).
46

1 With respect to applicable federal regulations, the FAA requires the applicant to provide
2 the FAA with a Notice of Proposed Construction or Alteration. GHWF will file the required
3 notice with the FAA and will notify the Department as soon as it has received the FAA’s
4 response.³⁵ The USACOE administers the Section 404 permit program under the Clean Water
5 Act, which addresses fill activities in of waters of the United States including wetlands. The
6 facility does not require a removal fill permit from DSL, or a Section 404 permit from the
7 USACOE because GHWF will avoid delineated wetlands or bore under them. The BPA will
8 review the facility’s interconnection to BPA’s transmission system under NEPA. The NEPA
9 review will include review under the Endangered Species Act, the National Historical
10 Preservation Act and related cultural resources protection statutes. No formal consultation with
11 the USFWS is needed, because no federal license, permit or authorization is required for the
12 facility under the Endangered Species Act. The Council finds that the proposed facility complies
13 with SCZO Section 4.9.
14

15 With respect to state agency regulations, GHWF must meet all state permitting
16 requirements identified in the project order. GHWF will apply for an NPDES Storm Water
17 Discharge General Permit (1200-C) from DEQ before constructing the facility. The O&M
18 facility will require an onsite sewage permit from Wasco-Sherman Public Health Department.
19 GHWF will not require a permit to appropriate groundwater because the groundwater well will
20 supply less than 5,000 gallons per day. Finally, DEQ noise standards are addressed at
21 Section VI.A.1 of this Final Order. GHWF must meet these standards in order to obtain a site
22 certificate.
23

24 Section 4.13 contains conditions that the County “may require...for development
25 proposals.” The section is a list of discretionary conditions rather than substantive standards. In
26 issuing a Conditional Use Permit for the proposed facility, the County would be bound by the
27 conditions listed in the site certificate.³⁶ The Department has proposed conditions that are
28 consistent with two other EFSC-approved wind energy facilities in Sherman County—Klondike
29 III and Biglow Canyon—and consulted with the Sherman County Planning Department
30 regarding proposed site certificate conditions.
31

32 The other sections in Article 4 are not applicable. Sections 4.1 and 4.3 do not apply in an
33 F-1 zone. Section 4.2, governing projections from buildings, applies in an F-1 zone; however,
34 each of the structures proposed for the facility will meet setback requirements even when any
35 “projections” from the structures are taken into account. None of the structures need rely upon
36 the two-foot allowance for “projection” into the setback zone. Sections 4.4, 4.5, 4.6, 4.7, 4.8,
37 4.11 and 4.12 apply to residential uses, and therefore these sections do not apply to Golden Hills.
38 Section 4.10 applies to “divisions of land within the F-1 zone.” The proposed use does not
39 require a division of land, and therefore Section 4.10 is not applicable.
40

41 Section 4.14 contains the County’s access management policies. Section 1.4.5 defines
42 “access management” as “the process of providing and managing access to land development
43 while preserving the flow of traffic in terms of safety, capacity and speed.” Section 1.4.62
44 defines “land development” as “any subdivision or partition of land, or other division of land

³⁵ ASC, Ex. K, at K-30.

³⁶ ORS 469.401(3).

1 provided for in this Document.” Because the proposed facility does not involve a division of
2 land, Section 4.14 is not applicable. In any case, GHWF has submitted applications to ODOT for
3 State Highway approaches at five locations along highways 97 and 206 and will comply with
4 conditions imposed by ODOT.

5
6 Section 4.15 is intended to provide for “safe and convenient pedestrian, bicycle and
7 vehicular circulation consistent with access management standards and the function of affected
8 streets.” As noted, the access management standards do not apply to the proposed facility. In
9 addition, the specific standards under Section 4.15 are directed at “developments,” and the
10 proposed facility does not involve a division of land. Section 4.15 is not applicable.³⁷

11
12 According to Section 11.1, the requirements of SCZO Article 11 apply to “any land
13 division or development and the improvements required, whether by subdivision, partitioning,
14 creation of a street or other right-of-way, zoning approval, or other land development requiring
15 approval pursuant to the provisions of this Ordinance.” SCZO Section 1.4.62 defines “land
16 development” as “any subdivision or partition of land, or other division of land provided for in
17 this Document.” The proposed facility would not require any land division or land
18 development.³⁸ For that reason, the Council finds that Article 11 of the SCZO does not apply to
19 the proposed facility.³⁹

20 21 SCZO Section 5.2.3: Other Local, State and Federal Permits

22 Section 5.2.3 addresses any required approvals or permits from “other local, state and/or
23 federal agencies” and requires evidence of approval or permit compliance. In context, “other
24 local agencies” means local agencies other than the Sherman County Planning Commission.
25 GHWF will obtain a building permit and a local on-site sewage permit from the Sherman County
26 Sanitarian prior to construction. These are construction-related permits that are not subject to
27 Council approval.⁴⁰ GHWF will apply to DEQ for an NPDES Storm Water Discharge General
28 Permit (1200-C). The project order for Golden Hills identifies all applicable state agency permits
29 and approvals. The Council’s findings regarding applicable state agency permits, rules and
30 regulations are summarized below. Compliance with federal permitting requirements is
31 discussed in reference to SCZO 5.2.2 above.

32 33 SCZO Section 5.2.4: Compliance with Specific Standards, Conditions and Limitations

34 Section 5.2.4 requires compliance with “specific standards, conditions and limitations set
35 forth for the subject use” in Article 5 and “other specific relative standards required by this or
36 other County Ordinance.” Applicable substantive criteria contained in other Articles of the
37 SCZO are discussed in Section 5.2.2. The substantive criteria contained in Article 5 of the SCZO
38 are in Sections 5.2 and 5.8 of the ordinance. We discuss Sections 5.2.1, 5.2.2 and 5.2.3 above,

³⁷ This analysis is consistent with the Final Orders for Klondike III and Biglow Canyon.

³⁸ ASC, Ex. K, at K-29.

³⁹ The Department confirmed this interpretation with the Sherman County Planning Director for Klondike III, who has advised that the applicable criteria for GHWF are the same as for Klondike III and Biglow Canyon.

⁴⁰ ORS 469.401(4). The Facility does not require a Water Pollution Control Facility for the on-site septic system because it would have a design capacity of less than 2,500 gallons per day and not produce effluent greater than residential strength wastewater. OAR 340-071-0130; *see also* Draft Proposed Order, In the Matter of the Application for a Site Certificate for the Klondike III Wind Project, at 29 n.39.

1 and we discuss Sections 5.2.5 and 5.2.6 below. Section 5.8 provides standards specific to various
2 conditionally permitted uses, including the uses at issue here, and we discuss these standards
3 below.

4
5 SCZO Section 5.2.5: Resource Carrying Capacity and Pollution Standards

6 Section 5.2.5 prohibits land use approval if the use exceeds “resource or public facility
7 carrying capacities” or does not comply with “air, water, land, and solid waste or noise pollution
8 standards.”

9
10 As discussed in the Public Services Standard and the Waste Minimization Standard
11 sections of this Final Order, the facility would not have any adverse impact or otherwise exceed
12 the “carrying capacity” of public facilities. Neither would the facility exceed resource carrying
13 capacities. The construction and operation of the facility would not injure existing water rights or
14 exceed the amount of water available for beneficial use within the watershed. As discussed
15 below, the facility would occupy a minimal percentage of the both the County’s and the
16 surrounding area’s farmland.

17
18 The proposed facility would comply with all air, water, land and solid waste or noise
19 pollution standards. It would have no emissions that would result in an adverse impact to air
20 quality. GHWF would use best management practices to control dust during construction. During
21 construction, water will be purchased from a local municipal supplier and trucked in. Water used
22 for construction-related purposes would evaporate or infiltrate into the ground on-site.⁴¹ A
23 licensed contractor would dispose contained in portable toilets during construction. Water would
24 not be discharged to wetlands, lakes, rivers or streams, and there would be no adverse impact on
25 water quality.⁴² Water used during operation at the O&M building would be disposed of in an
26 approved on-site septic system and would not result in an adverse impact on water quality or
27 affect any public sewer facilities. As discussed in the Public Services Standard section of this
28 Final Order, the facility would obtain water for use during operation from an on-site well, and
29 thus there would be no demand on public facilities to supply water during operation. The well
30 will provide less than 5,000 gallons per day. As discussed in the Soil Protection Standard section
31 of this Final Order, to avoid or reduce soil erosion, the certificate holder would comply with the
32 requirements of the NPDES 1200-C storm water permit and an ESCP and would implement
33 erosion control measures during construction and operation

34
35 Measures to reduce and properly dispose of solid waste are discussed in the Waste
36 Minimization Standard section of this Final Order. The facility must comply with DEQ noise
37 regulations, which we discuss in the Noise Control Regulations section of this Final Order.

38
39 SCZO Section 5.2.6: Use Violation

40 Section 5.2.6 prohibits land use approval for “any use violation of this Ordinance.” The
41 proposed facility would not involve any use violations. The proposed principal use is a
42 commercial utility facility, which is a conditional use allowed in an EFU zone under SCZO
43 Section 3.1.3(e)(17). The access roads are transportation improvements, which is a conditional

⁴¹ ASC, Ex. O, at O-1.

⁴² ASC, Ex. U, at U-20.

1 use allowed in an EFU zone under SCZO Section 3.1.3(f). The proposed improvements of public
2 roads are allowed outright in an EFU zone under Section 3.1.2(g).

3
4 SCZO Section 5.8: Standards Governing Specific Conditional Uses

5 Three subsections of SCZO Section 5.8 are applicable to the proposed facility.
6 Section 5.8.10 contains standards for “Radio or Television Transmission Tower, Utility Station
7 or Substation.” Section 5.8.14 contains standards for “Public Facilities and Services.”
8 Section 5.8.16 contains standards for “Non-farm Uses in an F-1 Zone.” The other subsections of
9 SCZO 5.8 are not applicable to the proposed facility.

10
11 SCZO Section 5.8.10: Radio or Television Transmission Tower, Utility Station or
12 Substation

13
14 *When authorized as a Conditional Use, the following standards and limitations*
15 *apply:*

16
17 *(a) In a residential zone or area, all equipment storage on the site shall be enclosed*
18 *within a building.*

19
20 *(b) The use may be required to be fenced and provided with landscaping*

21
22 *(c) Coloring of structures, buildings and other permanent installations shall be of*
23 *neutral colors or as otherwise required by the Commission or reviewing authority.*

24
25 The proposed facility would include two new substations. “Substation” is not specifically
26 listed as a conditional use in an F-1 zone, but SCZO Section 3.1.3 authorizes the listed
27 conditional uses “and their accessory uses.” As noted in the discussion of SCZO Section 5.2.2,
28 above, the Council finds that the proposed substations are authorized as conditional uses in the
29 F-1 zone because they are “accessory uses” related to a “utility facility” (the wind energy
30 facility).⁴³

31
32 Subsection (a) of SCZO 5.8.10 does not apply because the substations would not be
33 located in a “residential zone or area.” Subsection (b) provides that fencing and landscaping of
34 the proposed use “may be required.” GHWF commits in response to OAR 345-024-0010 that the
35 substations will be fenced and locked.⁴⁴ The Council finds that this commitment shall be made a
36 site certificate condition. The Council promotes compliance with subsection (c) by creating a
37 condition stating that the substation be painted a neutral color, incorporating a low-reflectivity
38 finish to minimize visual impact.

39
40 SCZO Section 5.8.14: Public Facilities and Services

⁴³ GHWF at K-8 of the ASC proposed to treat substations as “utility facilities necessary for public service,” which are evaluated separately under ORS 215.283(1)(d). However, Sherman County has treated substations as conditional uses. Letter from Georgia MacNab to Shelley Carlson, ODOE (Sept. 7, 2007). The Department recommends evaluation as a conditional use under SCZO Section 5.8.10 to be consistent with the Klondike and Biglow Canyon Final Orders.

⁴⁴ ASC, Ex. DD, at DD-1.

1
2 *(a) Public facilities including, but not limited to, utility substations, sewage treatment*
3 *plants, storm water and water lines, water storage tanks, radio and television*
4 *transmitters, electrical generation and transmission devices, fire stations and other*
5 *public facilities shall be located so as to best serve the County or area with a*
6 *minimum impact on neighborhoods, and with consideration for natural or aesthetic*
7 *values.*

8
9 *(b) Structures shall be designed to be as unobtrusive as possible. Wherever feasible,*
10 *all utility components shall be placed underground.*

11
12 *(c) Public facilities and services proposed within a wetland or riparian area shall*
13 *provide findings that: Such a location is required and a public need exists; and*
14 *Dredge, fill and adverse impacts are avoided or minimized.*

15
16 Section 5.8.14 applies to “public facilities,” including utility substations and electrical
17 generation and transmission devices. The applicability of Section 5.8.14 is “not limited to” the
18 facilities listed in subsection (a). The Council finds that Section 5.8.14 applies to the proposed
19 facility substations, wind turbines (as “electrical generation devices”) and transmission lines (as
20 “electrical transmission devices”).

21
22 Subsection (a) requires the location of public facilities to “best serve” the County or area,
23 to have “minimum impact” on neighborhoods and to consider “natural or aesthetic values.” The
24 wind turbines and associated power collection lines (“electrical generation and transmission
25 devices”) would be located to take optimal advantage of the wind resource for power generation.
26 To best serve their intended purpose, the substations and transmission lines that would be part of
27 the proposed facility must be located within the general area of the wind turbines and close to the
28 point of interconnection with the BPA system. The location of these facilities would “best serve”
29 the County or the area because they would use a small fraction of agricultural land (about 0.3
30 percent of the farmed acres within the leased area)⁴⁵ to generate significant new tax revenues for
31 the County and income for the landowners of the property leased to the facility. The facilities
32 would have a “minimum impact on neighborhoods” because they would be located on rural land
33 and not within neighborhoods. The location of the facilities would not have a significant adverse
34 impact on, and would comply with the Council’s standards concerning, “natural and aesthetic
35 values,” as is discussed in the Threatened and Endangered Species Standard; Fish and Wildlife
36 Habitat Standard; Scenic Resources Standard; Historic, Cultural and Archeological Resources
37 Standard; Recreation Standard; and Protected Areas Standard sections of this Final Order.

38
39 Subsection (b) requires that public facilities be designed to be as “unobtrusive as
40 possible” and requires utility components to be placed underground wherever feasible. However,
41 wind turbines must be mounted on tall tower structures. Likewise, met towers associated with
42 operation of the facility must be aboveground. As discussed in the Siting Standards for Wind
43 Energy Facilities section of this Final Order, the certificate holder would make these facilities as
44 unobtrusive as possible by the use of uniform design and neutral colors. Collector lines will be

⁴⁵ ASC, Ex. K, at K-33

1 placed underground. The 230-kV and 500-kV transmission lines are aboveground, but are
2 located along existing transmission right of way or public road right of way whenever practical.
3

4 Subsection (c) applies to public facilities proposed “within a wetland or riparian area.”
5 GHWF has modified the facility and will use underground boring for installation of collector
6 lines under delineated wetlands.⁴⁶
7

8 SCZO Section 5.8.16: Non-Farm Uses in an F-1 Zone

9

10 *Non-farm uses, excluding farm related, farm accessory uses or uses conducted in*
11 *conjunction with a farm as a secondary use thereof, may be approved upon a findings*
12 *[sic] that each such use:*
13

14 *(a) Is compatible with farm uses described in ORS 215.203(2);*
15

16 *(b) Does not interfere seriously with accepted farming practices on adjacent lands*
17 *devoted to farm use;*
18

19 *(c) Does not materially alter the overall land use pattern of the area;*
20

21 *(d) Is situated upon generally unsuitable land for the production of farm crops and*
22 *livestock, considering the terrain, adverse soil or land conditions, drainage and*
23 *flooding, vegetation, location and size of the tract, and the availability of necessary*
24 *support resources for agriculture;*
25

26 *(e) Complies with other applicable significant resource provisions; and*
27

28 *(f) Complies with such other conditions as deemed necessary.*
29

30 Although the SCZO allows commercial utility facilities to be located in an F-1 zone,
31 “non-farm uses” must meet the standards contained in SCZO Section 5.8.16. Subsection (a)
32 requires a finding that the proposed use is compatible with farm uses.
33

34 The placement of the proposed facility would take very little area out of farm use.⁴⁷ The
35 area occupied by the facility is a small fraction of the adjacent farmed area. The facility would
36 permanently remove about 96 acres of agricultural land within the 25,000 acres of adjacent land
37 under wind energy easement. Construction would have a temporary impact on about 709 acres of
38 agricultural land. Countywide, in 1997 approximately 80 percent of the land was in farmland.
39 Assuming that about 50 percent of the 30,310 acres of land under easement is farmed, the
40 amount of leased area removed from production is about 0.3 percent.
41

42 Farming activities could continue on cropland within the site boundary adjacent to
43 facility structures, especially if facility components are strategically placed to be as compatible

⁴⁶ Email from Jess Jordan, DSL, to Dana Siegfried and Adam Bless (Jan. 15, 2008).

⁴⁷ In 1997, 80 percent of the land in Sherman County was farmland, with 30 percent in harvested cropland. The approximate total acreage is 526,853 acres.

1 as possible with farming. Local farmers would be able to maneuver around the turbine strings
2 and across gravel access roads. Landowners would be able to use the new turbine access roads
3 for movement of farm equipment between cultivated fields. The turbine strings are planned for
4 locations well outside the minimum width of the largest farm equipments such as 50-foot side
5 road weeders. GHWF will locate access roads to minimize disturbance and maximize
6 transportation efficiency. GHWF will use existing public and private farm roads to the extent
7 feasible. Manipulating around the tight radius of a wind turbine may be difficult and may
8 increase the opportunity for weeds to grow and infest crops. GHWF will develop a plan to
9 minimize potential invasion by weed species in consultation with the County weed officer. The
10 plan will include parameters for reseeding bare ground areas and for vegetation management.⁴⁸
11

12 To find that the proposed facility is compatible with the farm uses of the wind easement
13 property, the Council adopts the following conditions in the site certificate:
14

15 **(IV.D.10) The certificate holder shall locate access roads and temporary construction**
16 **laydown and staging areas, including those associated with construction of**
17 **transmission lines or placement of conductors on third-party transmission**
18 **lines, to minimize disturbance with farming practices and, wherever feasible,**
19 **as determined in consultation with affected landowners, shall place turbines**
20 **and transmission interconnection lines along the margins of cultivated areas**
21 **to reduce the potential for conflict with farm operations. The certificate**
22 **holder shall place aboveground transmission and collector lines and poles**
23 **and junction boxes along property lines and public road rights-of-way to the**
24 **extent practicable.**
25

26 **(IV.D.11) During operation of the facility, the certificate holder, in cooperation with**
27 **landowners, shall avoid impact on cultivated land to the extent reasonably**
28 **possible when performing facility repair and maintenance activities.**
29

30 Subsection (b) requires that the proposed use “not interfere seriously with accepted
31 farming practices on adjacent lands.” “Accepted farming practices” is defined at ORS
32 215.203(2)(c) as “a mode of operation that is common to farms of a similar nature, necessary for
33 the operation of such farms to obtain a profit in money, and customarily utilized in conjunction
34 with farm use.”
35

36 Farming on adjacent land consists predominantly of dry land wheat and barley.⁴⁹ Aerial
37 crop dusting is used in some areas. The Biglow Canyon Final Order states that during EFSC
38 review of that facility, neither local crop dusters nor lease-holding landowners expressed concern
39 about the impact of facility components on the effectiveness of aerial spraying. GHWF states
40 that minor changes to plowing and harvesting patterns will be required, but none will seriously
41 interfere with accepted farming practices on adjacent farmland.
42

43 The Council finds that Golden Hills would not seriously interfere with accepted farming
44 practices. Construction activities would cause the temporary displacement of crops, and

⁴⁸ ASC, Ex. K, at K-31, K-32.

⁴⁹ ASC, Ex. K, at K-32.

1 construction traffic could cause temporary delays for farm equipment and trucks. However, the
2 certificate holder will reseed temporarily disturbed areas, and, when construction is complete,
3 farm operators would be able to cultivate the land around the turbine pads.
4

5 GHWF stated⁵⁰ that it will closely coordinate with farmers to ensure adequate and timely
6 access to properties during critical periods in the farming cycle such as harvest. The Council
7 considers this statement a commitment and adopts the following condition in the site certificate:
8

9 **(IV.D.12) Where necessary and feasible, the certificate holder shall provide access**
10 **across construction trenches to fields within the facility site and otherwise**
11 **provide adequate and timely access to properties during critical periods in**
12 **the farming cycle, such as harvest.**
13

14 Subsection (c) requires a finding that the non-farm use would not materially alter the
15 overall land use pattern of the area. The Council finds that Golden Hills would not materially
16 alter the overall land use pattern of the area. The area within one-half mile of the proposed
17 facility (the “analysis area”) consists of wheat or barley crops with some rangeland where the
18 soil is poor or too steep to cultivate. Beyond the analysis area, except for incorporated towns and
19 rural nodes, wheat farming is the main use. In 1997, 80 percent of the land in Sherman County
20 was in farmland, with 30 percent in harvested cropland. Agricultural areas enrolled in the
21 Conservation Reserve Program (“CRP”)⁵¹ are found throughout the analysis area, occurring as
22 narrow strips in previously plowed drainage ways and as large blocks in other areas. CRP areas
23 have been planted with a mix of native and non-native bunchgrasses with the primary intent of
24 increasing wildlife habitat in the area.⁵²
25

26 As noted above, the facility would permanently remove 96 acres of land from farm use,
27 and would temporarily affect 709 acres during construction. The amount of land removed is
28 0.3 percent of the total leased area. Local farmers will be able to maneuver around the turbine
29 strings and transmission towers and across gravel access roads, although some minor changes in
30 sowing and harvesting patterns in the immediate vicinity of the strings will be necessary. Since
31 the majority of the farming is dry land farming, the facility will not affect irrigation patterns.
32

33 Given evidence that the facility will not have serious impacts on the generally accepted
34 farming practices in the area, it is unlikely that the facility will cause any given parcel in the
35 surrounding area to go out of farm use. Finally, land leases for the placement and operation of
36 the facility provide an additional source of income for the parcel owners, helping to stabilize the
37 inherent volatility of farm income and therefore minimizing the potential for changes in the
38 overall land use pattern of the area.
39

40 Subsection (d) requires a finding that the proposed use is “situated upon generally
41 unsuitable land for the production of farm crops and livestock.” The site is currently primarily
42 farmed for wheat and barley. GHWF argues that the soils in the area, absent sufficient rainfall or

⁵⁰ *Id.*

⁵¹ “CRP” refers to the Conservation Reserve Program, a voluntary program for agricultural landowners to encourage them to plant long-term resource-conserving cover crops to improve soil, water and wildlife resources.

⁵² *Id.*

1 irrigation, would not support any other crops except perhaps hay. GHWF argues that the soils
2 “do not support a diversity of crops, nor crops that are high value. They also do not generally
3 support livestock in the county.” Soils that support wheat and barley farming are not top-quality
4 soils, but are Class IIc soils.⁵³
5

6 Nevertheless, Golden Hills would occupy approximately 96 acres of land that is now
7 used for non-irrigated crop production. The Council previously found that Biglow Canyon and
8 Klondike III, located on very similar land, would be located on land “generally suitable” for crop
9 production and does not comply with SCZO Section 5.8.16(d). The Council makes the same
10 finding for Golden Hills.
11

12 Subsection (e) of SCZO Section 5.8.16 requires that the proposed non-farm use comply
13 with “other applicable significant resource provisions.” The Council finds that the proposed
14 facility would comply with the other SCZO provisions applicable to the EFU zone, for the
15 reasons discussed above. Subsection (f) requires compliance with “such other conditions as
16 deemed necessary.” The facility would be subject to the conditions of the site certificate.
17

18 **2. Applicable Statewide Planning Goals**

19

20 For the reasons discussed above, the proposed facility does not comply with SCZO
21 5.8.16(d) and the setback requirements of Section 3.1.4. Therefore, the proposed facility does not
22 comply with all of the applicable substantive criteria. Under ORS 469.504(1)(b)(B), the Council
23 must determine whether the proposed facility “otherwise [complies] with the applicable
24 statewide planning goals.”
25

26 Because the proposed facility complies with all other local criteria, and because SCZO
27 Sections 3.1.4 and 5.8.1.6 relate to land uses in the F-1 zone, the “applicable statewide planning
28 goal” in this case is Goal 3, the state’s Agricultural Lands goal. No other statewide planning
29 goals are applicable.⁵⁴
30

31 As expressed in *Oregon’s Statewide Planning Goals and Guidelines*, Goal 3 is:

32
33 ***To preserve and maintain agricultural lands.***

34 *Agricultural lands shall be preserved and maintained for farm use, consistent with*
35 *existing and future needs for agricultural products, forest and open space and with*
36 *the state’s agricultural land use policy expressed in ORS 215.243 and 215.700.*
37

⁵³ See Klondike Final Order at 36 for an explanation of the Natural Resources Conservation Service (“NRCS”) soil classifications. Class IIc soils have moderate limitations “that reduce the choice of plants or that require moderate conservation practices”; the subclass “c” designation indicates soils that are limited by being very cold or very dry.

⁵⁴ In discussion of compliance with SCZO Section 5.8.16(d), GHWF states that, “in the alternative, Applicant has submitted a proposal for a goal 3 exception.” ASC, Ex. K, at K-34. GHWF has proposed a goal exception rather than a goal finding. Nonetheless, the Council concludes there should be a goal finding consistent with the analysis in the Klondike and Biglow Canyon Final Orders, because those projects are similar to GHWF and are located in the same zone in Sherman County on similar land. Ultimately, the Council concludes there should be a Goal 3 exception as well, due to noncompliance with the 12/20-acre rule.

1 Consistent with Goal 3, Sherman County has identified the “F-1” zone as an “exclusive
2 farm use” zone. Under Goal 3, non-farm uses are permitted within a farm use zone as provided
3 under ORS 215.283.
4

5 To find compliance with ORS 215.283, the Council must determine whether the proposed
6 energy facility and its related or supporting facilities are uses that fit within the scope of the uses
7 permitted in EFU zones as described in ORS 215.283(1), (2) or (3). Golden Hills would consist
8 of the energy facility (the wind turbines) and the following related or supporting facilities: the
9 underground and aboveground power collection lines, two substations, up to six met towers, an
10 O&M building, the control system and access roads.⁵⁵
11

12 In the Final Order on Amendment #2 for the Stateline Wind Project, the Council found
13 that a wind energy facility (the “principal use”) was a “commercial utility facility for the purpose
14 of generating power for public use by sale” and allowable under ORS 215.283(2)(g). The
15 Council found that the power collector system and met towers were part of the principal use. The
16 Council found that the Stateline Substation and the aboveground transmission line connecting the
17 substation with the main power grid were “utility facilities necessary for public service” allowed
18 under ORS 215.283(1)(d). The Council, further, found that the Stateline access roads had
19 “independent utility” and were not part of the principal use. The Council found that the access
20 roads were allowable under ORS 215.283(3).
21

22 The Council follows its own precedent in the Stateline decision and finds that the wind
23 turbines constitute a “commercial utility facility for the purpose of generating power for public
24 use by sale” and that the power collection system and met towers are part of that principal use. In
25 addition, the Council finds that the control system and O&M building are part of the principal
26 use.
27

28 The Council finds that the proposed substations and transmission lines are “utility
29 facilities necessary for public service” allowed under ORS 215.283(1)(d). The Applicant
30 proposes two new substations. One substation would be in the eastern section of the site, and
31 would involve the construction of an overhead 230-kV transmission line about four miles long,
32 connecting Golden Hills to the BPA Klondike Schoolhouse Substation. This transmission line
33 would involve placement of new conductors on transmission poles previously permitted by
34 Pacific Wind Development (a subsidiary of IBR) in connection with the Hay Canyon wind
35 project, which is not under EFSC jurisdiction. In this Final Order, the transmission poles are
36 treated as a “third party permit” pursuant to OAR 345-022-0010(3) and are not analyzed for
37 compliance. The Pacific Wind transmission line is proposed to be located in a 150-foot right-of-
38 way adjacent to Sandon Road. This Final Order includes conditions requiring the inventory and
39 mitigation of temporary ground disturbance and laydown area caused by the installation of
40 Golden Hills’ conductors on Pacific Wind’s transmission poles. The second substation would be
41 located in the western half of the site, and would involve the construction of an overhead 500-kV

⁵⁵ Under ORS 469.300(11), 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.

1 transmission line about 11 miles long, connecting to BPA’s John Day Substation. It would have
2 a 200-foot-wide right-of-way. Approximately six miles of this transmission line will be parallel
3 to existing BPA 500-kV right-of-way.
4

5 GHWF states that the substations are necessary to convert the voltage from 34.5 kV to
6 voltages that can be transmitted over the interconnection lines to north of the BPA Klondike
7 Schoolhouse and John Day substations.
8

9 Finally, consistent with precedent in the Stateline, Klondike III and Biglow Canyon
10 decisions, the Council finds that the access roads are allowable under ORS 215.283(3). However,
11 for the reasons discussed below, the access roads are subject to the standards and requirements
12 applicable to the principal use.
13

14 Having concluded that each of the facility components falls within the definitions of non-
15 farm uses permitted within a farm use zone as provided under ORS 215.283, we now apply the
16 standards for determining whether each use is allowable in the case of the proposed facility.
17

18 The Principal Use and Access Roads 19

20 While the principal use and the access roads are allowable subject to two different
21 subsections of ORS 215.283, the substantive standards that both uses must meet for a finding of
22 compliance with Goal 3 are identical; therefore, the following discussion addresses both the
23 principal use and the access roads.
24

25 In this case, the principal use is a “commercial utility facility.” ORS 215.283(2)(g)
26 authorizes “commercial utility facilities for the purpose of generating power for public use by
27 sale” on agricultural land, subject to ORS 215.296. OAR Chapter 660, Division 33, contains the
28 LCDC administrative rules for implementing the requirements for agricultural land as defined by
29 Goal 3. OAR 660-033-0120 (Table 1) lists the “commercial utility facility” use as a type “R” use
30 (“use may be approved, after required review”). Prior to the effective date of OAR
31 660-033-0130(37), the standards found in OAR 660-033-0130(5) and (22) applied to wind power
32 facilities proposed to be located on non-high-value farmland and OAR 660-033-0130(5) and (17)
33 applied to such a facility proposed to be located on high-value farmland.
34

35 OAR 660-033-0130(37) became effective on January 2, 2009.⁵⁶ At the same time, LCDC
36 adopted amendments to OAR 660-033-0120 (Table 1) that added reference to a “wind power
37 generation facility” as a distinct type “R” use. The amendments provided that OAR
38 660-033-0130(5) and (37) applied to wind power generation facilities. The effect of these
39 amendments was to eliminate the 12-acre and 20-acre restrictions on wind energy facilities that
40 are contained in OAR 660-033-0130(17) and (22) and to impose, instead, new restrictions on
41 wind energy facilities contained in OAR 660-033-0130(37). The applicability of OAR
42 660-033-0130(5) did not change.
43

44 The Department believes that the January 2, 2009 amendments of OAR 660-033-0120
45 and OAR 660-033-0130 apply to the review of the proposed facility. Nevertheless, for

⁵⁶ The provision became effective upon filing (OAR 660-033-0160).

1 completeness and in case the Department is later found to be incorrect about the applicability of
2 the amended LCDC rules, an analysis of both the “old” (before the January 2009 amendments)
3 and “new” rules is presented below.

4
5 The Old Rules

6
7 OAR 660-033-0130(5) provides:

8
9 *Approval requires review by the governing body or its designate under ORS*
10 *215.296. Uses may be approved only where such uses:*

11
12 *(a) will not force a significant change in accepted farm or forest practices on*
13 *surrounding lands devoted to farm or forest use; and*

14
15 *(b) will not significantly increase the cost of accepted farm or forest practices*
16 *on lands devoted to farm or forest use.⁵⁷*

17
18 The Council finds that the principal use and the access roads for the facility would not
19 force a significant change in accepted farm practices on surrounding farm land and would not
20 significantly increase the cost of accepted farm practices. There would be no significant change
21 in accepted farming practices as a result of the proposed facility for the reasons discussed above
22 with respect to SCZO Sections 5.8.16(a), (b) and (c). In summary, accepted farming activities
23 could continue on the farm parcels where the facility structures would be located. The facility
24 would occupy less than 1 percent of the actively farmed land adjacent to the facility.
25 Construction and operation of the proposed facility would be compatible with farm uses and
26 would not seriously interfere with accepted farming practices.

27
28 The cost of farming practices in the area could be affected because of changes in patterns
29 of harvesting and other mechanical operations on the fields, increased need for weed control, and
30 temporary delays to movement of farm equipment and trucks due to construction or construction
31 traffic. The location of the turbines and access roads could require farmers to change their
32 previous patterns of harvesting and other mechanical operations on the fields, but there would be
33 no significant impact on the time needed to perform these farming operations and no significant
34 increase in cost. Construction or construction traffic could cause temporary delays in the
35 movement of farm equipment and trucks or access to fields during the construction period, but
36 these delays, although inconvenient, would not result in a significant increase in the cost of farm
37 practices. As discussed in reference to SCZO Section 5.8.16(b) above, GHWF has committed to
38 coordinating with farmers concerning timely and adequate access during construction, weed
39 management during construction and operation, and restoration of disturbed areas during and
40 after construction. Where necessary and feasible, GHWF will provide access across construction
41 trenches to fields within the facility area. While some increased weed control may be necessary,
42 it would not significantly increase costs. As noted earlier, the certificate holder would implement
43 a weed control plan to mitigate the spread of weeds to cropland both during construction and
44 operation. These commitments by GHWF are captured in proposed site certificate conditions
45 related to SCZO 5.8.16(b) above. In addition, farm income could be affected by the acreage

⁵⁷ OAR 660-033-0130(5) reiterates the standards set forth in ORS 215.296(1).

1 taken out of crop production by placement of permanent facilities and temporary displacement of
2 crops by construction activities. The acreage that would become unavailable for crop production
3 due to the principal use and the access roads amounts to 0.3 percent of the actively farmed area
4 within the leased area. During the construction period, about 709 acres of agricultural land would
5 be temporarily unavailable for crop production. As noted in the discussion of Goal 1 and SCZO
6 5.8.16 above, the lease payments will exceed historic revenue from the land being displaced and
7 will provide a stable revenue source to farm owners.
8

9 For the reasons discussed above, the Council finds that the principal use and access roads
10 would comply with the standards of ORS 215.296 and OAR 660-033-0130(5). On non-high-
11 value farmland, the principal use and access roads are also subject to OAR 660-033-0130(22),
12 which provides:
13

14 *(22) A power generation facility shall not preclude more than 20 acres from use*
15 *as a commercial agricultural enterprise unless an exception is taken pursuant to*
16 *ORS 197.732 and OAR chapter 660, division 004.*
17

18 On high-value farmland, the principal use and access roads are subject to OAR
19 660-033-0130(17), which provides:
20

21 *(17) A power generation facility shall not preclude more than 12 acres from use*
22 *as a commercial agricultural enterprise unless an exception is taken pursuant to*
23 *OAR chapter 660, division 004.*⁵⁸
24

25 In this case, the “power generation facility” consists of the principal use and the turbine
26 string access roads. The area occupied by the power generation facility is shown in Table IV.D.1.
27

Table IV.D.1 - Farm Land Occupied by the Facility
--

⁵⁸ The requirements of OAR 660-033-0130(17), (22) would be directly applicable to the proposed facility even if ORS 469.504(1)(b)(B) did not, as a result of the proposed facility’s noncompliance with certain SCZO provisions, require the Council to apply OAR 660-033-0130(17) or (22). ORS 197.646(4) provides:

When a local government does not adopt amendments to a comprehensive plan, a regional framework plan and land use regulations implementing either plan as required by subsection (1) of this section, the new statutory, land use planning goal or rule requirements apply directly to the local government’s land use decisions. The failure to adopt amendments to a comprehensive plan, a regional framework plan and land use regulations implementing either plan required by subsection (1) of this section is a basis for initiation of enforcement action pursuant to ORS 197.319 to 197.335.

The SCZO has not incorporated OAR 660-033-0130(17), (22) as required by ORS 197.646(3), so these regulations are directly applicable to the proposed facility.

Principal Use	Acres
Turbine towers and pads	12
O&M facility	5
Access roads and upgrades/associated collector lines	75
<i>Subtotal</i>	92
Substations	4
Transmission lines	0.1
<i>Subtotal</i>	4.1
Total	96.1

1
2 In total, the facility would occupy about 96.1 acres of farmed land. (As noted above, the
3 total acreage of EFU-zoned land is 104, of which 96 acres are actively farmed and the remainder
4 is used as habitat.) Approximately 92.4 acres of this land is classified as high-value farmland
5 soils.⁵⁹ The principal use and access roads would occupy about 92 acres. (The remaining four
6 acres would be occupied by the substations, which are analyzed for land use purposes in a
7 separate section of this Final Order.) These numbers exceed the allowances of OAR
8 660-033-0130(17) and (22). Therefore, the Council finds that the principal use and access roads
9 would not comply with OAR 660-033-0130(17) and (22) and Goal 3. We discuss an exception to
10 Goal 3 below.

11
12 The New Rules

13
14 Under the amended LCDC rules that became effective on January 2, 2009, OAR
15 660-033-0130(5) and (37) apply to the siting of a wind power generating facility. The analysis of
16 OAR 660-033-0130(5) has already been addressed above.

17
18 OAR 660-033-0130(37) defines a “wind power generation facility” and provides criteria
19 for the approval of a wind power generating facility sited on farmland. The Council finds that the
20 proposed facility and all related or supporting facilities fit entirely within the definition of “wind
21 power generation facility” in OAR 660-033-0130(37). The Council finds that the proposed
22 facility meets the approval criteria in OAR 660-033-0130(37) for the reasons discussed below.
23

24 **OAR 660-033-0130(37)**

25
26 *(37) For purposes of this rule a wind power generation facility includes, but is not limited*
27 *to, the following system components: all wind turbine towers and concrete pads,*
28 *permanent meteorological towers and wind measurement devices, electrical cable*
29 *collection systems connecting wind turbine towers with the relevant power substation,*
30 *new or expanded private roads (whether temporary or permanent) constructed to serve*
31 *the wind power generation facility, office and operation and maintenance buildings,*
32 *temporary lay-down areas and all other necessary appurtenances. A proposal for a wind*
33 *power generation facility shall be subject to the following provisions:*

34 *(a) For high-value farmland soils described at ORS 195.300(10), the governing body*
35 *or its designate must find that all of the following are satisfied:*

⁵⁹ Letter from Tim McMahan and Elaine Albrich (Mar. 5, 2009).

- 1 (A) Reasonable alternatives have been considered to show that siting the wind
2 power generation facility or component thereof on high-value farmland
3 soils is necessary for the facility or component to function properly or if a
4 road system or turbine string must be placed on such soils to achieve a
5 reasonably direct route considering the following factors:
- 6 (i) Technical and engineering feasibility;
7 (ii) Availability of existing rights of way; and
8 (iii) The long term environmental, economic, social and energy
9 consequences of siting the facility or component on alternative
10 sites, as determined under OAR 660-033-0130(37)(a)(B).
- 11 (B) The long-term environmental, economic, social and energy consequences
12 resulting from the wind power generation facility or any components
13 thereof at the proposed site with measures designed to reduce adverse
14 impacts are not significantly more adverse than would typically result
15 from the same proposal being located on other agricultural lands that do
16 not include high-value farmland soils.
- 17 (C) Costs associated with any of the factors listed in OAR
18 660-033-0130(37)(a)(A) may be considered, but costs alone may not be
19 the only consideration in determining that siting any component of a wind
20 power generation facility on high-value farmland soils is necessary.
- 21 (D) The owner of a wind power generation facility approved under OAR
22 660-033-0130(37)(a) shall be responsible for restoring, as nearly as
23 possible, to its former condition any agricultural land and associated
24 improvements that are damaged or otherwise disturbed by the siting,
25 maintenance, repair or reconstruction of the facility. Nothing in this
26 subsection shall prevent the owner of the facility from requiring a bond or
27 other security from a contractor or otherwise imposing on a contractor
28 the responsibility for restoration.
- 29 (E) The criteria of OAR 660-033-0130(37)(b) are satisfied.
- 30 (b) For arable lands, meaning lands that are cultivated or suitable for cultivation,
31 including high-value farmland soils described at ORS 195.300(10), the governing
32 body or its designate must find that:
- 33 (A) The proposed wind power facility will not create unnecessary negative
34 impacts on agricultural operations conducted on the subject property.
35 Negative impacts could include, but are not limited to, the unnecessary
36 construction of roads, dividing a field or multiple fields in such a way that
37 creates small or isolated pieces of property that are more difficult to farm,
38 and placing wind farm components such as meteorological towers on
39 lands in a manner that could disrupt common and accepted farming
40 practices; and
- 41 (B) The presence of a proposed wind power facility will not result in
42 unnecessary soil erosion or loss that could limit agricultural productivity
43 on the subject property. This provision may be satisfied by the submittal
44 and county approval of a soil and erosion control plan prepared by an
45 adequately qualified individual, showing how unnecessary soil erosion
46 will be avoided or remedied and how topsoil will be stripped, stockpiled

1 *and clearly marked. The approved plan shall be attached to the decision*
2 *as a condition of approval; and*

3 (C) *Construction or maintenance activities will not result in unnecessary soil*
4 *compaction that reduces the productivity of soil for crop production. This*
5 *provision may be satisfied by the submittal and county approval of a plan*
6 *prepared by an adequately qualified individual, showing how unnecessary*
7 *soil compaction will be avoided or remedied in a timely manner through*
8 *deep soil decompaction or other appropriate practices. The approved plan*
9 *shall be attached to the decision as a condition of approval; and*

10 (D) *Construction or maintenance activities will not result in the unabated*
11 *introduction or spread of noxious weeds and other undesirable weeds*
12 *species. This provision may be satisfied by the submittal and county*
13 *approval of a weed control plan prepared by an adequately qualified*
14 *individual that includes a long-term maintenance agreement. The*
15 *approved plan shall be attached to the decision as a condition of*
16 *approval.*

17 (c) *For nonarable lands, meaning lands that are not suitable for cultivation, the*
18 *governing body or its designate must find that the requirements of OAR*
19 *660-033-0130(37)(b)(D) are satisfied.*

20 (d) *In the event that a wind power generation facility is proposed on a combination of*
21 *arable and nonarable lands as described in OAR 660-033-0130(37)(b) and (c) the*
22 *approval criteria of OAR 660-033-0130(37)(b) shall apply to the entire project.*
23

24 OAR 660-033-0130(37)(a) provides criteria for locating a wind power generating facility
25 on high-value farmland soils. The rule references ORS 195.300(10) for the definition of “high-
26 value farmland soils.” ORS 195.300(10), in turn, references ORS 215.710, which defines “high-
27 value Farmland” as land “in a tract composed predominantly of soils that are...[either irrigated
28 or non-irrigated and] classified prime, unique, Class I or II” by the NRCS.⁶⁰ “Tract” means one
29 or more contiguous lots or parcels in the same ownership.⁶¹ The Golden Hills ASC describes the
30 soil as Class IIc (“c” is a subclass indicating limitation due to soil being very cold or very dry).
31 ASC at K-33. Per ORS 215.710, Class IIc soils constitute high-value farmland and thus the
32 proposed facility is subject to OAR 660-033-0130(37)(a).
33

34 Reasonable Alternatives

35
36 OAR 660-033-0130(37)(a)(A) requires GHWF to consider “reasonable alternatives” to
37 locating the facility, or components of the facility, on high-value farmland. GHWF must “show
38 that siting the wind power generation facility or component thereof on high-value farmland soils
39 is necessary for the facility or component to function properly.” In the case of access roads and
40 turbine strings, GHWF must show that these components must be placed on high-value farmland
41 soils “to achieve a reasonably direct route.” To demonstrate the necessity of using high-value
42 farmland for the facility to “function properly” or for a road or turbine string to “achieve a
43 reasonably direct route,” GHWF must consider the factors listed in subsections (i) through (iii).

⁶⁰ ORS 215.710(6) provides that the applicable “soil classes, soil ratings or other soil designations” are those of the NRCS “in its most recent publication for that class, rating or designation before November 4, 1993.”

⁶¹ OAR 660-033-0020(10).

1
2 To demonstrate compliance with OAR 660-033-0130(37)(a)(A), GHWF must first
3 determine whether “reasonable alternatives” exist on non-high-value farmland soils, and then to
4 analyze whether the facility could “function properly” in an alternative location. The rule does
5 not, however, contain specific factors to be considered to determine whether a given alternative
6 is “reasonable.”
7

8 The first consideration in determining whether an alternate location on non-high-value
9 farmland is “reasonable” is, of course, whether there is a substantially similar wind resource
10 comparable to the wind resource at the proposed site. If there is not, the alternative cannot be
11 determined to be reasonable. In addition, whether an alternative is “reasonable” will depend on
12 the design of the proposed facility. In this case, the proposed facility is intended to have a
13 generating capacity of up to 400 MW of renewable energy from the available wind resource. The
14 energy is to be sold into the regional market using existing electrical interconnections, without
15 the need for extraordinary expenses associated with significant new electrical transmission
16 construction. The proposed facility requires sufficiently “energetic” wind to enable a
17 commercially viable project, including access to proprietary met data. Further, GHWF acquired
18 the interests of the developer of the nearby Biglow Canyon Wind Farm, currently owned and
19 operated by PGE. GHWF desires to develop a project adjacent to the Biglow Canyon Wind Farm
20 due to land control, proprietary met data, landowner interests, and roadway access.
21

22 To demonstrate compliance under subsection (A), GHWF analyzed whether there were
23 any reasonable alternatives within the boundaries of Sherman County. Given the project design
24 as described above, which includes a supported rationale for reasonable locational dependency,
25 the Council finds that a review of alternative sites within Sherman County constitutes a
26 reasonable set of alternatives.
27

28 If there is non-high-value farmland within the area under consideration for reasonable
29 alternatives, then the Applicant must demonstrate that despite possible reasonable alternative
30 locations, siting the facility on high-value farmland soils is nonetheless necessary considering the
31 following factors: (i) technical and engineering feasibility; (ii) availability of existing rights of
32 way; and (iii) the long term environmental, economic, social and energy consequences of siting
33 the facility or component on alternative sites.
34

35 GHWF has provided a map depicting high-value farmland soils.⁶² The map illustrates the
36 difficulty of siting a comparable facility in an alternative location without having some effect on
37 high-value farmland soils. These soils are distributed throughout the County, although there is a
38 higher concentration of such soils in the western half of the County.
39

40 In addition, GHWF has further defined a set of facility attributes that bear on technical
41 and engineering feasibility.⁶³ The facility (1) must be located in a consolidated area of land large
42 enough to accommodate a facility capable of producing over 400 MW of renewable energy,
43 including all of the facility’s related or supporting facilities (or components as used in OAR
44 660-033-0130(37)); (2) must have wind resources necessary for a viable commercial wind

⁶² Golden Hills Wind Project, High Value Farmland in Sherman County (Mar. 6, 2009).

⁶³ Letter from Tim McMahan and Elaine Albrich (Mar. 5, 2009).

1 energy facility; (3) must be in close proximity to existing and available interconnection with the
2 regional electrical grid where there is a substantially similar wind resource; (4) must include
3 consolidated land of sufficient size and dimension/configuration to accommodate required
4 setbacks and minimize “wake” effects associated with the distance between turbines and turbine
5 strings; (5) must have a specific layout that minimizes wake effects within the facility area
6 (minimizes the effect between any of the proposed turbines as well as the wake effect between
7 proposed turbines strings), and also minimizes wake effects on adjacent project(s); and (6) must
8 reasonably be able to obtain wind data necessary to determine the sufficiency of the wind
9 resource.

10
11 GHWF states that the best wind resource is generally located on the tops of hillsides,
12 which tends to correspond with areas of high-value farmland soils within the County.⁶⁴ GHWF
13 further states that given the existing wind energy development within the County, areas that
14 could be considered “alternative” sites are already occupied by other existing or proposed
15 projects and/or are not controlled by GHWF. The entire northern portion of the County is already
16 developed or is in the process of being developed for wind energy facilities, either through
17 County or EFSC applications. The existence of wind turbines in a given area undermines the
18 technical and engineering feasibility of placing additional wind turbines in that area due to wake
19 effects and setback requirements.

20
21 There are also significant areas of high-value farmland in the southern County, again
22 particularly in the western half of the County. GHWF states that the topography and wind regime
23 (areas to the south are further removed from the Columbia River, with its associated wind energy
24 regime) of the southern County makes it doubtful whether the area could provide the necessary
25 wind resource for a viable project.⁶⁵

26
27 GHWF also discusses the long-term environmental effects of siting the proposed facility
28 at another location, either within or outside the land-use analysis area defined in the ASC. The
29 facility area includes Category 1, 2, 3, 4 and 6 habitat.⁶⁶ GHWF states that the proposed facility
30 layout avoids and minimizes impact to higher category habitat while having turbine strings
31 placed on high, level ground to maximize the available wind resource.⁶⁷ In refining the facility
32 layout, GHWF consulted with ODFW and in response to ODFW concerns, GHWF revised the
33 site layout to further avoid impacts to wildlife habitat. Consequently, the micro-siting corridors
34 and other facility components were moved even further into agricultural land on the high, level
35 ground. The hill slopes, valleys, and ravines, although consisting of thinner and rockier non-
36 high-value farmland soils, have higher category habitat, including riparian and grassland areas.⁶⁸
37 These areas also have less wind resource. Thus, siting the facility off high-value farmland soils
38 within the land-use analysis area would result in greater impacts to wildlife habitat and fail to
39 maximize the available wind resource. GHWF states that a similar conflict between high-value
40 farmland and higher-category habitat obtains generally in the County.⁶⁹

⁶⁴ *Id.*

⁶⁵ *Id.*

⁶⁶ See ASC, Ex. P, at P-28 – P-34.

⁶⁷ Letter from Timothy L. McMahan (Feb. 13, 2009).

⁶⁸ *Id.*

⁶⁹ Letter from Tim McMahan and Elaine Albrich (Mar. 5, 2009).

1
2 For the foregoing reasons, the Council finds that GHWF has met the requirements of
3 OAR 660-033-0130(37)(a)(A).
4

5 OAR 660-033-0130(37)(a)(B) more fully defines the environmental, economic and social
6 analysis required by OAR 660-033-0130(37)(a)(A)(iii). OAR 660-033-0130(37)(a)(C) provides
7 that costs may be considered in the analysis. OAR 660-033-0130(a)(D) imposes an obligation on
8 the owner of a wind power facility to restore any farmland “damaged or otherwise disturbed by
9 the siting, maintenance, repair or reconstruction of the facility.” These provisions are discussed
10 more fully below.

11 Environmental, Economic, Social and Energy Consequences

12
13
14 Under OAR 660-033-0130(37)(a)(B), GHWF must show that “the long term
15 environmental, economic, social and energy consequences” of the facility or its components,
16 taking mitigation into account, “are not significantly more adverse than would typically result
17 from the same proposal being located on other agricultural lands that do not include high-value
18 farmland soils.” The test is similar to that required under ORS 469.504(2)(c)(B) when the
19 Council determines whether to grant a “reasons” exception to a statewide planning goal: “The
20 significant environmental, economic, social and energy consequences anticipated as a result of
21 the proposed facility have been identified and adverse impacts will be mitigated in accordance
22 with rules of the council applicable to the siting of the proposed facility.” The environmental,
23 economic, social and energy consequences of the proposed facility components are discussed
24 below as part of the Goal 3 exception analysis. For the reasons addressed there, the Department
25 recommends that the Council find that the “consequences” of siting the facility on high-value
26 farmland are not significantly more adverse than would typically result from locating the facility
27 or any related or supporting facilities on non-high-value farmland.
28

29 Further, siting the facility on high-value farmland is likely to be beneficial to the
30 landowners. The current and proposed site certificate conditions contain mitigation measures
31 designed to minimize any adverse impacts related to the siting of the facility on high-value
32 farmland. Though the facility or its components might affect some agricultural routines of the
33 landowner, the wind turbines will, along with other benefits, provide a significant source of
34 additional, stable income to the landowner. The facility will take advantage of a clean and
35 available energy source uniquely suited to the large, open areas often associated with high-value
36 farmland. Therefore, the environmental, economic, social and energy effects of locating the
37 facility components on high-value farmland, when mitigation measures are taken into account,
38 would not be significantly more adverse than if the facility were located on non-high-value
39 farmland.
40

41 Cost

42
43 OAR 660-033-0130(37)(a)(C) states that cost associated with any of the factors listed in
44 subsection (A) “may be considered but cost alone may not be the only consideration in
45 determining that siting any component of a wind power generation facility on high-value

1 farmland is necessary.” GHWF’s analysis under subsection (A) does not substantially rely on
2 cost, and therefore the Council finds that OAR 660-033-0130(37)(a)(C) is met.

3
4 Restoration

5
6 OAR 660-033-0130(37)(a)(D) requires the owner of a wind facility to restore agricultural
7 land damaged by the wind power facility. Conditions (IV.M.1) and (IV.M.2) require the
8 certificate holder to restore all areas disturbed by construction, including farmland, according to
9 the *Habitat Mitigation and Revegetation Plan*. The Council finds that the requirements of
10 Conditions (IV.M.1) and (IV.M.2) satisfy the obligation contained in OAR 660-033-0130
11 (37)(a)(D).

12
13 Additional Criteria

14
15 OAR 660-033-0130(37)(a)(E) requires the Applicant to demonstrate that the criteria of
16 OAR 660-033-0130(37)(b) are satisfied when determining whether a facility may be sited on
17 high-value farmland soils. This analysis is discussed below, and the Council finds that OAR
18 660-033-0130(37)(a)(E) is met.

19
20 Arable and Nonarable Lands

21
22 Subsections (b), (c) and (d) of OAR 660-033-0130(37) provide additional criteria for
23 wind power generation facilities located on “arable” or “nonarable” land. Subsection (b) defines
24 “arable land” as “lands that are cultivated or suitable for cultivation, including high-value
25 farmland soils” and provides criteria for locating a facility on arable land. Subsection (c) defines
26 “nonarable land” as land “not suitable for cultivation” and identifies the criteria applicable on
27 nonarable land. Subsection (d) provides that when a proposed wind power generation facility is
28 located on a combination of arable and nonarable lands, then the criteria in subsection (b) apply
29 to the entire facility. The proposed facility would be located at least in part on “arable” lands.
30 Accordingly, the criteria in subsection (b) apply.

31
32 Impacts on Agricultural Operations

33
34 OAR 660-033-0130(37)(b)(A) provides that the proposed wind power facility must not
35 “create unnecessary negative impacts on agricultural operations conducted on the subject
36 property.” This requirement is substantially similar to the approval standards in the SCZO,
37 SCZO Section 5.8.16, discussed above at page 55. For the reasons discussed there and subject to
38 the recommended site certificate conditions, the Council finds that the facility will not result in
39 unnecessary negative impacts on agricultural operations and therefore meets OAR
40 660-033-0130(37)(b)(A).

41
42 Soil Erosion and Compaction

43
44 OAR 660-033-0130(37)(b)(B) provides that the proposed wind power facility must not
45 result in unnecessary soil erosion. OAR 660-033-0130(37)(b)(C) provides that facility
46 construction or maintenance activities must not result in unnecessary soil compaction. Potential

1 adverse impacts to soils and measures to avoid or control soil erosion and compaction are
2 addressed by the Council’s Soil Protection Standard, discussed at page 81. For the reasons
3 discussed there and subject to the recommended site certificate conditions, the Council finds that
4 construction and operation of the facility would not result in unnecessary soil erosion, and
5 therefore OAR 660-033-0130(37)(b)(B) and (C) are met.

6
7 Weed Control
8

9 OAR 660-033-0130(37)(b)(D) provides that construction or maintenance activities must
10 not result in the “unabated introduction or spread of noxious weeds and other undesirable weeds
11 species.” Conditions (IV.D.16) and (IV.E.4) require the certificate holder to work with the
12 Sherman County Weed Control Manager to implement a plan applicable during construction and
13 operation of the facility to control the introduction and spread of noxious weeds. The Council
14 finds that construction and operation of the facility would not result in unabated introduction of
15 spread of weeds on farmland, and therefore OAR 660-033-0130(37)(b)(D) is met.

16
17 Access Roads
18

19 The proposed access roads are part of the “wind power generation facility” as defined by
20 OAR 660-033-0130(37), and if the new rules are applicable, would not require separate analysis.
21 If the old rules apply, however, then the proposed Golden Hills access roads are allowable on
22 EFU land under ORS 215.283(3). ORS 215.283(3) allows “roads, highways and other
23 transportation facilities and improvements” that are not otherwise allowed under paragraphs (1)
24 and (2) of ORS 215.283 to be established in an EFU zone, subject to:

- 25
26 *(a) Adoption of an exception to the goal related to agricultural lands and to any other*
27 *applicable goal with which the facility or improvement does not comply; or*
28
29 *(b) ORS 215.296 for those uses identified by rule of the Land Conservation and*
30 *Development Commission as provided in section 3, chapter 529, Oregon Laws*
31 *1993.*
32

33 The subparagraphs are conjoined by “or” and so either (a) or (b) applies. In this case,
34 subparagraph (b) applies because the facility access roads are a use that has been identified by
35 the LCDC. OAR 660-033-0120 identifies uses authorized on agricultural lands.
36 OAR 660-033-0120 (Table 1) lists “transportation improvements on rural lands allowed by OAR
37 660-012-0065” as a type “R” use (“use may be approved, after required review”).
38 OAR 660-033-0120 does not reference any criteria in OAR 660-033-0130 for this use.
39

40 OAR 660-012-0065 applies to transportation improvements on rural lands. The proposed
41 access roads meet the definition of “accessory transportation improvements” in OAR
42 660-012-0065(2)(d) because they are “transportation improvements that are incidental to a land
43 use to provide safe and efficient access to the use.”⁷⁰

⁷⁰ OAR 660-12-0065(2)(a) defines “access roads” as “low volume public roads that principally provide access to property or as specified in an acknowledged comprehensive plan.” The proposed facility turbine string access roads are not “access roads” under this definition because they are not public roads.

1
2 Under OAR 660-012-0065(3)(a), “accessory transportation improvements for a use that
3 is allowed or conditionally allowed by ORS...215.283” are consistent with Goal 3, “subject to
4 the requirements of this rule.” The proposed access roads are accessory transportation
5 improvements for a “commercial utility facility for the purpose of generating power for public
6 use by sale,” which is a use conditionally allowed by ORS 215.283(2)(g). Accordingly, the
7 access roads are consistent with Goal 3, subject to any applicable requirements of OAR
8 660-012-0065.

9
10 The requirements of OAR 660-012-0065(4) are applicable:

11
12 *Accessory transportation improvements required as a condition of development listed*
13 *in subsection (3)(a) of this rule shall be subject to the same procedures, standards*
14 *and requirements applicable to the use to which they are accessory.*

15
16 The rule language applies specifically to accessory transportation improvements
17 “required as a condition of development.” Because the facility access roads are necessary for the
18 operation and maintenance of the wind energy facility, they are a necessary condition of the
19 development of the commercial utility facility. Accordingly, the access roads are subject to the
20 standards and requirements applicable to the principal use. We have discussed the standards
21 applicable to the principal use above.

22 23 Substations

24
25 As with access roads, the proposed substations are a part of the “wind power generation
26 facility” as defined by OAR 660-033-0130(37), and if the new rules are applicable, would not
27 require separate analysis. However, if the old rules are applicable, then the following analysis is
28 required.

29
30 The Council finds that the proposed substations and aboveground transmission lines,
31 regardless of the location chosen, would be “utility facilities necessary for public service”
32 allowed on EFU land under ORS 215.283(1)(d), subject to the provisions of ORS 215.275. Such
33 a finding would be consistent with the Council’s finding that the Stateline Substation and the
34 aboveground transmission line connecting the substation with the main power grid were “utility
35 facilities necessary for public service.” Like the substation and transmission line at Stateline, the
36 proposed substations and transmission line would function to step up the power to accommodate
37 interconnection with the BPA system. Because the proposed substations and transmission lines
38 are necessary to make the power from the facility available to the public through the BPA
39 system, a finding that they are “utility facilities necessary for public service” is appropriate.

40
41 ORS 215.275 lists factors for deciding whether a utility facility is “necessary for public
42 service.” The statute provides:

43
44 *(1) A utility facility established under ORS 215.213 (1)(d) or 215.283 (1)(d) is*
45 *necessary for public service if the facility must be sited in an exclusive farm use zone*
46 *in order to provide the service.*

1
2 (2) To demonstrate that a utility facility is necessary, an applicant for approval under
3 ORS 215.213 (1)(d) or 215.283 (1)(d) must show that reasonable alternatives have
4 been considered and that the facility must be sited in an exclusive farm use zone due
5 to one or more of the following factors:
6

7 (a) Technical and engineering feasibility;

8
9 (b) The proposed facility is locationally dependent. A utility facility is locationally
10 dependent if it must cross land in one or more areas zoned for exclusive farm use
11 in order to achieve a reasonably direct route or to meet unique geographical
12 needs that cannot be satisfied on other lands;
13

14 (c) Lack of available urban and nonresource lands;

15
16 (d) Availability of existing rights of way;

17
18 (e) Public health and safety; and

19
20 (f) Other requirements of state or federal agencies.
21

22 The proposed substations must be located in an EFU zone because there is no non-EFU
23 land in the vicinity of the facility. There are no reasonable alternatives. At least three of the
24 factors listed in ORS 215.275(2) apply. First, “technical and engineering feasibility” requires that
25 there be a substation to accommodate interconnection with the BPA system. It is not feasible or
26 technically possible to interconnect with the main transmission grid without a substation.
27 Second, the proposed substations are “locationally dependent.” The substation must be located in
28 proximity to the proposed wind turbines, because that is where the power will be generated. It
29 must be located near the point of interconnection with the BPA system so the power can be
30 transmitted to customers. Third, there are no urban or non-resource lands available to locate the
31 substation where it could serve its purpose.
32

33 GHWF has proposed transmission line corridors that are consistent with criterion (d) as
34 well. There are two proposed transmission lines. As discussed above, the proposed transmission
35 line from the southeast substation to north of the BPA substation near Klondike Schoolhouse is
36 treated as a third-party permit under OAR 345-022-0010(3) based on an agreement to place
37 Golden Hills’ conductors on transmission poles previously permitted by Pacific Wind
38 Development. The transmission line from the facility’s western substation to the BPA John Day
39 Substation will be 11 miles long, of which six miles are parallel to existing BPA right-of-way.
40

41 For these reasons, location of the substations and transmission lines on EFU land is
42 “necessary for public service.” The Council finds that the substations and transmission lines are
43 allowable under ORS 215.283(1)(d).
44

45 ORS 215.275 imposes two requirements on “utility facilities necessary for public
46 service” allowed under ORS 215.283(1)(d). ORS 215.275(4) requires that the owner of the utility

1 facility be responsible for restoring agricultural land and associated improvements to their former
2 condition if they are damaged or disturbed by the siting, maintenance, repair or reconstruction of
3 the facility. The proposed substations would be located on four acres of land that would be part
4 of the permanent Golden Hills “footprint.” Outside this footprint, GHWF states that it will
5 restore lands temporarily disturbed during construction to their original condition. Moreover, the
6 Council would impose the mandatory condition at OAR 345-027-0020(11), requiring restoration
7 of vegetation of all areas disturbed by construction “ in a manner compatible with surroundings.”
8

9 ORS 215.275(5) requires the imposition of “clear and objective conditions” on siting a
10 utility facility under 215.283(1)(d) “to mitigate and minimize the impacts of the proposed
11 facility, if any, on surrounding lands devoted to farm use in order to prevent a significant change
12 in accepted farm practices or a significant increase in the cost of farm practices on the
13 surrounding farmlands.” Construction of the proposed substations and transmission lines as part
14 of Golden Hills would not substantially increase the impacts of the principal use and access
15 roads, which would occupy a much larger area of agricultural land than the substations or
16 transmission lines. For the reasons discussed above, the principal use and access roads would not
17 result in a significant change in accepted farm practices or significantly increase the cost of those
18 practices.
19

20 The Council finds that the proposed substations and transmission lines would not cause a
21 significant change in accepted farm practices or significantly increase the cost of those practices.
22 As discussed throughout the Land Use section of this Final Order, the Council imposes certain
23 conditions on the certificate holder to “mitigate and minimize” the impacts of the proposed
24 facility on surrounding lands devoted to farm use.
25

26 **3. Goal 3 Exception**

27

28 The proposed principal use and access roads would occupy more than 20 acres of
29 farmland in the EFU zone. If the old rules apply, the facility would not comply with OAR
30 660-033-0130(17) and (22). Therefore, to find compliance under ORS 469.504(1)(b)(B), the
31 Council must decide whether an exception to Goal 3 is justified under ORS 469.504(2).
32 Alternatively, if the new rules apply and the facility is found not to comply with OAR
33 660-033-0130(37), then the Council must make the same determination regarding a Goal 3
34 exception.
35

36 ORS 469.504(2)(c) sets out the requirements that must be met for the Council to take an
37 exception to a land use planning goal, as follows:
38

39 *(2) The council may find goal compliance for a facility that does not otherwise*
40 *comply with one or more statewide planning goals by taking an exception to the*
41 *applicable goal. Notwithstanding the requirements of ORS 197.732, the statewide*
42 *planning goal pertaining to the exception process or any rules of the Land*
43 *Conservation and Development Commission pertaining to an exception process goal,*
44 *the council may take an exception to a goal if the council finds:*
45

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

1
2 (A) Reasons justify why the state policy embodied in the applicable goal
3 should not apply;
4

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

10 (C) The proposed facility is compatible with other adjacent uses or will be
11 made compatible through measures designed to reduce adverse impacts.
12

13 The Council concludes that the standards for an exception to Goal 3 under ORS
14 469.504(2)(c) are met, for the following reasons:
15

16 Reasons Supporting an Exception
17

18 The state policy embodied in Goal 3 is the preservation and maintenance of agricultural
19 land for farm use. Several reasons support an exception to Goal 3.
20

21 First, although the proposed facility would occupy more than 20 acres of non-high-value
22 farmland, it would occupy less than 1 percent of the actively farmed land within the leased area.
23 The land that would be occupied by the wind facility would not be in a single, contiguous area
24 within which no farming activities could occur. Rather, the spacing of turbines and turbine
25 strings would preserve most of the land upon which the facility lies for farm use. The total
26 amount of land occupied by wind turbines would be about 12 acres; the majority of the area
27 occupied by the facility would be occupied by the access roads (about 75 acres). The access
28 roads would be available for use by the landowner in farm operations.
29

30 Second, for the reasons discussed above in reference to SCZO 5.8.16, the facility is
31 compatible with farm use, would not seriously interfere with accepted farm practices on adjacent
32 land and would not materially alter the overall land use pattern of the area. The substations and
33 transmission line locations have been proposed to make maximum use of existing roads and
34 existing transmission right-of-way. Conditions (5) and (6) of this section, proposed in the
35 analysis of compliance with SCZO 5.8.16, also ensure the facility's compatibility with farm use.
36

37 Third, approval of the proposed facility furthers the state policy embodied in Goal 13
38 (Energy Conservation). The Guidelines for implementing Goal 13 expressly direct land use
39 planning to utilize renewable energy sources, including wind, "whenever possible." State policy
40 supporting development of renewable energy is also found in the State's Renewable Energy
41 Action Plan (ODOE 2005), which calls for significant, additional development of renewable
42 resources, including wind energy. As noted in the ASC, GHWF has chosen the facility site
43 because it offers an optimal wind energy resource. This conclusion is supported by the siting and
44 operation of the nearby Klondike facility. Wind power projects by their nature require large
45 tracts of land because each wind turbine must be placed several hundred feet apart. That, in

1 addition to the substations, access roads and O&M facility, will require more than 20 acres of F-
2 1 land.

3
4 Fourth, it is not feasible to locate a renewable wind energy facility in the County without
5 affecting agricultural land because the best wind resources are all located on agricultural land.⁷¹
6 The only non-EFU land in the area is located in the cities of Moro, Wasco, Rufus and Biggs
7 Junction. None of these locations has the necessary wind resource, adequate parcels of land, or
8 proximate transmission system necessary to build the facility.

9
10 Fifth, the farmers who own the land where the facility would be located are willing to
11 enter into land leases to allow the facility to be built. In return, the landowners would receive
12 annual lease payments. Lease payments would provide a stable, supplemental income source that
13 would help maintain the land in farm use by increasing the economic viability of the landowners’
14 farm operations.

15
16 Sixth, the facility would boost the local economy by creating jobs and contributions to
17 the local tax base. GHWF estimates the number of construction jobs would range up to 175, and
18 states it will give preference to local workers when feasible. Operation of the facility would
19 require 10 to 15 full-time employees.⁷² The facility is expected to provide substantial tax
20 revenues to the County over the life of the facility, with insubstantial countervailing public
21 service demands.⁷³

22 23 Significant Environmental, Economic, Social and Energy Consequences

24
25 The facility must meet all EFSC standards applicable to the siting of the proposed
26 facility. These include the EFSC Fish and Wildlife Habitat Standard, Threatened and Endangered
27 Species Standard, Soil Protection Standard, Protected Area Standard, Historic and Cultural
28 Standard, and Scenic Resources Standard. Golden Hills, taking into account mitigation, will not
29 have a significant adverse impact on these resources, as discussed in the sections of this Final
30 Order that address those individual standards. GHWF has modified the facility to avoid wetlands
31 so that a DSL wetland permit will not be needed.

32
33 The economic impact of the facility is expected to be positive. As noted above, the
34 facility would create up to 175 construction jobs over a period of about nine months, and about
35 10 to 15 permanent jobs. The facility would meet the Council’s Public Services Standard, as
36 discussed in the section of this Final Order that addresses that standard. Lease payments to the
37 landowners on the site will provide a stable source of revenue to farmers. As discussed above in
38 more detail, the facility meets the goals and policies in SCCP Section XIV, which addresses the
39 County’s economic base.

40

⁷¹ We note that *Save Our Rural Oregon* held that “the legislature did not intend to require the council to perform an alternatives analysis in making a determination under ORS 469.504(2)(c) that an exception could be taken to a land use planning goal.” *Save Our Rural Oregon v. Energy Facility Siting Council*, 339 Or 353, 372, 121 P3d 1141 (2005). While an alternatives analysis is not required, the lack of feasible alternatives to the proposed facility site nonetheless is a valid reason justifying an exception to Goal 3.

⁷² ASC, Ex. K, at K-43; Ex. U, at U-1.

⁷³ ASC, Ex. U, at U-20.

1 The “energy consequences” of Golden Hills would be the generation of about 133 MW of
2 electricity (average value) from a renewable source. As noted above, this generation is consistent
3 with the states’ energy policy “to develop permanently sustainable energy resources” (ORS
4 469.010) and with State Land Use Goal 13.

5
6 Compatibility with Adjacent Uses

7
8 For the reasons discussed above in reference to SCZO 5.8.16, the facility is compatible
9 with farm use, would not seriously interfere with accepted farm practices on adjacent land and
10 would not materially alter the overall land use pattern of the area.

11
12 Conclusion

13
14 For the reasons set forth above, the Council makes the findings discussed below and
15 concludes that the standards for an exception to Goal 3 under ORS 469.504(2)(c) are met.

16
17 **4. Additional Land Use Conditions**

18
19 In addition to the conditions set forth above, to find that GHWF can comply with OAR
20 345-022-0030, the Council adopts the following conditions in the site certificate, for consistency
21 with site certificates for Klondike III, Biglow Canyon and Leaning Juniper:

22
23 **(IV.D.13) Before beginning construction of the facility, the certificate holder shall**
24 **record a Farm Management Easement covering the properties on which the**
25 **certificate holder locates wind power generation facilities. The certificate**
26 **holder shall record the easements in the real property records of Sherman**
27 **County and shall file a copy of the recorded easement with the Sherman**
28 **County Planning Director.**

29
30 **(IV.D.14) The certificate holder shall remove from Special Farm Assessment the**
31 **portions of parcels on which facilities are located and shall pay all property**
32 **taxes due and payable after the Special Farm Assessment is removed from**
33 **such properties.**

34
35 **(IV.D.15) Within 90 days after beginning operation, the certificate holder shall provide**
36 **to the Department and to the Sherman County Planning Director the actual**
37 **latitude and longitude location or Stateplane NAD 83(91) coordinates of each**
38 **turbine tower, connecting lines and transmission lines. In addition, the**
39 **certificate holder shall provide to the Department and to the Sherman**
40 **County Planning Director, a summary of as-built changes in the facility**
41 **compared to the original plan, if any.**

42
43 **5. Land Use Conditions Specifically Requested by Sherman County**

44
45 In its agency report of September 17, 2008, the Sherman County Planning Director
46 requested certain additional land use conditions that do not appear elsewhere in this Final

1 Order.⁷⁴ In response to that request, the Council adopts the following conditions in the site
2 certificate:

3
4 **(IV.D.16) The certificate holder shall work with the Sherman County Weed Control
5 manager to take appropriate measures to prevent the invasion, during and
6 after the facility's construction of any weeds on the Sherman County noxious
7 weed list.**

8
9 **(IV.D.17) The certificate holder shall cooperate with the Sherman County Road
10 Department to ensure that any unusual damage or wear caused by the use of
11 the County's roads by the developer during the construction of the facility
12 will be the responsibility of the developer. The Road Department will provide
13 an assessment of road conditions in the facility area prior to the start of
14 construction of the facility and an evaluation of the roads following
15 completion of the facility to determine any significant change in condition. In
16 addition, no equipment or machinery of the developers shall be parked or
17 stored on any county road except while in use.**

18
19 **(IV.D.18) Prior to start of construction, the certificate holder shall, in consultation with
20 Sherman County, assign a 911 5-digit rural address to every tower road that
21 intersects a State or county road. The county will provide and install the
22 signage for these addresses.**

23
24 **(IV.D.19) Prior to beginning construction, the certificate holder will:⁷⁵**
25 **(a) Designate a route or routes for the transport of wind turbine
26 construction material (including water, aggregate, concrete,
27 machinery, and tower pieces), with the intention of minimizing
28 damage to non-designated roads, and provide these designations to
29 the County Road Master;**
30 **(b) Provide to the County Road Master a written summary of possible,
31 anticipated road damage to the designated route or routes, and an
32 estimate of the cost of repair to the designated route or routes;**
33 **(c) Establish and maintain an escrow account for so long as construction
34 is ongoing funded in an amount equal to the estimated cost to repair
35 the designated route or routes consistent with the estimate provided in
36 (b) above; and**
37 **(d) Conduct an inspection of the roads along the designated route or
38 routes before and after construction with a representative of the
39 Sherman County Road Department and an independent third party
40 with the required expertise to inspect and evaluate paved and
41 graveled roads. In the event a dispute arises, the third party shall be**

⁷⁴ In its comments on the Draft Proposed Order, GHWF requested that Condition (IV.D.20) be deleted, noting that it had not appeared in previous site certificates. However, because this condition was specifically drafted and requested by the Sherman County Planning Department, the Department recommends that it be retained.

1 **the final arbiter. The cost of the hiring of the third party shall be**
2 **borne by the Applicant.**
3

4 In a follow-up request included in an email message dated February 17, 2009, the
5 Sherman County Planning Director, on behalf of the Sherman County Road Department,
6 requested the inclusion of additional conditions that do not appear elsewhere in this Final Order.
7 In response to that request, the Council adopts the following conditions in the site certificate:
8

9 **(IV.D.20) Before beginning construction of facility access roads, the certificate holder**
10 **shall confer with the Sherman County Road Master regarding any utility**
11 **permits needed for county road right-of-ways and obtain permits for**
12 **construction of all approach roads onto county roads, all in accordance with**
13 **Sherman County Ordinance No. 35-2007.**
14

15 **(IV.D.21) The certificate holder shall comply with SCZO Section 4.14.4, Access**
16 **Connection and Driveway Design, in connection with construction of the**
17 **O&M facility and substations.**
18

19 The Council interprets the removal of properties from Special Farm Assessment to apply
20 only to the portion of the properties on which the facilities are located in accordance with ORS
21 308A.113(1)(a).⁷⁶
22

23 **Conclusion**

24 Based on the foregoing findings of fact, reasoning, proposed conditions and conclusions,
25 the Council finds that the proposed facility does not comply with two applicable substantive
26 criteria. The proposed facility does not comply with SCZO Sections 3.1.4 and 5.8.16(d).
27

28 Accordingly, the Council must proceed with its land use analysis under ORS
29 469.504(1)(b)(B). The Council finds that the proposed facility complies with OAR
30 660-033-0130(37) and therefore complies with the applicable statewide planning goal (Goal 3).
31 Because OAR 660-033-0130(37) became applicable only after the ASC was filed, the Council
32 has conducted an analysis under the old rules as well. If these rules were found to remain
33 applicable, the Council's conclusion is that the proposed facility does not comply with OAR
34 660-033-0130(17) and (22) and therefore does not comply with the applicable statewide planning
35 goal (Goal 3). The Council finds that an exception to Goal 3 is justified under ORS
36 469.504(2)(c). The Council concludes that, subject to recommended Conditions (IV.D.1) through
37 (IV.D.21) above, the proposed facility complies with the Land Use Standard.
38

39 **E. SOIL PROTECTION, OAR 345-022-0022**

40
41 *To issue a site certificate, the Council must find that the design, construction and*
42 *operation of the facility, taking into account mitigation, are not likely to result in a*
43 *significant adverse impact to soils including, but not limited to, erosion and chemical*
44 *factors such as salt deposition from cooling towers, land application of liquid effluent,*
45 *and chemical spills.*

⁷⁶ These conditions are consistent with the Klondike and Leaning Juniper Final Orders.

1
2 **Discussion**

3 GHWF provided evidence regarding soil impacts in Exhibit I of the ASC. The analysis
4 area for the Soil Protection Standard is the area within the site boundary.
5

6 Adverse impacts to soils can affect crop production on adjacent agricultural lands, native
7 vegetation, fish and wildlife habitat, and water quality. Construction and operation of the facility
8 could have soil impacts such as erosion, compaction and chemical spills. Because a wind facility
9 does not have a cooling tower or liquid effluent, there is no potential for salt deposition.
10

11 **Impacts During Construction.** Grading of the site would disrupt soils and increase the
12 potential for erosion during construction. The short-term removal of vegetation and root systems
13 from portions of the site would create a greater susceptibility of exposed soils to erosion from
14 wind, rain and surface runoff during and immediately after construction. If left unchecked, soil
15 transported by surface runoff could find its way into the nearby surface waters where it could
16 settle out as sediments.
17

18 Heavy equipment storage and staging areas, car and truck traffic and parking, and
19 component laydown during construction could cause soil compaction. Soil compaction in
20 relation to this standard is a concern where it could reduce agricultural productivity or interfere
21 with vegetation. During construction, about 1,522 acres would be temporarily disturbed for
22 major construction laydown areas, met tower construction, installation of underground and
23 overhead collector cable, and road construction.⁷⁷
24

25 There is a risk of chemical spills during construction from fuels, oils and grease
26 associated with operation of construction equipment. Federal law (40 CFR part 112) requires the
27 operators of facilities that store quantities of oil and engage in refueling operations onsite to
28 develop and implement a Spill Prevention Control and Countermeasure Plan during construction
29 and operation.
30

31 **Impacts During Operation.** Operation of the facility would have little impact on soils.
32 Precipitation could result in surface water collecting on structures and on concrete or gravel
33 surfaces. Drainage from those areas could erode nearby soils. In addition, repair or maintenance
34 of underground communications or power collection lines could expose soils to increased
35 erosion. Small amounts of chemicals such as lubricating oils and cleaners for the turbines and
36 herbicides for weed control would be used at the facility site and present a risk to soils from
37 accidental spills.
38

39 **Impacts During Retirement.** Retirement would cause soil disturbance similar to
40 construction. Use of trucks and heavy equipment could compact soils and temporarily increase
41 the potential for soil erosion during removal of equipment, dismantling turbines, demolishing
42 foundations, and grading. Disturbance or removal of vegetation would expose soils to greater
43 risk of wind and water erosion. Site restoration would be carried out subject to the terms of a
44 final retirement plan approved by the Council, which would include measures for protection of
45 the environment during the retirement process.

⁷⁷ ASC, Addendum to Ex. I, at 1.

1
2 **Control and Impact Mitigation Measures.** During construction of the facility, GHWF
3 would be subject to the requirements of the NPDES Storm Water Discharge General Permit
4 (1200-C) and associated ESCP. The ESCP describes monitoring and mitigation procedures
5 during construction-related disturbances. In accordance with requirements of the 1200-C storm
6 water discharge permit, GHWF would consult with the jurisdictional land use agency to
7 determine compatibility of the proposed facility with local land use ordinances and zoning
8 designations, implement best management practices to mitigate construction-related
9 disturbances, implement a monitoring and reporting program, and prepare post-construction
10 documentation and reporting.

11
12 In its ASC, GHWF describes actions that are designed to address the Council’s Soil
13 Protection Standard. The Council considers the following actions to be commitments by GHWF
14 and adopts those actions as conditions in the site certificate:

15
16 **(IV.E.1) The certificate holder shall conduct all construction work in compliance with**
17 **an Erosion and Sediment Control Plan (the “ESCP”) satisfactory to the**
18 **Oregon DEQ and as required under the National Pollutant Discharge**
19 **Elimination System Storm Water Discharge General Permit #1200-C. The**
20 **certificate holder shall include in the ESCP any procedures necessary to meet**
21 **local erosion and sediment control requirements or storm water management**
22 **requirements.**

23
24 **(IV.E.2) Where temporary impacts will occur in cultivated areas, the certificate**
25 **holder shall salvage approximately three feet of topsoil and stockpile this**
26 **topsoil in windrows. The certificate holder shall protect the windrows with**
27 **plastic sheeting or mulch. Upon removal of the temporary features, the**
28 **certificate holder shall cultivate the subsoil to a depth of at least 12 inches**
29 **(except where bedrock prohibits achieving this depth) and then redistribute**
30 **the salvaged topsoil to match adjacent grades.**

31
32 In addition, to find that GHWF complies with OAR 345-022-0022, the Council adopts
33 the following conditions in the site certificate:

34
35 **(IV.E.3) During facility operation, the certificate holder shall routinely inspect and**
36 **maintain all roads, pads and trenched areas and, as necessary, maintain or**
37 **repair erosion control measures. The certificate holder shall restore areas**
38 **that are temporarily disturbed during facility maintenance or repair**
39 **activities to pre-disturbance condition or better.**

40
41 **(IV.E.4) During construction and operation of the facility, the certificate holder shall**
42 **implement a plan, developed in consultation with the Sherman County Weed**
43 **Control Manager, to control the introduction and spread of noxious weeds.**

44
45 **(IV.E.5) During construction, the certificate holder shall ensure that the wash down of**
46 **concrete trucks occurs only at a contractor-owned batch plant or at tower**

1 foundation locations. If such wash down occurs at tower foundation
2 locations, then the certificate holder shall ensure that wash down wastewater
3 does not run off the construction site into otherwise undisturbed areas and
4 that the wastewater is disposed of on backfill piles and buried underground
5 with the backfill over the tower foundation.
6

7 **(IV.E.6) During facility operation, if blade-washing becomes necessary, the certificate**
8 **holder shall ensure that there is no runoff of wash water from the site or**
9 **discharges to surface waters, storm sewers or dry wells. The certificate**
10 **holder shall not use acids, bases or metal brighteners with the wash water.**
11 **The certificate holder may use biodegradable, phosphate-free cleaners**
12 **sparingly.**
13

14 **Conclusion**

15 The Council finds that the design, construction, operation and retirement of the proposed
16 facility, taking into account mitigation and subject to the conditions stated in this Final Order, are
17 not likely to result in a significant adverse impact to soils. Based on these findings and
18 recommended conditions, the Council concludes that the proposed facility complies with the Soil
19 Protection Standard.
20

21 **F. PROTECTED AREAS, OAR 345-022-0040**

- 22
- 23 *(1) Except as provided in sections (2) and (3), the Council shall not issue a site*
24 *certificate for a proposed facility located in the areas listed below. To issue a site*
25 *certificate for a proposed facility located outside the areas listed below, the*
26 *Council must find that, taking into account mitigation, the design, construction*
27 *and operation of the facility are not likely to result in significant adverse impact*
28 *to the areas listed below. References in this rule to protected areas designated*
29 *under federal or state statutes or regulations are to the designations in effect as of*
30 *May 11, 2007:*
- 31 *(a) National parks, including but not limited to Crater Lake National Park*
32 *and Fort Clatsop National Memorial;*
- 33 *(b) National monuments, including but not limited to John Day Fossil Bed*
34 *National Monument, Newberry National Volcanic Monument and Oregon*
35 *Caves National Monument;*
- 36 *(c) Wilderness areas established pursuant to The Wilderness Act, 16 U.S.C.*
37 *1131 et seq. and areas recommended for designation as wilderness areas*
38 *pursuant to 43 U.S.C. 1782;*
- 39 *(d) National and state wildlife refuges, including but not limited to Ankeny,*
40 *Bandon Marsh, Baskett Slough, Bear Valley, Cape Meares, Cold Springs,*
41 *Deer Flat, Hart Mountain, Julia Butler Hansen, Klamath Forest, Lewis*
42 *and Clark, Lower Klamath, Malheur, McKay Creek, Oregon Islands,*
43 *Sheldon, Three Arch Rocks, Umatilla, Upper Klamath, and William L.*
44 *Finley;*
- 45 *(e) National coordination areas, including but not limited to Government*
46 *Island, Ochoco and Summer Lake;*

- 1 (f) *National and state fish hatcheries, including but not limited to Eagle*
2 *Creek and Warm Springs;*
- 3 (g) *National recreation and scenic areas, including but not limited to Oregon*
4 *Dunes National Recreation Area, Hell’s Canyon National Recreation*
5 *Area, and the Oregon Cascades Recreation Area, and Columbia River*
6 *Gorge National Scenic Area;*
- 7 (h) *State parks and waysides as listed by the Oregon Department of Parks and*
8 *Recreation and the Willamette River Greenway;*
- 9 (i) *State natural heritage areas listed in the Oregon Register of Natural*
10 *Heritage Areas pursuant to ORS 273.581;*
- 11 (j) *State estuarine sanctuaries, including but not limited to South Slough*
12 *Estuarine Sanctuary, OAR chapter 142;*
- 13 (k) *Scenic waterways designated pursuant to ORS 390.826, wild or scenic*
14 *rivers designated pursuant to 16 U.S.C. 1271 et seq., and those waterways*
15 *and rivers listed as potentials for designation;*
- 16 (L) *Experimental areas established by the Rangeland Resources Program,*
17 *College of Agriculture, Oregon State University: the Prineville site, the*
18 *Burns (Squaw Butte) site, the Starkey site and the Union site;*
- 19 (m) *Agricultural experimental stations established by the College of*
20 *Agriculture, Oregon State University, including but not limited to:*
21 *Coastal Oregon Marine Experiment Station, Astoria*
22 *Mid-Columbia Agriculture Research and Extension Center, Hood*
23 *River*
24 *Agriculture Research and Extension Center, Hermiston*
25 *Columbia Basin Agriculture Research Center, Pendleton*
26 *Columbia Basin Agriculture Research Center, Moro*
27 *North Willamette Research and Extension Center, Aurora*
28 *East Oregon Agriculture Research Center, Union*
29 *Malheur Experiment Station, Ontario*
30 *Eastern Oregon Agriculture Research Center, Burns*
31 *Eastern Oregon Agriculture Research Center, Squaw Butte*
32 *Central Oregon Experiment Station, Madras*
33 *Central Oregon Experiment Station, Powell Butte*
34 *Central Oregon Experiment Station, Redmond*
35 *Central Station, Corvallis*
36 *Coastal Oregon Marine Experiment Station, Newport*
37 *Southern Oregon Experiment Station, Medford*
38 *Klamath Experiment Station, Klamath Falls;*
- 39 (n) *Research forests established by the College of Forestry, Oregon State*
40 *University, including but not limited to McDonald Forest, Paul M. Dunn*
41 *Forest, the Blodgett Tract in Columbia County, the Spaulding Tract in the*
42 *Mary’s Peak area and the Marchel Tract;*
- 43 (o) *Bureau of Land Management areas of critical environmental concern,*
44 *outstanding natural areas and research natural areas;*
- 45 (p) *State wildlife areas and management areas identified in OAR chapter 635,*
46 *Division 8.*

1
2 **Discussion**

3 GHWF provided evidence about potential impacts to protected areas in Exhibit L of the
4 ASC. The analysis area for the Protected Areas Standard is the area within the site boundary and
5 20 miles from the site boundary, including areas outside the state.
6

7 The proposed facility would not be located within any protected area designated under
8 OAR 345-022-0040(1). GHWF identified 21 protected areas within 20 miles of the proposed
9 facility site, including one site that straddles the border between Oregon and Washington, 10
10 sites in Oregon and 10 sites in Washington.⁷⁸ GHWF identified protected areas in the State of
11 Washington by extrapolation from the provisions of OAR 345-022-0040. Table IV.F.1 shows the
12 12 protected areas, a reference to the applicable subparagraph of OAR 345-022-0040(1), the
13 approximate distance and direction of each protected area from the proposed facility site, and the
14 state in which the protected area is located.
15

16

TABLE IV.F.1 - PROTECTED AREAS WITHIN 20 MILES				
Protected Area	Rule Reference	Distance (Miles)	Direction from Golden Hills	State
John Day Wildlife Refuge	(a)	5.3	E	OR
Goldendale Hatchery	(f)	12.5	NW	WA
Columbia River Gorge National Scenic Area	(g)	2.7	W	OR, WA
Deschutes River State Recreation Area	(h)	4.3	W	OR
Heritage Landing (Deschutes)	(h)	5.4	W	OR
JS Burrese State Recreation Site/BLM Cottonwood Facility	(h)	6.8	SE	OR
Goldendale Observatory State Park	(h)	11.8	N	WA
Columbia Hills (Horsethief Lake) State Park	(h)	14.0	NW	WA
Doug's Beach State Park	(h)	19.9	NW	WA
Maryhill State Park	(h)	1.0	N	WA
Brooks Memorial State Park	(h)	19.7	N	WA
Columbia Hills Natural Area Preserve	(i)	11.7	NW	WA
Badger Gulch Natural Area Preserve	(i)	15.6	NE	WA
John Day Federal Wild and Scenic River	(k)	5.2	E	OR
John Day State Scenic Waterway (Parrish Creek to Tumwater Falls)	(k)	5.3	E	OR
Deschutes Federal Wild and Scenic River	(k)	2.3	W	OR
Deschutes State Scenic Waterway (Pelton Dam to Columbia River)	(k)	2.4	W	OR
Lower Klickitat Federal Wild and Scenic River	(k)	16.2	NW	WA
Columbia Basin Agriculture Research Center (Moro)	(m)	0.4	SW	OR
Lower Deschutes Wildlife Area	(p)	1.8	SW	OR
Klickitat Wildlife Area	(p)	16.6	NW	WA

17 **Noise.** GHWF's noise analysis showed that noise from operation of the proposed facility
18 would be inaudible at all protected areas except the Columbia Basin Agricultural Research
19 Center. At that location, the maximum noise level caused by operation of the proposed facility
20 would be 34 dBA, a level that would be audible at a low level. Noise generated during
21 construction of the proposed facility would not be expected to adversely affect any of the
22 protected areas.⁷⁹

⁷⁸ ASC, Ex. L, at L-1, L.2.

⁷⁹ ASC, Ex. L, at L-2.

1
2 The Council finds that noise during construction and operation of the proposed facility
3 would not result in a significant adverse impact to any protected area.
4

5 **Traffic.** Construction-related traffic would gain access to the proposed facility site by
6 means of U.S. Highway 97 or Oregon Highway 206 and a series of local Sherman County roads.
7 Several local roads would require improvement to accommodate heavy construction equipment,
8 resulting in a long-term improvement to the local road system.⁸⁰ During construction of the
9 proposed facility, short-term traffic delays on U.S. Highway 97 and local roads could affect
10 access to protected areas associated with the John Day River and Columbia Basin Agriculture
11 Research Center. The construction access route is not a primary access route to the John Day
12 River, and several passing lanes on U.S. Highway 97 would alleviate potential traffic impacts
13 along the travel corridor.⁸¹ Traffic demands on local roads are low, and traffic impacts during
14 construction of the proposed facility are expected to be temporary and of limited effect on
15 protected areas. Traffic-related impacts during operation of the proposed facility are expected to
16 be minimal, because the facility would employ only 10 to 15 people.
17

18 The Council finds that local facility-related road use during construction and operation of
19 the proposed facility would not result in a significant adverse impact to any protected area.
20

21 **Water Use and Wastewater Disposal.** During construction of the proposed facility,
22 GHWF would use about 25 million gallons of water for dust suppression and concrete
23 production. This water would be obtained from an offsite source and trucked to the site. No
24 water used during construction of the proposed facility would be discharged into wetlands or
25 other adjacent resources.⁸² There would be no impact on any protected area.
26

27 During operation of the proposed facility, GHWF would use water primarily for sanitary
28 purposes at the proposed O&M facility. This water would be obtained from an on-site well near
29 the O&M facility, and wastewater would be discharged to an on-site septic system.
30

31 The Council finds that water use and wastewater disposal during construction of the
32 proposed facility would not result in a significant adverse impact on water quality or water
33 quality within any protected area.
34

35 **Visual Impacts.** GHWF conducted a visibility analysis to identify locations within the
36 analysis area from which any part of any turbine would potentially be visible.⁸³ As a result of
37 that analysis, GHWF found that the turbines would not be visible from 12 of the protected areas
38 but would potentially be visible from the following nine protected areas:
39

- 40 • John Day Federal Wild and Scenic River
- 41 • John Day State Scenic Waterway (Parrish Creek to Tumwater Falls)
- 42 • John Day Wildlife Refuge

⁸⁰ *Id.*

⁸¹ *Id.*

⁸² *Id.*

⁸³ ASC, Ex. L. Fig. L-2.

- Deschutes Federal Wild and Scenic River
- Deschutes State Scenic Waterway (Pelton Dam to Columbia River)
- Lower Deschutes Wildlife Area
- Columbia Hills Natural Area Preserve
- Columbia Basin Agriculture Research Center
- Columbia River Gorge National Scenic Area

The proposed facility would be visible from isolated rims of the John Day River canyon, including areas within the boundaries of the John Day Federal Wild and Scenic River, John Day State Scenic Waterway, and John Day Wildlife Refuge.⁸⁴ The proposed facility would also be visible from isolated rims of the Deschutes River canyon, including areas within the Deschutes Federal Wild and Scenic River, the Deschutes State Scenic Waterway, and Lower Deschutes Wildlife Area.⁸⁵ The John Day Federal Wild and Scenic River, John Day State Scenic Waterway, Deschutes Federal Wild and Scenic River, and Deschutes State Scenic Waterway are managed for outstanding scenic quality. The John Day Wildlife Refuge and Lower Deschutes Wildlife Area are not managed for scenic quality.⁸⁶

Management plans for the wild and scenic rivers are focused on views from the rivers and not from the canyon rims.⁸⁷ The proposed facility would not be visible from the John Day River, the Deschutes River or the canyon interior of either river. Therefore, the visual impact of the proposed facility would have a negligible impact on these protected areas.

The Columbia Hills Natural Area Preserve and the Columbia Basin Agriculture Research Center are not managed for scenic quality. Therefore, the visual impact of the proposed facility would not adversely affect these protected areas.

Public views of the proposed facility from the Columbia River Gorge National Scenic Area are generally limited to locations along SR-14 in the State of Washington. Intervening features would include multiple transmission towers, steel lattice towers, distribution lines, radio towers, rail lines, I-84, U.S. Highway 30 and rural development. Therefore, the proposed facility would have a negligible impact on this protected area.

Conclusion

The Council finds that the proposed facility is not located in a protected area as listed in OAR 345-022-0040 and that the design, construction and operation of the proposed facility, taking into account mitigation and subject to the conditions stated in this Final Order, are not likely to result in significant adverse impact to any protected area. Based on these findings and recommended conditions, the Council concludes that the proposed facility complies with the Protected Areas Standard.

G. SCENIC RESOURCES, OAR 345-022-0080

⁸⁴ ASC, Ex. L, at L-4.

⁸⁵ ASC, Ex. L, at L-5.

⁸⁶ *Id.*

⁸⁷ *Id.*

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

7
8 **Discussion**

9 GHWF provided evidence about potential impacts to scenic resources in Exhibit R of the
10 ASC. The analysis area for the Scenic Resources Standard is the area within the site boundary
11 and 10 miles from the site boundary, including areas outside the state. In applying this standard,
12 the Council focuses on the effects of facility structures on “scenic and aesthetic values identified
13 as significant or important in applicable federal land management plans or in local land use plans
14 in the analysis area.”

15
16 The tallest structures that would be part of the proposed facility are the turbine towers
17 and the met towers. These structures are the visual elements of the facility most likely to be
18 visible from a distance.

19
20 **Visual Features of the Site and the Proposed Facility.** The proposed facility would
21 occupy an area of about 104 acres. Within that area, GHWF would construct up to 267 wind
22 turbines with a maximum blade-tip height of 128 meters (420 feet), met towers up to 85 meters
23 (279 feet) tall, aboveground transmission lines, substations and an O&M facility. The wind
24 turbine towers would be coated with neutral color matte finishes to blend with the surrounding
25 landscape. The Council adopts the following conditions in the site certificate:

26
27 **(IV.G.1) To reduce the visual impact of the facility, the certificate holder shall:**

- 28 (a) **Mount nacelles on smooth steel structures painted uniformly in a**
29 **neutral color to blend with the surrounding landscape;**
30 (b) **Paint substation structures in a neutral color to blend with the**
31 **surrounding landscape;**
32 (c) **Not allow any advertising to be used on any part of the facility;**
33 (d) **Use only those signs required for facility safety or required by law,**
34 **except that the certificate holder may erect a sign to identify the**
35 **facility; and**
36 (e) **Maintain any signs allowed under this condition in good repair.**

37
38 **(IV.G.2) The certificate holder shall design and construct the O&M facility to be**
39 **generally consistent with the character of similar buildings used by**
40 **commercial farmers or ranchers in the area and shall paint the building in a**
41 **neutral color to blend with the surrounding landscape.**

42
43 **(IV.G.3) During operation of the facility, the certificate holder shall not use exterior**
44 **nighttime lighting except:**

- 45 (a) **The minimum turbine tower lighting required or recommended by**
46 **the Federal Aviation Administration (the “FAA”);**

- (b) Security lighting at the O&M facility and substations, provided that such lighting is shielded or directed downward to reduce glare;
- (c) Minimum lighting necessary for repairs or emergencies; and
- (d) As otherwise required by federal, State or local law.

Effect on Identified Scenic Values. To determine areas from which any part of the proposed facility could potentially be visible, GHWF conducted a visibility analysis using Geographic Information Systems technology and USGS Digital Elevation Models.

To decide whether the proposed facility would have an adverse impact on identified scenic resources under the Council’s standard, the Council must determine whether the facility could be visible from locations within the federal or locally managed areas and whether the visual impact of the facility would adversely affect significant or important scenic values addressed by the management plans. Based on its visibility analyses, GHWF determined that some portion of the proposed facility might be visible from within the following managed areas:

TABLE IV.G.1 - LAND MANAGEMENT AREAS			
Area	Management	Location	Distance to Nearest Golden Hills Turbine (miles)
Columbia River Gorge National Scenic Area	Federal	OR, WA	5
Oregon National Historic Trail	Federal	OR	5
Lower Deschutes River Canyon	Federal/State	OR	3
John Day River Canyon	Federal/State	OR	10
Journey Through Time Scenic Byway	State	OR	<1
Sherman County	County	OR	0

Columbia River Gorge National Scenic Area. The visibility analysis indicates some portion of the proposed facility would be visible from the three easternmost miles of the Columbia River Gorge National Scenic Area (“CRGNSA”) that lie within the analysis area. Much of the visibility area identified in the visibility analysis is not publicly accessible, because it is served by few roads and is largely in private ownership. The most likely locations from which the proposed facility could be visible occur along Washington SR-14 near Wishram, Washington, where turbines could be potentially visible in the background. Where visible, the proposed facility would be subordinate to the landscape setting that typically includes significant anthropocentric development such as interstate highway and rail transportation corridors, transmission line corridors, radio and cellular towers, and urban and rural development in the foreground and middle-ground. Given the existing encroachment in the foreground, any background visibility of the proposed turbines would represent a modest change to the viewers’ perspective. The Council finds that the proposed facility would result in minimal impact to views from the CRGNSA.

Oregon National Historic Trail. The visibility analysis, together with field investigations and interviews with agency staff, indicate that the proposed facility would not be visible from the High Potential Sites on the Oregon National Historic Trail. The Council finds that the proposed facility would result in no impact to views from High Potential Sites on the Oregon National Historic Trail.

1 Lower Deschutes River Canyon. The visibility analysis and computer modeling indicate
2 that the proposed facility would be visible from limited, isolated canyon rims with limited access
3 and would not be visible from the canyon’s interiors or from the river and its shorelines. GHWF
4 stated that field investigation and interviews with agency staff confirmed these findings.⁸⁸
5 Accordingly, the proposed facility would be compatible with BLM visual resource management
6 objectives for the Deschutes River Area of High Visual Quality. The Council finds that the
7 proposed facility would not result in significant adverse impacts to the Lower Deschutes River
8 Canyon.

9
10 John Day River Canyon. The visibility analysis and computer modeling indicate that the
11 proposed facility would be visible from limited, isolated canyon rims with limited access and
12 would not be visible from the canyon’s interiors or from the river and its shorelines. GHWF
13 stated that an interview with agency staff confirmed these findings.⁸⁹ Accordingly, the proposed
14 facility would be compatible with BLM visual resource management objectives for the John Day
15 River Area of High Visual Quality. The Council finds that the proposed facility would not result
16 in significant adverse impacts to the John Day River Canyon.

17
18 Journey Through Time Scenic Byway. The visibility analysis indicates that portions of
19 the proposed facility would be visible in the foreground and middleground from the Highway 97
20 (the Journey Through Time Scenic Byway) for about 12 miles between Biggs and Moro. The
21 Journey Through Time Scenic Byway Management Plan and the communities of Wasco and
22 Moro do not identify any significant or important scenic values in the analysis area.⁹⁰ The
23 Sherman County Comprehensive Plan, Goal XVIII, supports the development of wind energy.⁹¹
24 The Council finds that the proposed facility would not result in significant adverse impacts to the
25 Journey Through Time Scenic Byway.

26
27 Sherman County. The Sherman County Comprehensive Plan, Goal X, provides for
28 preservation of the Sherman County landscape.⁹² The stated policy of Goal X is that “trees
29 should be considered an important feature of the landscape and therefore the County Court shall
30 encourage the retention of this resource when practical.”⁹³ Trees within the analysis area are
31 sparsely distributed and primarily occur along riparian corridors and in developed areas such as
32 the rural communities of Wasco and Moro. The proposed facility would not require the removal
33 of any trees in Sherman County. The Council finds that the proposed facility would not result in
34 significant adverse impacts to trees in Sherman County.

35
36 **Conclusion**

37 The Council finds that the design, construction, operation and retirement of the facility,
38 taking into account mitigation, are not likely to result in significant adverse impact to scenic
39 resources identified as significant or important in applicable federal land management plans or in

⁸⁸ ASC, Ex. R, at R-8.

⁸⁹ *Id.*

⁹⁰ ASC, Ex. R, at R-7.

⁹¹ *Id.*

⁹² ASC, Ex. R, at R-4.

⁹³ ASC, Ex. R, at R-4, R-5.

1 local land use plans in the analysis area. Based on these findings and recommended conditions,
2 the Council concludes that the proposed facility complies with the Scenic Resources Standard.

3
4 **H. RECREATION, OAR 345-022-0100**

5
6 (1) *Except for facilities described in section (2), to issue a site certificate, the Council*
7 *must find that the design, construction and operation of a facility, taking into*
8 *account mitigation, are not likely to result in a significant adverse impact to*
9 *important recreational opportunities in the analysis area as described in the*
10 *project order. The Council shall consider the following factors in judging the*
11 *importance of a recreational opportunity:*

- 12 (a) *Any special designation or management of the location;*
13 (b) *The degree of demand;*
14 (c) *Outstanding or unusual qualities;*
15 (d) *Availability or rareness;*
16 (e) *Irreplaceability or irretrievability of the opportunity.*
17

18 **Discussion**

19 GHWF provided information about compliance with the Council’s Recreation Standard
20 in Exhibit T of the ASC. The analysis area for the Recreation Standard is the area within the site
21 boundary and five miles from the site boundary.
22

23 **Recreational Opportunities in the Analysis Area**

24
25 Columbia River Gorge National Scenic Area. The CRGNSA is managed for scenery,
26 geology, plants, wildlife and multicultural history. The Act establishing the CRGNSA includes a
27 mandate to protect and enhance scenic resources in the gorge.⁹⁴ The analysis area incorporates
28 the eastern two miles of the CRGNSA in Washington and intersects the eastern boundary of the
29 CRGNSA in Oregon. Key viewing areas (“KVAs”) are considered important viewpoints open to
30 the public and offering an opportunity to view the gorge. KVAs within the analysis area include
31 Interstate 84 (I-84), Washington State Route 14 (SR-14) and the Columbia River.⁹⁵ SR-14 is also
32 designated a Scenic Travel Corridor.⁹⁶
33

34 Based on the noise analysis conducted for the proposed facility, noise from the facility
35 would be inaudible from all locations in the CRGNSA. Traffic impacts would be negligible.
36 Portions of some turbines and transmission facilities may be visible from locations along SR-14
37 in the CRGNSA. In the absence of development of the proposed facility, existing steel lattice
38 towers, transmission lines, grain elevators, the community of Biggs, and interstate highway and
39 rail development affect views from these locations. For these reasons, the visual impacts of the
40 proposed facility on the CRGNSA would be negligible.
41

⁹⁴ National Scenic Area Management Plan for the Columbia River Gorge National Scenic Area, Columbia River Gorge Commission and USDA-Forest Service (1992).

⁹⁵ ASC, Ex. T, at T-2.

⁹⁶ National Scenic Area Management Plan for the Columbia River Gorge National Scenic Area, Columbia River Gorge Commission and USDA-Forest Service (1992).

1 Deschutes River Corridor. The Deschutes River within the analysis area is designated a
2 federal Wild and Scenic River (“WSR”) and a State Scenic Waterway. The WSR boundary
3 varies in width but generally extends to a quarter mile on each side of the river. The boundary is
4 intended to “protect or enhance the outstandingly remarkable values that caused the river to be
5 designated.”⁹⁷ Public access within the corridor is generally limited to boat, foot or bicycle
6 traffic. Use levels are usually low to moderate except during the late summer/fall steelhead
7 fishing season when high numbers of anglers use the area.⁹⁸
8

9 The Deschutes State Recreation Area is located within the analysis area on the east bank
10 of the Deschutes River at its confluence with the Columbia River. The tree-shaded park allows
11 overnight camping and has electrical hookups for RV users, camping sites and restrooms.⁹⁹
12

13 Based on the noise analysis conducted for the proposed facility, noise from the facility
14 would be inaudible from all locations in the Deschutes River Corridor, including the Deschutes
15 River Recreation Area. Traffic impacts would be negligible. The proposed facility would not be
16 visible from the Deschutes River Corridor, including the Deschutes River Recreation Area. For
17 these reasons, there would be no visual impact of the proposed facility on the Deschutes River
18 Corridor.
19

20 Columbia River Corridor. The Columbia River Corridor passes through the northern
21 portion of the analysis area and provides for water-based recreational activities, including
22 picnicking, boating, fishing, swimming, water skiing, camping and windsurfing. Local, state and
23 federal agencies have developed several parks along the shores of the Columbia River within the
24 analysis area, including Cliffs Park, Giles French Park, Rufus Landing and Maryhill State
25 Park.¹⁰⁰
26

27 Cliffs Park is located on the Washington side of the river downstream from John Day
28 Dam. The park is managed by the U.S. Army Corp of Engineers and is popular with RV users,
29 anglers and windsurfers.¹⁰¹
30

31 Giles French Park and Rufus Landing are located on the Oregon side of the river near the
32 town of Rufus. Giles French Park has designated RV spaces and a concrete boat ramp. Rufus
33 Landing is downstream of Giles French Park and is popular with windsurfers and anglers.¹⁰²
34

35 Maryhill State Park is located on the Washington side of the river and is operated by the
36 Washington State Parks and Recreation Commission. The 99-acre camping park includes 4,700
37 feet of Columbia River waterfront. Attractions include picnicking, fishing, swimming, water
38 skiing, windsurfing and camping. Facilities include a boat ramp, trailer hookups, an RV dump
39 station, restroom, showers and access for the handicapped.¹⁰³
40

⁹⁷ Lower Deschutes River Management Plan Record of Decision, USDI-Bureau of Land Management (1993).

⁹⁸ ASC, Ex. T, at T-2, T-3.

⁹⁹ ASC, Ex. T, at T-3.

¹⁰⁰ *Id.*

¹⁰¹ *Id.*

¹⁰² *Id.*

¹⁰³ *Id.*

1 Based on the noise analysis conducted for the proposed facility, noise from the facility
2 would be inaudible from all locations in the Columbia River Corridor. Traffic impacts would be
3 negligible. The proposed facility would not be visible from the Columbia River Corridor,
4 including Cliffs Park, Giles French Park, Rufus Landing and Maryhill State Park. For these
5 reasons, there would be no visual impact of the proposed facility on the Columbia River
6 Corridor.

7
8 Journey Through Time Scenic Byway. The Journey Through Time Scenic Byway is a
9 designated Oregon State Scenic Byway. The byway runs south out of Biggs along U.S. Highway
10 97 through the analysis area to Shaniko and then turns east and continues to Baker City. The
11 Journey Through Time Scenic Byway “celebrates an area of uncommonly rich history. The route
12 is a story of fortunes made and lost, of Chinese laborers and their culture, of towns that boomed
13 and busted, of timber, agriculture, and pioneer settlers.”¹⁰⁴ The primary recreational uses of the
14 byway include sightseeing and road touring. There are no scenic overlooks or waysides along the
15 byway in the analysis area.¹⁰⁵

16
17 Based on the noise analysis conducted for the proposed facility, noise from the facility
18 would be audible from locations along the Journey Through Time Scenic Byway. However,
19 because the primary recreational use of the byway is auto touring and because noise from the
20 proposed facility would probably be masked to occupants of a moving vehicle by highway noise,
21 these noise impacts would be of little consequence. During construction of the proposed facility,
22 there may be short-term traffic delays along U.S. Highway 97 and local roads that could affect
23 access to the Journey Through Time Scenic Byway. The existence of several passing lanes on
24 U.S. Highway 97 in the travel corridor should serve to alleviate significant traffic impacts.

25
26 Some facility turbine towers would be visible from the byway. The Journey Through
27 Time Scenic Byway management plan does not describe scenic management goals but instead
28 emphasizes creating jobs, maintaining rural lifestyles, protecting important values such as
29 historical attractions and artifacts, and building identity for the North Central Region.¹⁰⁶ The
30 visual impacts of the proposed facility on the Journey Through Time Scenic Byway would not
31 adversely affect the values deemed worthy of protection.

32
33 Oregon National Historic Trail and Barlow Road Cutoff Trail. The Oregon National
34 Historic Trail and Barlow Road Cutoff Trail alignments qualify as important recreational
35 opportunities, but agricultural practices and other development activities have destroyed nearly
36 all evidence of the trails in the analysis area. No intact trail segments have been identified within
37 the site boundary. Two High Potential Sites—Biggs Junction and Deschutes Crossing—have
38 been identified within the analysis area. A small interpretive marker has been placed west of
39 Biggs, Oregon along U.S. Highway 30. Markers have been placed at some trail crossings at state
40 and county roads within the analysis area. The surrounding landscape is primarily private land

¹⁰⁴ Michael Wetter et al., Journey Through Time Management Plan, Oregon Department of Transportation (Mar. 1996).

¹⁰⁵ ASC, Ex. T, at T-3, T-4.

¹⁰⁶ ASC, Ex. T, at T-7.

1 subject to wheat cultivation, and the recreational opportunity is limited to visiting and viewing
2 the approximate historic trail alignments from state and county roads.¹⁰⁷
3

4 Based on the noise analysis conducted for the proposed facility, noise from the facility
5 would be audible from locations along the Oregon National Historic Trail, including the Barlow
6 Road Cutoff Trail. However, there are no intact trail segments or developed facilities associated
7 with the trail within the analysis area, so noise from the facility would not interfere with the
8 recreational opportunity. Traffic impacts would be negligible. Facility components would be
9 visible from the trail alignments, but because there are no intact trail remnants within the analysis
10 area and because the facility would not be visible from High Potential Sites identified in the
11 trail's management plan, the visual impact would not adversely affect this recreational
12 opportunity.¹⁰⁸
13

14 Lewis and Clark National Historic Trail. The Lewis and Clark National Historic Trail
15 was designated by Congress in 1978 to commemorate the Lewis and Clark expedition of 1804
16 through 1806. The National Park Service administers the trail as a component of the National
17 Park System. The primary purpose of the National Historic Trail is “commemoration of the
18 historic events that form the Trail’s central theme.”¹⁰⁹ Many of the historic and cultural resources
19 related to the expedition have been altered or destroyed, and there is little physical evidence of
20 the expedition.¹¹⁰
21

22 There are no intact trail segments or other historic features in the analysis area.
23 Interpretive signs and panels have been installed at pullouts along SR-14 and Maryhill Museum
24 of Art in Washington and the Deschutes River State Recreation Area in Oregon.¹¹¹ Lewis and
25 Clark camped near Cliffs Park on October 21, 1805.¹¹²
26

27 Based on the noise analysis conducted for the proposed facility, noise from the facility
28 would be inaudible from all locations along the Lewis and Clark National Historic Trail. Traffic
29 impacts would be negligible. Some turbines would be visible from the interpretive site at the
30 Maryhill Museum of Art. In the absence of development of the proposed facility, existing steel
31 lattice towers, transmission lines, grain elevators, the community of Biggs, and interstate
32 highway and rail development affect views from this location. For these reasons, the visual
33 impacts of the proposed facility on the Lewis and Clark National Historic Trail would be
34 negligible.
35

36 Maryhill Museum of Art. The Maryhill Museum of Art is located on about 6,000 acres of
37 land overlooking the Columbia River in Washington across from Biggs, Oregon. The American

¹⁰⁷ ASC, Ex. T, at T-4.

¹⁰⁸ ASC, Ex. T, at T-7.

¹⁰⁹ USDI National Park Service, Lewis and Clark National Historic Trail Comprehensive Plan for Management and Use (Jan. 1982).

¹¹⁰ ASC, Ex. T, at T-4.

¹¹¹ *Id.*

¹¹² USDI National Park Service, Lewis and Clark National Historic Trail Comprehensive Plan for Management and Use (Jan. 1982).

1 Association of Museums has accredited the museum, which provides its visitors with access to
2 an influential history and a broad spectrum of artistic expression.¹¹³
3

4 Based on the noise analysis conducted for the proposed facility, noise from the facility
5 would be inaudible from the Maryhill Museum of Art. Traffic impacts would be negligible.
6 Some turbines would be visible from the museum. In the absence of development of the
7 proposed facility, existing steel lattice towers, transmission lines, grain elevators, the community
8 of Biggs, and interstate highway and rail development affect views from this location. For these
9 reasons, the visual impacts of the proposed facility on the Maryhill Museum of Art would be
10 negligible.

11
12 Maryhill's Stonehenge. Sam Hill built Maryhill's Stonehenge as a tribute to Klickitat
13 County soldiers who lost their lives in World War I. The facility is a full-scale replica of
14 England's famous Neolithic Stonehenge and was the first U.S. monument to honor the dead of
15 World War I. The facility is located about four miles east of the Maryhill Art Museum and now
16 includes a monument in honor of soldiers who lost their lives in World War II, Korea and
17 Vietnam.¹¹⁴
18

19 Based on the noise analysis conducted for the proposed facility, noise from the facility
20 would be inaudible from Maryhill's Stonehenge. Traffic impacts would be negligible. Some
21 turbines would be visible from the site. In the absence of development of the proposed facility,
22 existing steel lattice towers, transmission lines, grain elevators, the community of Biggs, and
23 interstate highway and rail development affect views from this location. For these reasons, the
24 visual impacts of the proposed facility on Maryhill's Stonehenge would be negligible.
25

26 Sherman County Historical Museum. The Sherman County Historical Museum is located
27 in Moro, Oregon and serves as a typical rural county museum.¹¹⁵ The Council finds that the
28 museum is not an important recreational opportunity according to the factors listed in the
29 Recreation Standard.
30

31 Sherman County Fairgrounds and RV Park. The Sherman County Fairgrounds and RV
32 Park is located in Moro, Oregon and serves as a typical rural county fairground.¹¹⁶ The Council
33 find that the fairgrounds and RV park is not an important recreational opportunity according to
34 the factors listed in the Recreation Standard.
35

36 DeMoss Springs Memorial Park. DeMoss Springs Memorial Park is a Sherman County
37 Park located between Wasco and Moro on U.S. Highway 97. The park marks the location of
38 what was once the home of the DeMoss Lyric Bards, a family of traveling musicians who toured
39 between 1872 and 1933. Park facilities include two shelters, a picnic area, and interpretive
40 signs.¹¹⁷
41

¹¹³ ASC, Ex. T, at T-4.

¹¹⁴ ASC, Ex. T, at T-5.

¹¹⁵ ASC, Ex. T, Table T-1.

¹¹⁶ *Id.*

¹¹⁷ ASC, Ex. T, at T-5.

1 Based on the noise analysis conducted for the proposed facility, noise from the proposed
2 facility with a sound power level of about 48 dBA would be audible from DeMoss Springs
3 Memorial Park. Traffic impacts would be negligible. While some turbines would be visible from
4 the DeMoss Springs Memorial Park, the park is not managed for its visual quality. For this
5 reason, the visual impacts of the proposed facility on the DeMoss Springs Memorial Park would
6 not interfere with the recreational opportunity.

7
8 Moro City Park. Moro City Park is a typical city park with limited facilities. The Council
9 finds that the city park is not an important recreational opportunity according to the factors listed
10 in the Recreation Standard.

11
12 Wasco City Park. Wasco City Park is a typical city park with limited facilities. The
13 Council finds that the city park is not an important recreational opportunity according to the
14 factors listed in the Recreation Standard.

15
16 Hunting (upland bird and deer). Upland bird and deer hunting within the analysis area is
17 of low to moderate demand.¹¹⁸ The Council finds that hunting within the analysis area is not an
18 important recreational opportunity according to the factors listed in the Recreation Standard.

19 20 **Conclusion**

21 The Council finds that the design, construction and operation of the proposed facility,
22 taking into account mitigation and subject to the conditions stated in this Final Order, are not
23 likely to result in significant adverse impact to important recreational opportunities in the
24 analysis area. The Council concludes that the proposed facility complies with the Recreation
25 Standard.

26 27 **I. PUBLIC HEALTH AND SAFETY STANDARDS, OAR 345-024-0010**

28
29 *To issue a site certificate for a proposed wind energy facility, the Council must find that*
30 *the applicant:*

- 31 (1) *Can design, construct and operate the facility to exclude members of the*
32 *public from close proximity to the turbine blades and electrical equipment.*
- 33 (2) *Can design, construct and operate the facility to preclude structural*
34 *failure of the tower or blades that could endanger the public safety and to*
35 *have adequate safety devices and testing procedures designed to warn of*
36 *impending failure and to minimize the consequences of such failure.*

37 38 **Discussion**

39 The Applicant addressed the Public Health and Safety Standards for Wind Energy
40 Facilities in Exhibit DD of the ASC. Because the proposed facility would be located on private
41 property, public access would be limited.

42
43 GHWF would design the facility with fencing around substations and other electrical
44 equipment. Turbine generating equipment would be 80 meters aboveground level, and access to

¹¹⁸ ASC, Ex. T, Table T-1.

1 turbine towers would be locked and limited to authorized personnel. The 34.5-kV collector
2 system would be located at least three feet below ground level.
3

4 During construction, access to the site would be limited to authorized personnel, and the
5 general public would be excluded. Authorized visitors would be required to check in with
6 security, and construction personnel would be diligent in identifying and excluding non-
7 authorized visitors.
8

9 During operation, all electrical components, such as substations and turbines, would be
10 locked and accessible only by authorized personnel.
11

12 Tower and blade design would be by a major wind turbine manufacturer, and the
13 structures would be installed in accordance with the manufacturers' specifications. The turbines
14 would have automatic cutoff devices to shut down the equipment when the wind is very strong
15 and turbines reach the cutout speed. Periodic inspections of all turbine equipment would be
16 conducted in accordance with the manufacturers' specifications. Each turbine would be equipped
17 with vibration sensing equipment that would shut down the turbine in the event abnormal levels
18 of vibration were detected.
19

20 The Council has considered the question of safety setbacks in its Final Orders regarding
21 other wind energy projects, such as Klondike III and Shepherds Flat. In the Shepherds Flat Final
22 Order, the Council considered the question of safety setbacks for turbines ranging up to 492 feet
23 in height. In the Final Order on Amendment #3 for the Klondike III Wind Project, the Council
24 approved a turbine safety setback from public roads equal to 110 percent of the maximum blade-
25 tip height or 450 feet, whichever is greater, measured from the centerline of the turbine tower to
26 the centerline of the road. Some Council members expressed concern that the setback distance
27 might not be large enough and that the width of the public road right-of-way should be taken into
28 account. In addition, for Klondike III, the Council approved a safety setback from residences of
29 at least 1,250 feet from the centerline of the turbine tower to the center of the house, based on the
30 certificate holder's statement that this distance would be acceptable and feasible given the
31 expected facility layout.
32

33 The Applicant proposes installation of turbines that could have a blade-tip height of up to
34 128 meters (420 feet), depending on the turbine selected. The Applicant did not propose a safety
35 setback, although other setbacks for noise and land use would apply. Following the precedent set
36 in the Final Orders for Shepherds Flat and Klondike III, the basic safety setback would be
37 110 percent of maximum blade-tip height from all leased property boundaries, road rights-of-
38 way edges and residences. For turbines having a maximum blade-tip height of 420 feet, a setback
39 of 110 percent of maximum blade-tip height would be 462 feet.
40

41 Regarding the technical basis for safety setbacks, the following analysis is excerpted
42 without change from the Shepherds Flat Final Order:
43

44 The California Wind Energy Collaborative ("CWEC") prepared an interim project report
45 for the California Energy Commission addressing setback requirements for wind turbines in
46 California. The report lists the safety setback ordinances from five counties in California. The

1 ordinance setback distances from residences range from 1,000 feet to four times maximum
2 blade-tip height. One county’s ordinance has no setback from roads; other counties have road
3 setbacks ranging up to three times maximum blade-tip height. The report notes that the county
4 ordinances provide little explanation of the basis for the required setback distances and “there is
5 no evidence that setbacks were based on formal analysis of rotor fragment hazard.” The report
6 reviews the available literature for blade failure data, the estimated probability of failure, and
7 aerodynamic modeling of the range of throw distance for turbine blades or blade fragments. The
8 report finds, however, that there is no “useful” guidance available from the literature for applying
9 setback distances and recommends further study.

10
11 An attachment to the CWEC report discusses actual turbine failure reports from Denmark
12 and Germany. The data show that blade fragments are likely to be thrown farther from the
13 turbine tower than whole blades.¹¹⁹ For turbines larger than 1 MW, the maximum reported throw
14 distance for a blade fragment is 300 meters (984 feet). The maximum throw distance for an
15 entire blade is 150 meters (492 feet), but there is no data for turbines larger than 600 kW. The
16 zone of risk for a turbine collapse is a distance equal to the maximum blade-tip height.¹²⁰

17
18 A recently completed report commissioned by the Union of Nova Scotia Municipalities
19 reviewed peer-reviewed journal articles and other sources regarding the impacts of wind energy
20 generation and approaches to regulation.¹²¹ The report noted that, “there is no scientific or
21 societal consensus on many aspects of wind development.” Nevertheless, with regard to blade
22 failure risk, the report suggested a safety setback distance of two to three times maximum blade-
23 tip height. This recommendation appeared to be based on consideration of the range setback
24 regulations adopted by various Canadian municipalities.

25
26 Until more definitive turbine-failure data become available, the Council adopts safety
27 setbacks based on the Council’s own precedents, on ordinances from other jurisdictions that have
28 addressed the issue, and on the available turbine failure data discussed above. For public roads,
29 the Council adopts a safety setback of 110 percent of maximum blade-tip height, measured from
30 the centerline of the turbine tower to the nearest edge of the public road right-of-way, assuming a
31 minimum right-of-way width of 60 feet. For residences, the Council adopts a safety setback of
32 one-quarter mile (1,320 feet or 402 meters).¹²² The distance would be measured from the
33 centerline of the turbine tower to the center of the house and would apply to residences existing
34 at the time of facility construction. In addition, the Council adopts a setback requirement of
35 110 percent of maximum blade-tip height from the centerline of the turbine to the nearest
36 boundary of the certificate holder’s lease area.

37

¹¹⁹ The throw distance for ice shedding from a turbine blade is assumed to be similar to the range of a blade
fragment (CWEC report, Attachment 1, at 2).

¹²⁰ CWEC report, Attachment 1, at 19.

¹²¹ Jaques Whitford Consultants, *Model Wind Turbine By-laws and Best Practices for Nova Scotia Municipalities*
(Jan. 2008).

¹²² A quarter-mile safety setback (1,320 feet) provides a margin of safety beyond the maximum reported throw
distance of 984 feet for a blade fragment, as discussed above. For comparison, the ordinances of Alameda County,
Riverside County and Solano County (California) require a setback of three times maximum blade-tip height, which
would result in a setback distance of 1,476 feet, assuming a blade-tip height of 150 meters.

1 The Shepherds Flat Final Order was issued in July 2008. The Department is aware of no
2 additional research issued since that date that would suggest a different policy. For that reason,
3 the Council adopts safety setback conditions that are consistent with those adopted for Shepherds
4 Flat. The Council adopts the following conditions in the site certificate:

- 5
- 6 **(IV.I.1) The certificate holder shall follow manufacturers’ recommended handling**
7 **instructions and procedures to prevent damage to turbine or turbine tower**
8 **components that could lead to failure.**
- 9
- 10 **(IV.I.2) The certificate holder shall install and maintain self-monitoring devices on**
11 **each turbine, connected to a fault annunciation panel or SCADA system at**
12 **the O&M facility to alert operators to potentially dangerous conditions. The**
13 **certificate holder shall equip each turbine with vibration sensing equipment**
14 **that will shut down the turbine in the event of abnormal levels of vibration.**
- 15
- 16 **(IV.I.3) The certificate holder shall construct turbine towers with no exterior ladders**
17 **or access to the turbine blades and shall install locked tower access doors.**
18 **The certificate holder shall keep tower access doors locked at all times except**
19 **when authorized personnel are present.**
- 20
- 21 **(IV.I.4) The certificate holder shall have an operational safety-monitoring program**
22 **and shall inspect all turbines and turbine tower components on a regular**
23 **basis. The certificate holder shall maintain or repair turbine and turbine**
24 **tower components as necessary to protect public safety.**
- 25
- 26 **(IV.I.5) For turbine types having pad-mounted step-up transformers, the certificate**
27 **holder shall install the transformers at the base of each tower in locked**
28 **cabinets designed to protect the public from electrical hazards and to avoid**
29 **creation of artificial habitat for raptor prey.**
- 30
- 31 **(IV.I.6) To protect the public from electrical hazards, the certificate holder shall**
32 **enclose the facility substations with appropriate fencing and locked gates.**
- 33
- 34 **(IV.I.7) Before beginning construction, the certificate holder shall submit to the FAA**
35 **and the Oregon Department of Aviation (“ODA”) a Notice of Proposed**
36 **Construction or Alteration identifying the proposed final locations of the**
37 **turbines and related or supporting facilities and shall provide a copy of this**
38 **notice to the Department. The certificate holder shall notify the Department**
39 **of the FAA’s and ODA’s responses as soon as they have been received.**
- 40
- 41 **(IV.I.8) The certificate holder shall construct all facility components in compliance**
42 **with the following setback requirements:**
- 43 **(a) The certificate holder shall maintain a minimum distance of**
44 **110 percent of maximum blade-tip height, measured from the**
45 **centerline of the turbine tower to the nearest edge of any public road**

1 right-of-way. The certificate holder shall assume a minimum right-of-
2 way width of 60 feet.

3 (b) The certificate holder shall maintain a minimum distance of 1,320
4 feet, measured from the centerline of the turbine tower to the center
5 of the nearest residence existing at the time of tower construction.

6 (c) The certificate holder shall maintain a minimum distance of
7 110 percent of maximum blade-tip height, measured from the
8 centerline of the turbine tower to the nearest boundary of the
9 certificate holder's lease area.

10
11 **Conclusion**

12 The Council finds that GHWF can design, construct and operate the facility to exclude
13 members of the public from close proximity to the turbine blades and electrical equipment. The
14 Council further finds that GHWF can design, construct and operate the facility to preclude
15 structural failure of the tower or blades that could endanger the public safety and to have
16 adequate safety devices and testing procedures designed to warn of impending failure and to
17 minimize the consequences of such failure. Based on these findings and recommended
18 conditions, the Council concludes that the proposed facility complies with the Public Health and
19 Safety Standards for Wind Energy Facilities.

20
21 **J. SITING STANDARDS FOR WIND ENERGY FACILITIES, OAR 345-024-0015**

22
23 *To issue a site certificate for a proposed wind energy facility, the Council must find that*
24 *the applicant can design and construct the facility to reduce cumulative adverse*
25 *environmental effects in the vicinity by practicable measures including, but not limited to,*
26 *the following:*

- 27 (1) *Using existing roads to provide access to the facility site, or if new roads are*
28 *needed, minimizing the amount of land used for new roads and locating them to*
29 *reduce adverse environmental impacts.*
30 (2) *Using underground transmission lines and combining transmission routes.*
31 (3) *Connecting the facility to existing substations, or if new substations are needed,*
32 *minimizing the number of new substations.*
33 (4) *Designing the facility to reduce the risk of injury to raptors or other vulnerable*
34 *wildlife in areas near turbines or electrical equipment.*
35 (5) *Designing the components of the facility to minimize adverse visual features.*
36 (6) *Using the minimum lighting necessary for safety and security purposes and using*
37 *techniques to prevent casting glare from the site, except as otherwise required by*
38 *the Federal Aviation Administration or the Oregon Department of Aviation.*
39

40 **Discussion**

41 The Applicant addressed the Siting Standards for Wind Energy Facilities in Exhibit P,
42 Exhibit R and Exhibit DD of the ASC.

43
44 **1. Roads.** The Applicant will use existing county and farm roads for delivery of facility
45 components during construction and for site access generally. The proposed facility will require
46 the construction of new private access roads to provide access to the turbines. These roads will

1 be designed to be as short as possible and only wide enough to accommodate the necessary
2 construction and operations traffic.

3
4 **2. Transmission Lines and Substations.** The power collection system for the proposed
5 facility would be installed underground, except where aboveground lines are needed due to
6 unforeseen conditions such as avoidance of environmental resources or geological or engineering
7 constraints, and would be buried at least three feet below ground level. The Applicant would
8 construct two substations as components of the proposed facility. The east facility substation
9 would transmit approximately 200 MW of power to a BPA facility just north of the IBR
10 Klondike Schoolhouse facility by means of a 230-kV transmission line to be installed on
11 structures shared with an IBR transmission line. The west facility substation would transmit
12 approximately 200 MW of power to BPA at the John Day Substation by means of an 11-mile,
13 500-kV transmission line that would be installed adjacent to existing BPA high-voltage
14 transmission lines to the maximum extent possible. Because of the different destinations for the
15 power, the proposed facility will require a minimum of two substations.

16
17 **3. Wildlife Protection.** The facility would be designed to minimize raptor injury by
18 adhering to the 1996 Avian Powerline Interaction Committee suggested practices for raptor
19 protection on powerlines. Overall, the facility would minimize impacts to wildlife by minimizing
20 the amount of disturbance in non-agricultural habitats and providing mitigation according to
21 ODFW habitat mitigation guidelines for unavoidable impacts to habitats.

22
23 **4. Visual Features.** The proposed facility would occupy an area of about 104 acres.
24 Within that area, GHWF would construct up to 267 wind turbines with a maximum blade-tip
25 height of 128 meters (420 feet), met towers up to 85 meters (279 feet) tall, aboveground
26 transmission lines, substations and an O&M facility. The wind turbine towers would be coated
27 with neutral color matte finishes to blend with the surrounding landscape (Condition (IV.G.1)).
28 The certificate holder would design and construct the O&M facility to be generally consistent
29 with the character of similar buildings used by commercial farmers or ranchers in the area and
30 would paint the building in a neutral color to blend with the surrounding landscape (Condition
31 (IV.G.2)). The certificate holder would not allow advertising to be posted in any part of the
32 facility, would use only those signs required for facility safety or required by law with the
33 exception of a single sign to identify the facility, and would maintain all signs in good repair
34 (Condition (IV.G.1)).

35
36 **5. Lighting.** Turbines would have the minimum lighting required by the FAA or
37 conforming to FAA guidelines, and the substations and O&M facility may be equipped with
38 security lighting, provided such lighting is shielded or directed downward to reduce glare
39 (Condition (IV.G.3)).

40
41 **6. Cumulative Impacts of Wind Projects in the Columbia Basin on Bird and Bat**
42 **Populations.** Golden Hills (with up to 267 turbines) would be located in Sherman County. The
43 Council has expressed concern over the cumulative impacts of the large number of wind projects
44 in Sherman, Gilliam and Morrow counties, as well as projects in the State of Washington.

1 In the Final Order for the Shepherds Flat Wind Farm (“SFWF”), the Council included an
 2 extensive analysis of the cumulative impacts. A review of that analysis shows that the Golden
 3 Hills project was included in that analysis. Therefore, we include in this Final Order the analysis
 4 from the SFWF Final Order, in its entirety and without changes:
 5

6 Table IV.J.1 below is a list of wind energy facilities that are operating, approved or
 7 proposed in the Columbia Plateau Region of Oregon and Washington.¹²³
 8

TABLE IV.J.1 - WIND ENERGY PROJECTS IN THE COLUMBIA PLATEAU REGION				
Project	County	Turbines	MW (capacity)	Status
Projects Under Oregon Energy Facility Siting Council Jurisdiction:				
Stateline Wind Project (Stateline 1 and 2)	Umatilla	186	123	operating
Stateline Wind Project (Stateline 3)	Umatilla	279	184	approved; no construction
Shepherds Flat	Gilliam/Morrow	303	909	under Council review
Leaning Juniper II	Gilliam	133	279	approved; no construction
Klondike III - Phase 1	Sherman	123	219	operating
Klondike III - Phase 2	Sherman	85	156	approved; no construction
Biglow Canyon	Sherman	225	450	phase 1 under construction
Golden Hills	Sherman	267	400	under Council review
Cascade Wind	Wasco	40	60	under Council review
Subtotal (EFSC)		1,574	2,780	
Other Wind Power Projects in Oregon:				
Elkhorn	Union	61	101	operating
Vansycle Ridge	Umatilla	38	25	operating
Combine Hills (Phase 1)	Umatilla	41	41	operating
Combine Hills (Phase 2)	Umatilla	63	63	county-approved; no construction
Echo Windfarm	Umatilla/Morrow	41	64	county-approved; no construction
Threemile Wind	Morrow	9	15	county-approved; no construction
Willow Creek	Gilliam/Morrow	48	72	county-approved; under construction
Pebble Springs	Gilliam	103	103	county-approved; under construction
Mar-Lu	Gilliam	3	5	county-approved; no construction
Leaning Juniper I	Gilliam	67	101	operating
Condon Wind Energy	Gilliam	83	50	operating
Rattlesnake Road	Gilliam	63	104	county-approved; no construction

¹²³ Based on information available to the Department as of March 2008.

Klondike I and II	Sherman	66	99	operating
Oregon Trail Wind Farm	Sherman	5	10	county-approved; no construction
Sherman County Wind Farm	Sherman	5	10	proposed
Hay Canyon	Sherman	69	104	proposed
Subtotal (Other Oregon)		765	967	
Wind Power Projects in Washington:				
Stateline Wind Project (Washington side)	Walla Walla	268	177	operating
Hopkins Ridge	Columbia	83	149	operating
Marengo I	Columbia	78	140	operating
Marengo II	Columbia	39	70	county-approved; no construction
Nine Canyon (I and II)	Benton	49	64	operating
Nine Canyon (Phase III)	Benton	14	32	under construction
Wild Horse	Kittitas	127	229	operating
Kittitas Valley Wind	Kittitas	65	130	under review
Desert Claim Wind	Kittitas	90	180	under review
Big Horn	Klickitat	133	200	operating
White Creek	Klickitat	89	205	operating
Windy Point	Klickitat	97	243	county-approved; under construction
Goodnoe East	Klickitat	94	94	county-approved; no construction
Miller Ranch Wind Energy	Klickitat	49	98	under review
Subtotal (Washington)		1,275	2,011	
Subtotal (non-EFSC)		2,040	2,978	
Total (all facilities)		3,681	5,758	

1
2 Operating facilities in the region amount to a cumulative total of approximately 1,923
3 MW of wind energy generation (1,492 turbines). Approximately 3,835 MW of additional wind
4 energy generation have been approved or proposed. Altogether, more than 3,600 wind turbines
5 could be operating within the region within the next five years.
6

7 The SFWF application includes a study conducted by Western EcoSystems Technology,
8 Inc. (“WEST”) that analyzed the estimated cumulative impacts, which are applicable to GHWF,
9 on avian and bat species from six wind energy projects in the Columbia Plateau region in Oregon
10 and Washington.¹²⁴ Based on fatality monitoring data from the six wind projects, WEST
11 calculated mean annual fatality rates of 1.9 per MW for all birds as a group, 0.05 per MW for all
12 raptors and 1.43 per MW for all bats.
13

14 Using the mean fatality rate of 1.9 per MW for all birds as a group, operation of the
15 proposed SFWF could result in an estimated 1,727 avian fatalities per year, if the facility were

¹²⁴ WEST, *Avian and Bat Cumulative Impacts Analysis, Shepherds Flat Wind Project, Gilliam and Morrow Counties, Oregon* (Mar. 2007) (ASC Supp, Ex. P, Attachment P-6).

1 built out to the maximum generating capacity of 909 MW. Likewise, facility operation could
2 result in 46 raptor fatalities and 1,300 bat fatalities.
3

4 The potential increase in regional wind generation capacity over the next five years could
5 have a cumulative impact of thousands of avian and bat fatalities each year, assuming the fatality
6 rates calculated by WEST hold true throughout the Columbia Plateau. It is important to note,
7 however, that the estimated fatalities are divided across numerous species and that common
8 species, such as horned lark, would account for most fatalities. It is also important to consider
9 that the estimated mean fatality rates have been calculated from data collected over all seasons of
10 the year and that the rates of fatalities during the breeding season for any species population
11 would be lower than the mean annual rates. The cumulative fatality numbers are a conservative
12 estimate derived by multiplying the mean annual fatality rates by the anticipated wind energy
13 generating capacity.¹²⁵ The resulting numbers of estimated bird and bat fatalities are not
14 sufficient to demonstrate a significant adverse impact to the continuing viability of populations
15 of any species.
16

17 WEST addressed the question of significance by comparing the fatality estimates with
18 data from the USGS Breeding Bird Survey (“BBS”) using horned larks as an example. The
19 majority of avian deaths reported in the wind facility monitoring data from the Columbia Plateau
20 region are of common passerines, and horned larks are the most common fatality (more than
21 35 percent of all fatalities). WEST considered the cumulative impacts from an estimated 4,060
22 MW of wind power facilities (proposed, under construction or operating) within 100 kilometers
23 of the Shepherds Flat site. Applying the average annual regional fatality rates (described above)
24 and the proportion of horned lark fatalities within all bird fatalities, WEST estimated that there
25 could be 2,715 horned lark fatalities per year in the region resulting from wind energy
26 development. WEST calculated that one-quarter of the annual fatalities (or 679 fatalities) would
27 occur during the breeding season. Using the BBS data, WEST estimated a breeding population of
28 127,500 horned larks in the Columbia Plateau. Thus, the cumulative impact of wind development
29 on horned larks would be the loss of approximately 0.5 percent of the breeding population.
30 WEST concluded that this would not be significant. If the regional development of wind energy
31 generation ranges up to 5,700 MW, as reflected in Table IV.J.1, the WEST analysis would
32 estimate 3,811 horned lark fatalities per year, or 953 fatalities during the breeding season. This
33 represents approximately 0.7 percent of the breeding population.
34

35 The data on less common avian species show lower numbers of fatalities compared to
36 horned lark fatalities. Based on this data, WEST concluded that the cumulative impacts on the
37 breeding populations of less common avian species would be lower than for horned larks and
38 therefore unlikely to have significant adverse population effects.¹²⁶
39

¹²⁵ The standard fatality monitoring protocol requires that all fatalities found in the search area be attributed to the wind facility unless there is evidence of a different cause of death. It is likely that some of the fatalities included in the fatality rate calculation resulted from other causes such as predation, disease or other causes not related to the wind facility. The estimated fatality rates are not adjusted for such background mortality, and the use of these rates to calculate cumulative impacts tends to overestimate actual fatalities from collision with wind turbines.

¹²⁶ ASC Supp, Ex. P, Attachment P-6, at 16.

1 WEST performed a similar analysis of the potential cumulative impact on raptors.
2 Fatalities of red-tailed hawks and American kestrels account for more than 69 percent of all
3 raptor fatalities recorded at the regional wind projects studied. WEST estimated that the
4 cumulative impact of wind development on red-tailed hawks would be the loss of approximately
5 0.26 percent of the breeding population in the region; the cumulative impact on American
6 kestrels would be the loss of approximately 0.28 percent of the breeding population. If the future
7 development of wind energy generation ranges up to 5,700 MW in the Columbia Plateau, the
8 corresponding estimated cumulative impact would be approximately 0.4 percent of the regional
9 breeding population of red-tailed hawks and approximately 0.4 percent of the regional breeding
10 population of American kestrels.

11
12 A similar analysis cannot be done for bats, because there are no breeding population
13 survey data available. Based on reported fatality monitoring at six wind facilities in the region,
14 the most common fatalities are of silver-haired bats (48 percent) and hoary bats (46 percent).
15 These species generally occupy forested habitat, which is rare in the Columbia Plateau region.
16 The observed bat fatalities occur primarily during the fall migration period for these species.
17 Although a fatality rate of 1.43 per MW is very low compared to bat fatality rates reported at
18 wind facilities in the eastern United States¹²⁷ (ranging from 15.3 to 41.1 per MW) and is below
19 the average bat fatality rate for new generation projects in the United States¹²⁸ (2.1 per MW),
20 WEST concluded that “the significance of this impact on hoary and silver-haired bat populations
21 is difficult to predict, as there is very little information available regarding the overall population
22 size and distribution of bats potentially affected.”

23
24 To provide context for the potential cumulative effects of wind development, the
25 Department asked the Applicant to identify any studies that compared the wildlife and habitat
26 impacts of wind facilities with the impacts of other types of generation facilities. In response, the
27 Applicant cited a 2005 study by the Ontario Power Authority that compared a wide range of
28 environmental impacts from different generation technologies.¹²⁹ Although this study did not
29 directly address wildlife impacts, it concluded that wind power has a relatively small
30 “environmental footprint” compared to thermal generating technologies fueled by coal, natural
31 gas or nuclear energy. The study ranked generation technologies by their environmental impacts
32 in five broad categories: air impacts, land impacts, water impacts, waste generation and
33 sustainability (a measure of natural resource depletion).

34
35 The Applicant cited a 1996 study published by World Wildlife Fund Canada and the
36 Fatal Light Awareness Program that addressed avian fatalities from collision of migrating birds
37 with human-built structures.¹³⁰ The study focused on tall buildings in urban settings and the
38 threats to migratory birds posed by windows (which are believed to be practically invisible to
39 birds) and night-time lighting (once attracted to a beam of light, birds are reluctant to fly out of
40 the lighted area into the dark and may die from exhaustion). The study noted “it is difficult to

¹²⁷ Kunz et al., *Ecological Impacts of Wind Energy Development on Bats: Questions, Research Needs, and Hypotheses* (Aug. 2007).

¹²⁸ WEST and Northwest Wildlife Consultants, Inc., *Stateline Wind Project Wildlife Monitoring Final Report, July 2001 - December 2003* (Dec. 2004).

¹²⁹ See Applicant’s discussion of Ontario Power Authority, *Methods to Assess the Impacts on the Natural Environment of Generation Options*, Sept. 2005 (ASC Supp, Ex. P, at P-12).

¹³⁰ *Collision Course: The Hazards of Lighted Structures and Windows to Migrating Birds* (Sept. 1996).

1 determine an exact numerical figure for the proportion of overall migration mortality incurred by
2 human-built structures” but cited studies estimating the number birds killed from day-time
3 window collisions ranging from 100 million to 1 billion per year. The study includes an appendix
4 listing references to 180 documented avian collision incidents, including collisions with power
5 plant stacks, television transmission towers, lighted buildings and other human-built structures.
6 The report noted, however, that “most of this information consists of sporadic reports of kills
7 rather than organized and coordinated monitoring.”
8

9 In a 2002 publication, the USFWS estimated that “tens of thousands” of birds die
10 annually from collisions with transmission lines, as many as 976 million birds die from collisions
11 with windows in buildings, four to five million from collisions with communication towers and
12 60 million from collisions with automobiles.¹³¹ In sharp contrast, the USFWS estimated 33,000
13 annual avian fatalities from collisions with wind turbines.
14

15 In a 2001 study, WEST conducted an extensive review of the scientific literature
16 addressing avian collisions with human-made structures, including vehicles, buildings,
17 transmission lines, communication towers and wind turbines.¹³² WEST found that the estimated
18 annual number of birds killed due to collisions ranges from 100 million to “well over 1 billion.”
19 The WEST study did not address other human-induced causes of avian fatalities, such as
20 pesticide use, oil spills and electrocution. WEST concluded that “wind turbines constitute
21 0.01 percent to 0.02 percent (1 out of every 10,000 to 2 out of every 10,000) of annual avian
22 collision fatalities.” In comparison, collisions with buildings comprise 25 percent to 50 percent
23 of collision fatalities (based on a “low range” estimate of 98 million bird deaths annually) and
24 collisions with vehicles comprise 15 percent to 30 percent of collision fatalities (based on a “low
25 range” estimate of 60 million bird deaths annually). Fatalities from collisions with transmission
26 lines could range up to 174 million birds per year, although an accurate estimate is impossible
27 due to minimal monitoring efforts on a large-scale basis. Conservative estimates of avian
28 fatalities attributable to collisions with communication towers and associated support wires range
29 from four million to five million per year. The Council has not required certificate holders to
30 conduct avian and bat fatality studies at non-wind energy facilities in Oregon. There is no
31 comparable data assessing the cumulative impact on avian and bat mortality from coal and
32 natural gas-fired power plants or from transmission lines in the state.
33

34 The Council issued its Final Order for the Shepherds Flat project on July 25, 2008. The
35 Department recommends that the Council find that the results of the cumulative impacts analysis
36 for Shepherds Flat are applicable to the Golden Hills project as well.
37

38 **Conclusion**

39 The Council finds that the proposed design and construction of Golden Hills would
40 reduce visual impact, restrict public access and reduce cumulative adverse environmental
41 impacts in accordance with the requirements of OAR 345-024-0015. Based on these findings and

¹³¹ USFWS, *Migratory Bird Mortality* (fact sheet) (Jan. 2002).

¹³² Erickson et al., *Avian Collisions with Wind Turbines: A Summary of Existing Studies and Comparisons to Other Sources of Avian Collision Mortality in the United States* (Aug. 2001) (National Wind Coordinating Committee publication).

1 recommended conditions, the Council concludes that the proposed facility complies with the
2 Council's Siting Standards for Wind Energy Facilities.

3
4 **K. SITING STANDARDS FOR TRANSMISSION LINES, OAR 345-024-0090**

5
6 *To issue a site certificate for a facility that includes any transmission line under Council*
7 *jurisdiction, the Council must find that the applicant:*

- 8 (1) *Can design, construct and operate the proposed transmission line so that*
9 *alternating current electric fields do not exceed 9 kV per meter at one meter*
10 *above the ground surface in areas accessible to the public;*
11 (2) *Can design, construct and operate the proposed transmission line so that induced*
12 *currents resulting from the transmission line and related or supporting facilities*
13 *will be as low as reasonably achievable.*

14
15 **Discussion**

16 The Applicant provided information on the Siting Standards for Transmission Lines in
17 Exhibit AA of the ASC. These standards address safety hazards associated with electric fields
18 around transmission lines.¹³³ Section (1) of OAR 345-024-0090 sets a limit for electric fields
19 from transmission lines of not more than 9 kV per meter at one meter above the ground surface
20 in areas that are accessible to the public. Section (2) requires measures to reduce the risk of
21 induced current.

22
23 The proposed facility would include a 230-kV transmission line about 0.7 mile long
24 connecting the east facility substation to the IBR transmission line on the west side of Sandon
25 Road, a 500-kV transmission line about 11 miles long connecting the west facility substation to
26 the BPA John Day Substation, and about 62 miles of underground and aboveground 34.5-kV
27 collector system.

28
29 **Electric Field Estimates**

30 Aboveground 230-kV Transmission Line. The Applicant's estimate for the maximum
31 electric field strength below the aboveground 230-kV transmission line is 2.4 kV per meter at
32 one meter above ground at the center of the 150-foot right-of-way. The electric field strength
33 decreases to 0.4 kV per meter at one meter above ground at a distance of 75 feet from the center
34 of the right-of-way.¹³⁴

35
36 Aboveground 500-kV Transmission Line. The Applicant's estimate for the maximum
37 electric field strength below the aboveground 500-kV transmission line is 7.2 kV per meter at
38 one meter above ground at the center of the 200-foot right-of-way. The electric field strength
39 decreases to 1.2 kV per meter at one meter above ground 100 feet to the left of the right-of-way
40 centerline and 1.4 kV per meter at one meter above ground 100 feet to the right of the right-of-
41 way centerline.¹³⁵

42

¹³³ Magnetic field effects are addressed below under Public Health and Safety.

¹³⁴ ASC, Ex. AA, at AA-5.

¹³⁵ ASC, Ex. AA, at AA-6.

1 Underground 34.5-kV Collector System. For the underground 34.5-kV collector system,
2 the electric field is totally contained within the insulation of the cable.

3
4 **Induced Currents**

5 The magnetic and electric fields around alternating current transmission lines can induce
6 a current in nearby objects, such as ungrounded fences. If precautions are not taken, induced
7 current can result in a voltage shock when a person or animal touches the object, which allows a
8 current to flow to the ground. Grounding of potentially charged structures minimizes the danger
9 by providing an alternative path for the electric current. Passing current through the grounding
10 wire minimizes the current that would otherwise flow through a person or animal that comes into
11 contact with the object.

12
13 The certificate holder would provide appropriate grounding of fences that are parallel to
14 and metal-roofed buildings that are in proximity to the 230-kV and 500-kV transmission lines.
15 The grounding of fences in proximity to the 34.5-kV underground collector system would not be
16 necessary, because the collector system would not generate electric fields. The transmission lines
17 and collector system would be constructed in accordance with current National Electrical Safety
18 Code standards.

19
20 The Council adopts the following condition in the site certificate:

21
22 **(IV.K.1) The certificate holder shall install the underground segments of the 34.5-kV**
23 **collector system at a minimum depth of three feet.**

24
25 **Conclusion**

26 The Council finds that GHWF can design, construct and operate the proposed
27 transmission lines so that alternating current electric fields do not exceed 9 kV per meter at one
28 meter above the ground surface in areas accessible to the public. The Council further finds that
29 GHWF can design, construct and operate the proposed transmission lines so that induced
30 currents resulting from the transmission lines and related or supporting facilities will be as low as
31 reasonably achievable. Based on these findings and recommended conditions, the Council
32 concludes that the proposed facility complies with the Siting Standards for Transmission Lines.

33
34 **L. THREATENED AND ENDANGERED SPECIES, OAR 345-022-0070**

35
36 *To issue a site certificate, the Council, after consultation with appropriate state agencies,*
37 *must find that:*

- 38 (1) *For plant species that the Oregon Department of Agriculture has listed as*
39 *threatened or endangered under ORS 564.105(2), the design, construction and*
40 *operation of the proposed facility, taking into account mitigation:*
41 (a) *Are consistent with the protection and conservation program, if any, that*
42 *the Oregon Department of Agriculture has adopted under ORS*
43 *564.105(3); or*
44 (b) *If the Oregon Department of Agriculture has not adopted a protection and*
45 *conservation program, are not likely to cause a significant reduction in*
46 *the likelihood of survival or recovery of the species; and*

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

7 **Discussion**

8 GHWF provided information about compliance with the Council’s Threatened and
9 Endangered Species Standard in Exhibit Q of the ASC. The analysis area for threatened or
10 endangered plant¹³⁶ and wildlife species¹³⁷ is the area within the site boundary and five miles
11 from the site boundary.
12

13 GHWF contacted the USFWS and the Oregon Natural Heritage Information Center
14 (“ONHIC”) to request information on threatened, endangered and sensitive species within the
15 five-mile analysis area. GHWF reviewed available literature and consulted with the ODFW
16 district biologist to determine species distribution and habitat requirements. GHWF also

¹³⁶ ORS 564.100 defines “endangered” and “threatened” plant species as follows:

“Endangered species” means:

- (a) Any native plant species determined by the department to be in danger of extinction throughout any significant portion of its range.
- (b) Any native plant species listed as an endangered species pursuant to the federal Endangered Species Act of 1973 (P.L. 93-205, 16 U.S.C. 1531 et seq.), as amended.

....
“Threatened species” means:

- (a) Any native plant species the director determines by a finding of fact is likely to become an endangered species within the foreseeable future throughout any significant portion of its range.
- (b) Any native plant species listed as a threatened species pursuant to the federal Endangered Species Act of 1973 (P.L. 93-205, 16 U.S.C. 1531 et seq.), as amended.

¹³⁷ ORS 496.004 defines “endangered” and “threatened” wildlife species as follows:

(6) “Endangered species” means:

- (a) Any native wildlife species determined by the commission to be in danger of extinction throughout any significant portion of its range within this state.
- (b) Any native wildlife species listed as an endangered species pursuant to the federal Endangered Species Act of 1973 (P.L. 93-205, 16 U.S.C. 1531), as amended.

....
(17) “Threatened species” means:

- (a) Any native wildlife species the commission determines is likely to become an endangered species within the foreseeable future throughout any significant portion of its range within this state.
- (b) Any native wildlife species listed as a threatened species pursuant to the federal Endangered Species Act of 1973 (P.L. 93-205, 16 U.S.C. 1531), as amended.

1 contacted the Oregon Natural Heritage Program (“ONHP”) to obtain element occurrence records
2 for any known rare plant populations in the facility vicinity.
3

4 The analysis area for threatened and endangered species is five miles from the site. For
5 purposes of the facility, the site was considered to be:
6

- 7 • 900-foot-wide turbine corridors. Turbine strings consist of access road, collector
8 system and turbines, with the turbines defining the center.
- 9 • 30 feet from the centerline of existing county roads that would be graveled or will
10 contain a portion of the underground collector system. All county roads in the area
11 are within a right-of-way of a minimum of 60 feet.
- 12 • 60 feet from the centerline of proposed overhead line and proposed underground
13 collector system not in the road prism.
- 14 • Proposed laydown areas.
- 15 • Proposed O&M facilities
- 16 • Proposed substation facilities.
17

18 **Plant Identification and Survey Protocol.** GHWF conducted an investigation for rare
19 plants in the analysis area. The survey included a literature review and consultation with USFWS
20 and ORNHIC and other sources. “Target” species for the investigation included plants listed as
21 threatened or endangered by USFWS, as well as plants that have been formally proposed, or are
22 candidates, for federal listing. Target species also included those defined as endangered,
23 threatened, sensitive, review, or extirpated by the Oregon Natural Heritage Program (“ONHP”)
24 that potentially occur within the facility area. Determinations of status for rare plant species were
25 based on information provided by USFWS and ONHP’s list of tracked plant species
26 (attachments P-3 and P-2 in the ASC). Listed plants identified by USFWS and ORNHIC include:
27

- 28 • Northern Wormwood (state endangered),
- 29 • Henderson’s needlegrass (state candidate),
- 30 • Dwarf suncup (state candidate),
- 31 • Vernal pool mousetail (state candidate),
- 32 • Whitehead navarretia (federal endangered, no state listing),
- 33 • Laurance’s milkvetch (state threatened),
- 34 • Disappearing monkeyflower (state candidate) and
- 35 • Liverwort monkeyflower (state threatened).
36

37 The analysis area is predominantly under dry land wheat production. Very little acreage
38 of native plant communities remains within the site, occurring mostly along the plateau margins
39 and steep side slopes of Grass Valley. These areas consist largely of sage and rabbit brush-
40 dominated shrub lands and native bunchgrass grasslands, each with varying degrees of invasive
41 species present. Agricultural areas enrolled under the CRP are located throughout the analysis
42 area, occurring as narrow strips in previously plowed drainageways and as large blocks in other
43 areas. CRP areas have been planted with a mix of native an non-native bunchgrasses with the
44 primary intent of increasing wildlife habitat in the area.
45

1 GHWF performed rare plant surveys in spring 2007, during peak flowering and fruiting
 2 periods. Study corridors included turbine development corridors, new access roads, collector
 3 lines, substations, O&M facility and laydown areas. GHWF surveyed the development corridors
 4 with a 150-foot buffer on either side of the corridor. Botanists listed all plants encountered, and
 5 performed at least one survey round for threatened, endangered and sensitive wildlife species in
 6 areas 750 feet from the micro-siting corridor.

7
 8 GHWF observed no threatened, endangered or sensitive plant species during its surveys,
 9 and therefore does not anticipate any direct facility-related impacts to federal or state listed
 10 threatened, endangered, sensitive, proposed or candidate species. However, GHWF proposed
 11 measures to mitigate possible indirect effects to any plant species of concern in the vicinity,
 12 including a plan for the control of noxious weeds and a comprehensive fire control plan. We
 13 discuss these proposals further in the discussion of the Council’s Fish and Wildlife Habitat
 14 Standard.

15
 16 **Fish and Wildlife Identification and Survey Protocol.** GHWF requested database
 17 information from the USFWS and the ORNHIC on the potential for occurrence of threatened,
 18 endangered and sensitive species within the five-mile analysis area (the area within the site
 19 boundary and five miles beyond the site boundary). Based on literature review and consultations,
 20 GHWF identified the listed and candidate species that have the potential to exist in the analysis
 21 area. These species are listed in Table IV.L.1.

22

Table IV.L.1 - Threatened and Endangered Species That May Occur in the Analysis Area	
Species	Status
Birds	
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	State threatened species.
American Peregrine Falcon (<i>Falco peregrinus anatum</i>)	State endangered species; no federal listing.
Yellow Billed Cuckoo (<i>Coccyzus americanus</i>)	Federal candidate.
Mammals	
Washington Ground Squirrel	Federal candidate species; state endangered species.
Fish	
Steelhead – Mid-Columbia River ESU, summer run (<i>Oncorhynchus mykiss</i>)	Federal endangered species; state sensitive-vulnerable species.
Steelhead – Snake River Basin ESU	Federal threatened species; state sensitive-vulnerable species.
Steelhead – Upper Columbia River ESU	Federal threatened species; no state listing.
Sockeye Salmon – Salmon River Tributary to the Snake River (<i>Oncorhynchus nerka</i>)	Federal endangered species; no state listing.
Chinook Salmon – Snake River ESU, spring/summer and fall runs (<i>Oncorhynchus tshawytscha</i>)	Federal endangered species; no state listing.
Chinook Salmon – Upper Columbia River ESU	Federal and state threatened species.

23
 24 In addition to the literature review, GHWF performed wildlife surveys as described in the
 25 *Protocol for Wildlife Baseline Studies (June 2007)*, which is included in the ASC as Attachment
 26 P-1. In summary, these surveys included:

- 27
- 28 • General habitat mapping to delineate habitat categories within 750 feet from 900-
 29 foot-wide turbine corridors and 750 feet from new roads, substations, staging areas,
 30 met towers and overhead transmission lines.

- 1 • Fixed-point avian use surveys: year-round avian use providing reference data for
2 comparison with similar surveys submitted in support of the nearby Biglow Canyon
3 project.
- 4 • Aerial raptor nesting survey in 2004, covering a buffer of approximately two miles,
5 with additional surveys in 2007 within a two-mile buffer of the development corridors
6 to acquire updated results.
- 7 • Special status species surveys, which GHWF conducted by walking transect spaced
8 approximately 50 meters apart. GHWF conducted the surveys in May and June 2006
9 and focused on species such as grasshopper sparrows, long-billed curlew, burrowing
10 owl and small mammals. GHWF conducted nighttime surveys in late summer 2006
11 for white-tailed jackrabbits.
- 12 • Big Game and General Wildlife Observations, specifically to observe elk, mule deer,
13 bighorn sheep, and pronghorn.

14
15 **Potential Impacts on Threatened or Endangered Wildlife Species.** Because GHWF
16 has proposed siting its turbines anywhere within specified corridors, the Council will consider
17 potential impacts to threatened or endangered wildlife species that could occur anywhere within
18 the facility footprint.

19
20 The proposed facility would have no significant impact on any of the fish species listed in
21 Table IV.L.1 because of there is no suitable habitat for listed fish species with the site boundary,
22 and no aquatic habitat will be impacted by the facility construction or operation. The Washington
23 ground squirrel appears on the ORNHIC data, but its range has been dramatically reduced since
24 1979; the Washington ground squirrel's current range is limited to areas east of the John Day
25 River. The yellow-billed cuckoo is considered extirpated from the state and is not expected to
26 occur in the facility vicinity.

27
28 **Bald Eagle.** The bald eagle is a federal and state-listed threatened species.¹³⁸ The critical
29 nesting period for the bald eagle is from January 1 to August 15. Based on the literature, no bald
30 eagle nests, roosting areas or critical habitat areas exist within the analysis area. The nearest
31 known bald eagle nest to the site is 10 miles west along the Columbia River.

32
33 The bald eagle wintering period is from November 15 to March 15. Wintering bald
34 eagles favor undisturbed areas where food and water are abundant. Wintering bald eagles may
35 roost communally at night near major foraging areas, typically isolated areas within old growth
36 stands. Winter raptor surveys conducted by ODFW and others in the vicinity of the nearby
37 Biglow Canyon facility have found bald eagles feeding on wintering waterfowl along the
38 Columbia River corridor but have not found bald eagles using upland areas within or near the
39 site boundary.

40
41 One bald eagle was observed during the avian use surveys for Golden Hills. A few
42 observations of bald eagles were made at the Biglow Canyon site along the John Day River. No
43 bald eagles were observed during avian use surveys for the Klondike facility phases I through III.
44 Bald eagles would be expected to pass through the site very infrequently during spring and fall

¹³⁸ In June 2007, the USFWS removed the bald eagle listing as endangered. However, it remains on the list of threatened species.

1 migration or during winter. This low level of use is consistent with bald eagle use at other
2 existing wind projects including the other regional projects in Oregon and southeast Washington.

3
4 **Peregrine Falcon.** The peregrine falcon is a state-listed endangered species. The species
5 was removed from the federal list of endangered and threatened wildlife in August 1999. The
6 critical nesting period for the peregrine falcon is mid-February through May. Peregrine falcons
7 prefer to nest on ledges found along river courses and other large bodies of water, but they will
8 also use suitable nesting ledges on man-made structures. Prey species may exist within the site
9 boundary where suitable habitat exists. Grain elevators in the vicinity support pigeons, which are
10 likely prey for peregrine falcons.

11
12 Peregrine falcons may occur in the analysis area year-round. The nearest known eyrie is
13 approximately five miles north of the facility. There are no other known eyries in the facility
14 vicinity.

15
16 One peregrine falcon was sighted during the study, four miles east of the facility. No
17 sightings have been made during avian point counts at the Klondike facilities. One incidental
18 peregrine falcon was observed in the fall season near the Biglow Canyon facility during
19 supplemental surveys (observed on November 1, 2006).

20
21 The potential for impacts to bald eagles and peregrine falcons is very low. To date, there
22 are no reported bald eagle fatalities at wind projects. Extremely low risk is anticipated for species
23 only infrequently observed within the site boundary, such as the peregrine falcon. Negligible risk
24 is anticipated for species not observed within the site boundaries, such as the bald eagle.
25 However, the nesting ranges and locations of the bald eagle and peregrine falcon are expanding.
26 Therefore, GHWF has committed to reviewing the database again should facility construction be
27 postponed. The Council adopts a condition to capture this commitment, as follows:

28
29 **(IV.L.1) If construction of the facility begins after 2009, the certificate holder shall**
30 **review the Oregon Natural Heritage Information Center and U.S. Fish and**
31 **Wildlife Service databases and consult with an expert designated by ODFW**
32 **on an annual basis before beginning construction to determine whether**
33 **nesting bald eagles or peregrine falcons have been documented to occur**
34 **within two miles of the facility. The certificate holder shall report the results**
35 **of the database review and consultation to the Department and to ODFW**
36 **and, if there have been new documentations of nesting bald eagles or**
37 **peregrine falcons within two miles of the facility, the certificate holder shall**
38 **implement appropriate measures to protect the species from adverse impact,**
39 **as approved by the Department and ODFW.**

40
41 To find that GHWF complies with OAR 345-022-0070, the Council adopts the following
42 condition in the site certificate, consistent with a similar condition that appeared in the Biglow
43 Canyon site certificate:

- 1 **(IV.L.2) The certificate holder shall implement measures to mitigate impacts to**
2 **sensitive wildlife habitat during construction including, but not limited to,**
3 **the following:**
4 **(a) Preparing maps to show sensitive areas, such as nesting or denning**
5 **areas for sensitive wildlife species, that are off limits to construction**
6 **personnel;**
7 **(b) Ensuring that a qualified person instructs construction personnel to**
8 **be aware of wildlife in the area and to take precautions to avoid**
9 **injuring or destroying wildlife or significant wildlife habitat; and**
10 **(c) Avoiding unnecessary road construction, temporary disturbance and**
11 **vehicle use.**
12

13 **Conclusion**

14 The Council finds that no Oregon Department of Agriculture conservation program
15 applies and that the design, construction, operation and retirement of the proposed facility, taking
16 into account mitigation and subject to the conditions stated in this Final Order, does not have the
17 potential to significantly reduce the likelihood of the survival or recovery of any threatened or
18 endangered species listed under Oregon law. Based on these findings and recommended
19 conditions, the Council concludes that the proposed facility complies with the Threatened and
20 Endangered Species Standard.
21

22 **M. FISH AND WILDLIFE HABITAT, OAR 345-022-0060**

23
24 *To issue a site certificate, the Council must find that the design, construction and*
25 *operation of the facility, taking into account mitigation, are consistent with the fish and*
26 *wildlife habitat mitigation goals and standards of OAR 635-415-0025 in effect as of*
27 *September 1, 2000.*
28

29 **Discussion**

30 **Mitigation Goals and Standards.** ODFW has defined six categories of habitat in order
31 of value to wildlife. The rule establishes mitigation goals and corresponding implementation
32 standards for each habitat category. The habitat definitions contained in OAR 635-415-0025 are
33 as follows.¹³⁹
34

35 *“Habitat Category 1” is irreplaceable, essential habitat for a fish or wildlife species,*
36 *population, or a unique assemblage of species and is limited on either a physiographic*
37 *province or site-specific basis, depending on the individual species, population or unique*
38 *assemblage.*
39

40 The mitigation goal for Category 1 habitat is no loss of either habitat quantity or quality.
41 This goal requires avoidance of impacts.
42

¹³⁹ ODFW rules define habitat into two broad classifications of “essential” and “important.” OAR 635-415-0005 defines “essential habitat” as “any habitat condition or set of habitat conditions which, if diminished in quality or quantity, would result in depletion of a fish or wildlife species.” The rule defines “important habitat” as “any habitat recognized as a contributor to sustaining fish and wildlife populations on a physiographic province basis over time.”

1 *“Habitat Category 2” is essential habitat for a fish or wildlife species, population, or*
2 *unique assemblage of species and is limited either on a physiographic province or site-*
3 *specific basis depending on the individual species, population or unique assemblage.*
4

5 If impacts are unavoidable, the mitigation goal for Category 2 habitat is no net loss of
6 either habitat quantity or quality and provision of a net benefit of habitat quantity or quality. The
7 Council interprets this to mean that both habitat quantity and quality must be preserved and
8 either habitat quantity or habitat quality must be improved. To achieve this goal, impacts must be
9 avoided or unavoidable impacts must be mitigated through reliable “in-kind, in-proximity”
10 habitat mitigation to achieve no net loss of either pre-development habitat quantity or quality. In
11 addition, a net benefit of habitat quantity or quality must be provided.
12

13 *“Habitat Category 3” is essential habitat for fish and wildlife, or important habitat for*
14 *fish and wildlife that is limited either on a physiographic province or site-specific basis,*
15 *depending on the individual species or population.*
16

17 The mitigation goal for Category 3 habitat is no net loss of either habitat quantity or
18 quality. The Council interprets this to mean that both habitat quantity and quality must be
19 preserved. The goal is achieved by avoidance of impacts or by mitigation of unavoidable impacts
20 through reliable “in-kind, in-proximity” habitat mitigation to achieve no net loss in either pre-
21 development habitat quantity or quality.
22

23 *“Habitat Category 4” is important habitat for fish and wildlife species.*
24

25 Like Category 3, the mitigation goal for Category 4 habitat is no net loss in either
26 existing habitat quantity or quality. The Council interprets this to mean that both existing habitat
27 quantity and quality must be preserved. The goal is achieved by avoidance of impacts or by
28 mitigation of unavoidable impacts. In contrast to Category 3, mitigation options are less
29 constrained and may involve reliable “in-kind or out-of-kind, in-proximity or off-proximity”
30 habitat mitigation to achieve no net loss in either pre-development habitat quantity or quality.
31

32 *“Habitat Category 5” is habitat for fish and wildlife having high potential to become*
33 *either essential or important habitat.*
34

35 If impacts are unavoidable, the mitigation goal for Category 5 habitat is to provide a net
36 benefit in habitat quantity or quality. The Council has previously interpreted this to mean that
37 there must be some improvement in either habitat quality or quantity. To clarify the “net benefit”
38 goal, ODFW has advised: “The improvement in habitat quantity or quality achieved need not rise
39 to the level of improvement required to meet a goal of ‘no net loss’ (i.e. the level required or
40 recommended in the Mitigation Policy for Habitat Categories 2, 3, and 4).”¹⁴⁰ The goal is
41 achieved by avoidance of impacts or by mitigation of unavoidable impacts through “actions that
42 contribute to essential or important habitat.”
43

44 *“Habitat Category 6” is habitat that has low potential to become essential or important*
45 *habitat for fish and wildlife.*

¹⁴⁰ Letter from Jon Germond, ODFW (Jan. 24, 2008).

1
2 The mitigation goal for Category 6 habitat is to minimize impacts. The goal is achieved
3 by actions that minimize direct habitat loss and avoid impacts to off-site habitat.
4

5 **Habitat in the Analysis Area.** GHWF provided information in Exhibit P of the ASC and
6 of the application supplement about compliance with the Fish and Wildlife Habitat Standard.
7 GHWF submitted a *Wildlife Baseline Study Protocol* as Attachment P-1 to the ASC. The
8 analysis area for habitat characterization was 750 feet from 900-foot-wide turbine and road
9 corridors and 750 feet from new roads, substations, staging areas, met tower and overhead
10 transmission lines. As described in the baseline study protocol, GHWF developed a general
11 habitat map by delineating general habitat types on digital orthoquads. GHWF then surveyed the
12 map on foot to separate native habitat from CRP grasslands and to map other features such as
13 trees and waterbodies, and to aid in characterizing habitat types, mapping codes and ODFW
14 habitat category.
15

16 Land coverage in the habitat analysis area consists of approximately 83 percent cultivated
17 agriculture, 10 percent shrub-steppe/grassland, 3.4 percent CRP, 1.5 percent developed and
18 1.1 percent riparian tree, riparian-intermittent stream, upland tree and Conservation Reserve
19 Enhancement Program (“CREP”). The composition of the lease area is similar to Biglow Canyon
20 in that it has a high percentage of cultivated area.¹⁴¹
21

22 **Habitat Impacts During Construction and Operation.**

23
24 **Category 1 Habitat.** GHWF identified three Category 1 habitat types within the analysis
25 area: upland trees, CREP land and shrub-steppe.
26

27 Upland tree habitats scattered across the facility site are composed primarily of black
28 locust trees, with varying degrees of understory deciduous shrubs, smaller locust trees, and
29 native and invasive grasses and forb species. This habitat is designated as Category 1 because it
30 provides irreplaceable, essential habitat for wildlife that is limited in availability. Many of these
31 small habitats have linear edges and are square or rectangular in shape. Others are irregularly
32 shaped, especially those found at lower elevation drainages. These habitat patches provide
33 forage, cover and nesting habitat for migratory songbirds, raptors and other sensitive species
34 such as loggerhead shrikes, Swainson’s hawks and potentially ferruginous hawks. No permanent
35 facilities will be located in areas identified as Category 1 upland tree habitat.
36

37 CREP was created to address the environmental issues of soil erosion, water quality and
38 wildlife habitat. Oregon has partnered with the federal government to preserve vulnerable land
39 areas as part of a comprehensive effort to protect Oregon’s land, water and wildlife. The program
40 is directed at riparian areas, typically perennial but also larger intermittent streams and spring-fed
41 smaller systems. Terrestrial areas adjacent to the watercourse are planted with grasses and shrubs
42 and small trees in order to provide a buffer to the stream system and overall watershed. No
43 permanent facilities will be located in areas identified as Category 1 CREP, and no permanent or
44 temporary impacts will occur to this habitat.
45

¹⁴¹ See ASC, Ex. P, Table P-10.

1 GHWF also identified 0.45 acres of category 1 shrub-steppe habitat, dominated by native
2 big sagebrush. GHWF also noted an active western loggerhead shrike nest in this habitat. GHWF
3 will avoid this potential impact area.
4

5 **Category 2 Habitat.** GHWF identified six Category 2 habitat types within the analysis
6 area.
7

8 Category 2 upland trees within the analysis area are limited and important, especially for
9 nesting raptors and other bird species such as loggerhead shrikes. The facility initially proposed
10 to site laydown area in Category 2 upland tree habitat. However, GHWF has committed not to
11 site the laydown area at this location.
12

13 Category 2 intermittent streams within the analysis area are restricted to lower elevation
14 drainages and provide a seasonal water resource with riparian vegetation. GHWF identified 2.17
15 acres of this habitat, but only 0.09 acre would be temporarily impacted by facility construction.
16 No permanent impacts to this habitat will occur.
17

18 Category 2 CREP habitat is generally along riparian intermittent stream habitats with old
19 growth sagebrush/shrub steppe and shrub plantings. GHWF identified 8.64 acres of Category 2
20 CREP habitat that would be temporarily impacted by facility construction. No permanent
21 impacts will occur. Most of the temporary impacts occur along connector corridors (underground
22 collector lines and roads).
23

24 Category 2 shrub-steppe was identified primarily along Grass Valley Canyon and its
25 associated side canyons. This categorical ranking is supported by presence of old growth big
26 sagebrush. Livestock grazing pressure is typically moderate. These areas lack documented
27 nesting of sensitive species, but have the potential to be utilized for breeding, nesting and
28 foraging by shrub-steppe obligates and other wildlife. GHWF estimates that 15.53 acres of
29 Category 2 shrub-steppe will be temporarily impacted, and 0.89 acres will be permanently
30 impacted from facility construction and ultimate footprint.
31

32 GHWF identified 5.08 acres of Category 2 riparian tree habitat in the entire analysis area.
33 These areas consist of riparian trees and harbor raptor nests that have been documented as
34 inactive. The potential exists for these habitats/nests to be available for use by nesting raptors in
35 the future. GHWF committed that no temporary or permanent impacts will occur to these
36 habitats.
37

38 GHWF also identified one Category 2 spring-fed pond located along Nish Road
39 southwest of Oregon Highway 206. No temporary or permanent impacts will occur to this habitat
40 from the facility.
41

42 **Category 3 Habitat.** Category 3 habitat within the analysis area consists of:
43

- 44 ○ Upland trees that lack raptor nests
- 45 ○ Shrub-steppe areas
- 46 ○ CRP lands

- 1 ○ Riparian trees
- 2 ○ Grasslands
- 3 ○ Grassland/cliffs
- 4 ○ Intermittent streams

5
6 Approximately 69.7 acres of Category 3 upland tree habitat exists within the analysis
7 area. GHWF estimates that it would temporarily impact approximately 11.8 acres of this habitat.
8 No Category 3 upland tree habitat would be permanently impacted.

9
10 GHWF identified 53 acres of shrub-steppe habitat in the analysis area. These areas
11 consist of native sagebrush, rabbitbrush, mixed forb species, and other native species. Non-native
12 and invasive species can be present as well, depending on grazing pressure. These areas are
13 important wildlife habitat and have the potential to be better quality if managed differently. 2.1
14 acres of Category 3 shrub-steppe will be temporarily impacted, and no permanent impacts will
15 occur from the facility.

16
17 Category 3 CRP lands in the analysis area total about 765 acres. CRP lands were
18 formerly used for crop production but have been reseeded with grasses. Weeds and grazing are
19 largely lacking in these habitats. The facility will temporarily impact approximately 55 acres,
20 and 3.43 acres would be permanently impacted.

21
22 Category 3 grassland is typically associated with the slopes and steeper areas of
23 drainages, especially along Grass Valley Canyon and Hay Canyon. GHWF estimates
24 approximately 134 acres of temporary impact and 1.95 acres of permanent impact to this habitat.

25
26 Category 3 grassland cliffs are restricted to Grass Valley Canyon. These areas are steep
27 escarpments and are important for raptors and other birds for nesting and perching. GHWF
28 estimates 6.64 acres of temporary impact, and no permanent impact.

29
30 Category 3 intermittent streams occur in lower elevation drainages. GHWF identified
31 9.10 acres of this habitat in the analysis area. GHWF estimates 0.51 acres of temporary impact
32 and no permanent impact to this habitat.

33
34 Category 3 riparian trees are similar to Category 2, but without an inactive or active nest.
35 GHWF would temporarily impact less than one acre of this habitat, and would have no
36 permanent impact.

37
38 **Category 4 Habitat.** Grasslands were the only Category 4 habitat identified in the
39 analysis area. Category 4 grasslands are dominated by non-native grasses and shrubs. These
40 areas are small in spatial extent and are bordered by cultivated farm ground where invasive
41 species and disturbance will persist. Therefore, this habitat is important to wildlife, but not
42 essential or unique, and limited within this landscape. GHWF projects about 37 acres of
43 temporary impacts and 0.77 acres of permanent impact.

1 **Category 5 Habitat.** In January 2008, ODFW issued a letter stating that cultivated
 2 farmland, which comprises the majority of the Golden Hills site, is Category 5 habitat.¹⁴² This
 3 represented a change from the previous classification of cultivated farmland as Category 6,
 4 which applied to the nearby Klondike III and Biglow Canyon wind projects. However, in a
 5 subsequent memorandum, ODFW clarified that it would continue to classify wheat fields as
 6 Category 6, providing wind facilities with consistent treatment across Oregon.¹⁴³

7
 8 Agricultural land occurs throughout the analysis area and is the predominant land
 9 coverage, comprising 18,678 acres. This land is planted primarily in winter wheat. GHWF
 10 projects 96.23 acres of permanent impact on cultivated land. Based on the ODFW letter of
 11 June 18, 2008, the cultivated land is Category 6. No Category 5 land is identified within the
 12 Golden Hills site.

13
 14 **Category 6 Habitat.** As noted above, GHWF projects over 96 acres of permanent impact
 15 to cultivated wheat field, which is Category 6. Other Category 6 land in the analysis area is
 16 developed land consisting primarily of residential habitations, road and road margins, utility
 17 structures for farming, grain storage, feed lots and corrals. Although raptors and great horned
 18 owls might use trees on the fringes of developments, they receive frequent disturbance and are
 19 not suited for sensitive species. Less than one acre of this habitat type might be permanently
 20 affected by the facility.

21
 22 After submitting its Preliminary Application for a Site Certificate in August 2007,
 23 GHWF continued to work with local property owners on leases and with IBR on an agreement to
 24 share poles for the 230-kV transmission line on the east side of the site. These developments
 25 resulted in changes to the breakdown in area of affected habitat.

26
 27 Habitat types, categories and estimates of impact are summarized in Table IV.M.1 below:
 28

Table IV.M.1 - Maximum Area of Affected Higher-Value Habitat		
Habitat Type	Area of Temporary Impact (Acres)	Area of Permanent Impact (Acres)
Category 1		
Upland Trees	0.02	0
CREP	0	0
Shrub-Steppe	0	0
Category 2		
Upland Trees	2.17	0
Intermittent Stream	0	0
CREP	8.64	0
Shrub-Steppe	14.27	0.91
Riparian Trees	0	0
Pond	0	0
Category 3		
CRP	57.00	3.94
Shrub-Steppe	2.10	0
Grassland	139.15	6.35
Grassland/Cliff	5.22	0
Upland Trees	11.90	0

¹⁴² Memorandum from Jon Germond, ODFW, (Jan. 24, 2008).

¹⁴³ Memorandum from Roy Anglin, ODFW, to Roy Elicker, ODFW (June 13, 2008).

Riparian Trees	0.90	0
Intermittent Stream	0	0
Category 4 Grassland	37.49	0.97
Category 5		
Category 6		
Agricultural	746.21	126.70
Developed	29.56	2.33
TOTAL	1054.63	141.20

1
2 Potential Impacts to Wildlife
3

4 The temporary and permanent impacts on habitat have the potential to affect state
5 sensitive species. In field surveys conducted in 2006 and 2007, GHWF observed grasshopper
6 sparrows, Swainson’s hawks, loggerhead shrikes, golden eagles, one short-eared owl, one
7 ferruginous hawk and five white-tailed jackrabbits.
8

9 GHWF noted that use of the proposed facility by loggerhead shrikes is more likely than
10 other regional projects. Habitat loss is the primary reason for decline or regional extirpation of all
11 loggerhead shrike species. Of particular concern is the loss of shrub steppe habitat to cultivation,
12 livestock grazing, introduction and habitat fragmentation. Deep soil shrub-steppe areas are
13 considered critical habitat for this and other obligate species. GHWF states that, considering the
14 landscape of Golden Hills, western loggerhead shrikes may be considered an important keystone
15 species. Keystone species are those that, if managed for, have the potential to benefit many other
16 species as well.
17

18 In addition to the habitat impact, GHWF also has the potential to impact special status
19 species through direct fatalities. In its Final Order approving Biglow Canyon, the Council noted
20 the difficulty of drawing reliable conclusions and determining appropriate mitigation
21 requirements, because of the lack of data regarding bird impacts in the area. In contrast, GHWF
22 provided recent fatality monitoring results from other Columbia Basin wind projects, including
23 Combine Hills (OR), Nine Canyon (WA) and Hopkins Ridge (WA). Because these studies were
24 issued by the same consultant retained by GHWF, using similar methodology, they provide a
25 consistent basis for comparison. Moreover, the Council has required first- and second-year bird
26 fatality monitoring reports from the recently approved (2006) projects at Klondike III and
27 Biglow Canyon. Therefore, there is more data from which to draw reliable conclusions.¹⁴⁴
28

29 Average fatality estimates for all birds from regional wind facilities have ranged from 0.9
30 to 2.9 birds per MW per year. Baseline studies performed for Golden Hills indicate overall bird
31 use and species richness at Golden Hills consistent with other wind projects in the area. The
32 majority of fatalities from Golden Hills operations are expected to affect passerines, particularly
33 the horned lark. Raptor nest density for the Golden Hills site was observed to be 0.25 nests per
34 square mile, somewhat above the average value of 0.19 nests per square mile for other wind
35 project sites on agricultural land in the western United States. Raptor fatality rates for the facility
36 are anticipated to be less than 0.14 per MW per year.
37

¹⁴⁴ See ASC, Ex. P, Table P-14.

1 For bats, monitoring results from other Columbia Basin wind projects indicate a mortality
2 range from 1.0 to 2.5 bats per MW per year. Based on this range and on similar characteristics of
3 the facility area to these other facilities, GHWF anticipates that bat mortality will be similar, and
4 will primarily involve migratory hoary silver-haired and hoary bats.
5

6 GHWF also considered potential displacement effects. The presence of wind turbines can
7 alter the landscape so as to change wildlife habitat use patterns, thereby displacing wildlife from
8 areas near turbines. Although displacement impacts have been documented for some species and
9 groups in the United States,¹⁴⁵ there is little information on whether displacement effects have
10 any real impacts on population parameters such as population size and reproduction. Preliminary
11 results from the Stateline wind facility suggest a fairly small scale impact of the wind facility on
12 grassland nesting passerines, with a large part of the impact related to direct loss of habitat from
13 turbine pads and roads, and temporary disturbance of habitat between turbines and road
14 shoulders. GHWF notes that only 15.5 percent of the facility footprint is located in noncultivated
15 or undeveloped habitats, and displacement effects have been relatively low at other facilities.
16

17 Other potential impacts include impacts on big game. GHWF anticipates no measurable
18 impacts to big game from the facility, because the site is predominantly sited in agriculture and
19 high-elevation open exposed environments.
20

21 **Mitigation and Monitoring.** To meet the Council’s Fish and Wildlife Habitat Standard,
22 the certificate holder must mitigate for two kinds of impacts:
23

- 24 • Impacts to habitat land described above, consistent with ODFW habitat mitigation
25 goals and policies, and
- 26 • Bird and bat fatalities during operations.
27

28 Habitat Mitigation and Revegetation Plan 29

30 GHWF has reduced its impacts to high-category habitats primarily by siting the facility
31 predominantly on cultivated farmland. There will be no impact to Category 1 habitat. GHWF
32 submitted a draft Habitat Mitigation and Revegetation Plan,¹⁴⁶ which stated that
33

34 *“approximately 0.02 acres of Category 2 habitat, 9.85 acres of Category 3 and 0.84*
35 *acres of Category 4 habitat will be permanently disturbed and will require mitigation.*
36 *Thus, 10.71 acres of Category 3 or 4 habitat will be enhanced or created. In practice this*
37 *will result in a mitigation ratio slightly greater than 1:1 because expected impacts are*
38 *less than the maximum possible impacts....”*
39

40 In its Habitat Mitigation and Revegetation Plan, GHWF identified a mitigation site on a
41 parcel approximately five miles from the Golden Hills site, located in the uppermost region of
42 the Willow Springs Canyon tributary of the John Day River, approximately two miles up-
43 drainage of the river. The mitigation site is nominally about 20 acres, although the actual area
44 mitigated would depend on final design of the wind facility. GHWF selected this site based on its

¹⁴⁵ ASC, Ex. P, at P-56 – P-58.

¹⁴⁶ David Evans Associates memorandum from Dana Siegfried to Adam Bless (Jan. 11, 2008).

1 potential to provide more diverse grassland in greater quantity with greater horizontal and
2 vertical structure, better nesting habitat for grassland bird species, better hunting grounds for
3 raptors, and higher quality forage and cover for big game.

4
5 The ODFW district biologist conducted a site visit to the Mitigation Site and commented
6 that “the Habitat Mitigation & Revegetation Plan, the site and the plan are approved by the local
7 district biologist with the exception of the 25 year land lease. It needs to coincide with the 30
8 year life of the project....”¹⁴⁷

9
10 The Habitat Mitigation Plan that GHWF submitted was revised by ODOE staff in
11 consultation with ODFW. The version of this plan referred to and approved above is the version
12 submitted by GHWF in its August 2008 ASC Supplement, and is attached to this Final Order as
13 Attachment B. The mitigation site referred to is depicted in figures 1, 2 and 3 of the Habitat
14 Mitigation and Revegetation Plan transmitted by the Applicant as part of the August 2008 ASC
15 Supplement.

16
17 The Habitat Mitigation and Revegetation Plan for Golden Hills is similar to plans that the
18 Council previously approved for Klondike III, Biglow Canyon and Leaning Juniper. Like these
19 other projects, GHWF submitted its ASC based on micrositing corridors rather than exact turbine
20 locations. Therefore, GHWF will not know the facility’s exact impact until it has determined the
21 final design layout.

22
23 One feature of the Golden Hills habitat mitigation plan differs from the plans for wind
24 projects previously approved by EFSC in Sherman County. This feature is the use of pre-
25 construction inventories to determine exact habitat impacts and mitigation requirements. The
26 pre-construction inventory will produce a written record of the affected habitat’s pre-
27 construction condition. GHWF and ODOE will use the pre-construction inventory to determine
28 not only mitigation requirements but mitigation success criteria as well. GHWF will enhance the
29 habitat in the mitigation area by means of fencing to prevent grazing, reseeding using an ODFW-
30 approved mixture that includes native species and some non-native species that ODFW has
31 determined to be beneficial, weed control and fire control. ODFW strongly advocated a
32 prohibition on grazing.

33
34 GHWF will be required to monitor the habitat mitigation area for success. GHWF,
35 ODOE and ODFW mutually agreed that GHWF should monitor at years three and five, and
36 every five years thereafter for percent cover, percent survival of any new plantings for seeding,
37 weed control and avian use. Success criteria would be based on the pre-construction inventory.

38
39 The Council shall require performance of this habitat mitigation and revegetation plan by
40 adoption of a site certificate condition, as follows:

41
42 **(IV.M.1) The certificate holder shall implement the Habitat Mitigation and**
43 **Revegetation Plan submitted by the certificate holder in its August 2008**
44 **application supplement and attached to the Final Order as Attachment B, as**
45 **amended from time to time. Prior to start of construction, the certificate**

¹⁴⁷ Email from Keith Kohl, ODFW to Adam Bless, ODOE (June 20, 2008).

1 holder shall acquire the legal right to create, enhance, maintain and protect a
2 habitat mitigation area as long as the site certificate is in effect by means of
3 outright purchase, conservation easement or similar conveyance and shall
4 provide a copy of the documentation to the Department. The nominal lease
5 term shall be at least 30 years, with an option to extend if the facility
6 continues operations past year 30. The mitigation area shall be as shown in
7 figures 1, 2 and 3 of Attachment B to the Final Order. Any different
8 mitigation area shall require prior approval of the Department in
9 consultation with ODFW.

10
11 The mitigation site described above is intended to mitigate for permanent impacts. To
12 mitigate for temporary impacts, GHWF proposes to restore temporarily affected non-croplands
13 by reseeded using the same ODFW-approved mixture of natives and approved non-natives.
14 Restoration of temporary impact to non-cropland is addressed in detail in the habitat mitigation
15 and revegetation plan described above and included as Attachment B to this Final Order. To
16 mitigate for temporary impacts to non-croplands, the Council adopts the following condition in
17 the site certificate:

18
19 **(IV.M.2) The certificate holder shall restore areas outside the permanent footprint**
20 **that are disturbed during construction according to the methods and**
21 **monitoring procedures described in the revegetation plan included in the**
22 **Final Order as Attachment B and as amended from time to time. Mitigation**
23 **and restoration requirements in the plan shall apply to all laydown areas and**
24 **other areas of temporary disturbance, including those associated with**
25 **construction of transmission lines.**

26
27 Temporarily affected cropland would be reseeded in consultation with the landowner.
28 GHWF has committed to a noxious weed control plan following guidelines based on
29 consultation with the Sherman County Soil and Water Conservation District. The final noxious
30 weed control program would be a pre-construction condition. Conditions related to noxious weed
31 control are found in the Land Use section of this Final Order, and in the discussion of
32 compliance with the Council's Soil Protection Standard, OAR 345-022-0022.

33
34 Erosion control measures and measures to restore soil in cropland are also found in the
35 conditions recommended in the discussion of compliance with the Council's Soil Protection
36 Standard. To the extent that erosions control and soil protection measures are a mitigating factor
37 for impacts on Category 6 land, those conditions support a finding of compliance with the
38 Council's Fish and Wildlife Habitat Standard as well.

39
40 Besides the mitigation and revegetation plan shown in Attachment B to this Final Order,
41 GHWF committed to certain steps that will reduce its impact on fish and wildlife. These
42 commitments include:

- 43
44
- 45 • Permanent met towers will not have guy wires,
 - 46 • Surveying the status of known raptor nests within one half mile before ground-
disturbing activities begin. If an active nest is found, and ground-disturbing activities

1 are scheduled to begin before the end of the sensitive nesting and breeding season
2 (mid-April to mid-August), GHWF will not engage in ground-disturbing activities
3 within a quarter-mile buffer around the nest until the nest fledges young or the nest
4 fails, unless ODFW approves an alternative plan. If ground-disturbing construction
5 activities continue into the sensitive nesting and breeding season for the following
6 year, GHWF will not engage in ground-disturbing activities within the quarter-mile
7 buffer if the nest site is found to be active, until the nest fledges young or the nest
8 fails, unless ODFW approves an alternate plan.

- 9 • GHWF will survey the status of known loggerhead shrikes nests and visit sites where
10 non-nesting loggerhead shrikes were observed in order to determine old and new nest
11 sites. Ground-disturbing activities will be sequenced a with active raptor nests, using
12 a 150-meter buffer.
- 13 • Category 3 upland tree habitats may be temporarily impacted but not physically
14 harmed or removed.
- 15 • Implementing a comprehensive fire control program prior to start of construction.

16
17 Mandatory conditions under OAR 345-027-0020 include representations by the
18 Applicant that are deemed necessary to support findings of compliance with standards, and are
19 therefore binding commitments on the Applicant. Therefore the Council adopts the following
20 conditions in the site certificate:¹⁴⁸

21
22 **(IV.M.3) Permanent met towers shall not have guy wires.**

23
24 **(IV.M.4) The certificate holder shall survey the status of known raptor nests within 0.5**
25 **miles before ground-disturbing activities begin. If an active nest is found, and**
26 **ground-disturbing activities are scheduled to begin before the end of the**
27 **sensitive nesting and breeding season (mid-April to mid-August), the**
28 **certificate holder will not engage in ground-disturbing activities within a**
29 **0.25-mile buffer around the nest until the nest fledges young or the nest fails,**
30 **unless ODFW approves an alternative plan. If ground-disturbing**
31 **construction activities continue into the sensitive nesting and breeding season**
32 **for the following year, the certificate holder will not engage in ground-**
33 **disturbing activities within the 0.25-mile buffer if the nest site is found to be**
34 **active, until the nest fledges young or the nest fails, unless ODFW approves**
35 **an alternate plan.**

36
37 **(IV.M.5) The certificate holder will survey the status of known loggerhead shrikes**
38 **nests and visit sites where non-nesting loggerhead shrikes were observed in**
39 **order to determine old and new nest sites. Ground-disturbing activities will**
40 **be sequenced with active raptor nests, using a 150-meter buffer.**

41
42 **(IV.M.6) Trees in Category 3 upland tree habitat shall not be physically harmed or**
43 **removed.**

¹⁴⁸ GHWF requested relief from Condition (IV.M.4) in its comments on the Draft Proposed Order. ODFW recommended retaining the condition. Email from Keith Kohl, ODFW, to Adam Bless (Dec. 22, 2008).

1 Detailed conditions regarding the fire control program are recommended in the section of
2 this Final Order discussing compliance with the Council’s Public Service Standard, and those
3 conditions are considered relevant here as well.
4

5 Mitigation of Farmland Impacts

6 As noted above, in its June 2008 memorandum ODWF clarified that cultivated farm
7 fields would be classified as Category 6 for the purposes of determining appropriate mitigation
8 for wind facilities. The mitigation policy for Category 6 calls for flexible mitigation.
9

10 In its draft Habitat Mitigation and Revegetation Plan, GHWF stated that it would mitigate
11 permanent impacts to cropland by:
12

- 13 • Developing a noxious weed control plan following guidelines based upon
14 consultation with the Sherman County Soil and Water Conservation District and
15 ODFW. The noxious weed control plan will be approved by ODOE and finalized
16 prior to construction.
- 17 • The noxious weed control plan will be implemented utilizing best management
18 practices to minimize topsoil loss, and complying with an ESCP approved by DEQ as
19 part of the NPDES program in areas adjacent to drainage features.
- 20 • Sherman County Soil and Water Conservation District will be consulted for proper
21 procedures for restoring agricultural quality to its original condition.
22

23 The Council considers these steps to be appropriate mitigation for cultivated agricultural
24 land. As noted above, the conditions requiring the noxious weed control program in consultation
25 with Sherman County Soil and Water Conservation District, and the requirements to implement
26 an ESCP approved by DEQ are recommended in the section of this Final Order that discusses
27 compliance with the Council’s Soil Standard, and are relevant here as well.
28

29 **Wildlife Monitoring and Mitigation Plan.** The Council has previously approved site
30 certificates for Klondike III, Biglow Canyon, and Leaning Juniper conditioned on the
31 implementation of wildlife monitoring and mitigation plans (“WMMP”). The common
32 objectives for these plans are:
33

- 34 • To determine whether the operation of the facility causes significant fatalities of birds
35 and bats,
- 36 • To compare fatality results for the facility to analogous results for other projects in
37 the Columbia Basin, and
- 38 • To determine whether the operation of the facility results in a reduction of nesting
39 activity or nesting success of raptor species.

40 In addition, the data from similar monitoring programs for several of the wind projects in
41 the Columbia Basin is an essential part of the basis for any conclusions regarding cumulative
42 impacts from these facilities.
43

44 For these reasons, GHWF proposed WMMP similar to the plans previously approved by
45 the Council. ODOE and ODFW reviewed the draft WMMP, and suggested modifications and

1 refinements. The plan resulting from this collaborative effort was issued by GHWF's August
2 2008 ASC Supplement and is Attachment A to this Final Order.

3
4 The WMMP includes bird and bat fatality monitoring, raptor nest surveys, avian use
5 surveys, and wildlife incident response and handling provisions. The fatality monitoring
6 provisions are similar (but not identical) to the analogous sections of the WMMP for Biglow
7 Canyon, Klondike III and Leaning Juniper.

8
9 If monitoring reveals significant unforeseen impacts, additional mitigation may be
10 needed to ensure that operation of the facility is consistent with the habitat mitigation goals and
11 standards. If the data show significant fatalities of avian species, adverse impact to raptor nesting
12 or other loss of habitat quality, the Department may require the certificate holder to implement
13 additional mitigation, subject to approval by the Council.

14
15 The WMMP includes "thresholds of concern" for five species groups: raptors, raptor
16 species of special concern, grassland species, State Sensitive avian species listed under OAR
17 635-100-0040 and bat species as a group. The thresholds are expressed as fatalities per MW per
18 year. GHWF would be required to calculate the average annual fatality rates for species groups
19 after each year of monitoring. If that data show that a threshold of concern for a species group
20 has been exceeded, the Department would determine whether additional mitigation is appropriate
21 based on analysis of the data, consultation with ODFW and consideration of any other significant
22 information available at the time. In addition, mitigation might be appropriate if the Department
23 were to determine that fatality rates for individual avian or bat species (especially State Sensitive
24 Species) were higher than expected and at a level of biological concern.

25
26 Although the threshold numbers provide a rough measure for deciding whether the
27 Council should be concerned about observed fatality rates, the thresholds have a very limited
28 scientific basis. The exceeding of a threshold, by itself, would not be a scientific indicator that
29 operation of the facility would result in range-wide population level declines of any of the
30 species affected. The thresholds are provided in the WMMP to guide consideration of additional
31 mitigation based on the monitoring data.

32
33 The WMMP for Golden Hills is consistent with plans used by past projects, but as noted
34 above, it also includes some refinements. These include:

35
36 Fatality Monitoring in Years One and Five: The Department believes that a long-term
37 measurement of bird and bat fatality would provide useful information about the long-term effect
38 of the turbine facility. Also, the other wind projects in the Columbia Basin already provide ample
39 fatality data for the first two years. Therefore, the Department recommended changing from the
40 "standard practice" of collecting data in the first two years to a new practice of collecting data in
41 the first year, and then collecting another round of data in year five.

42
43 Adaptive Thresholds of Concern: The thresholds of concern in the WMMP are the same
44 as the thresholds for Klondike III, Biglow Canyon and Leaning Juniper. As noted above, there is
45 limited scientific basis for these thresholds. However, we now have much more data available

1 from other facilities. Therefore, the plan for Golden Hills includes provisions to review data from
2 other facilities and determine if the thresholds should be adjusted based on that data.
3

4 Long-Term Raptor Nest Monitoring: GHWF will survey for raptor nesting success in two
5 separate years during the first five years of operation, and every five years thereafter for the life
6 of the facility. The requirement for initial raptor nest surveys is consistent with Biglow Canyon.
7 However, the requirement to continue the surveys every five years for the life of the facility was
8 copied from the Leaning Juniper site certificate.
9

10 Attachment A to this Final Order is the WMMP as modified by ODOE in consultation
11 with ODFW. The Council adopts the following condition in the site certificate:
12

13 **(IV.M.7) The certificate holder shall conduct wildlife monitoring as described in the**
14 **Wildlife Monitoring and Mitigation Plan that is included as Attachment A to**
15 **the Final Order and as amended from time to time.**
16

17 **Habitat Impacts and Mitigation During Retirement of the Facility.** As required under
18 Council rules and as discussed above, retirement would proceed according to a Council-
19 approved final retirement plan. The retirement plan would ensure minimal impacts to fish,
20 wildlife and the environment and provide for restoration of the site and temporarily disturbed
21 areas to a useful, non-hazardous condition. Retirement of the facility would include removal of
22 facility structures and restoration of the underlying land to farm or habitat uses. It is anticipated
23 that site restoration activities would temporarily affect additional habitat adjacent to the facility
24 site as needed to accommodate the movement and placement of cranes and other heavy
25 equipment used during facility demolition. This adjacent area is likely to be similar in size to the
26 area temporarily disturbed during construction.
27

28 **General Findings of Consistency with ODFW Goals and Standards.** 29

30 Design. The proposed facility would occupy a permanent footprint of about 141 acres or
31 less. About 127 acres of the affected habitat would be Category 6 agricultural land. The
32 component parts of a wind facility (turbines, access roads, transmission lines and substations)
33 must be disbursed over a wide area to capture the wind resource effectively. Locating the
34 majority of facility primarily components on cultivated farm ensures the least impact on higher-
35 value habitat, although some amount of impact is unavoidable. The design of the proposed
36 Golden Hills facility is consistent with ODFW's habitat mitigation goals and standards (OAR
37 635-415-0025).
38

39 Construction. More than 90 percent of the area that would be temporarily disturbed
40 during construction is cultivated farmland. There would be no impact to intermittent streams and
41 stream habitat. The certificate holder would avoid construction activity within a buffer area
42 around raptor nests during the sensitive nesting period. Upon completion of construction, areas
43 of temporary disturbance would be restored and replanted to pre-construction condition or better.
44 Construction would be carried out in a manner consistent with ODFW's mitigation goals and
45 standards (OAR 635-415-0025).
46

1 Operation. The certificate holder would establish a habitat mitigation area and would
2 undertake habitat enhancement activities to improve the value of the area to wildlife. Grazing
3 would be prohibited in the mitigation area during the life of the facility. Operational monitoring
4 as described in the Golden Hills WMMP would provide data necessary to evaluate the
5 operational impacts of the facility on habitat quality. If analysis of monitoring data indicates
6 significant impacts, further mitigation may be required. Taking into account the mitigation of
7 impacts, operation of the facility would be consistent with ODFW's mitigation goals and
8 standards (OAR 635-415-0025).
9

10 Retirement. Retirement of the facility would likely cause temporary disturbance to an
11 area of habitat similar in size to the area temporarily disturbed during construction, most of
12 which would be agricultural land. Retirement would include restoration and revegetation of the
13 area of temporary disturbance in addition to the area occupied by the proposed facility.
14 Retirement would be done subject to a final retirement plan approved by the Council. The final
15 retirement plan would provide for minimizing impact to fish and wildlife habitat. Retirement can
16 be carried out in a manner consistent with ODFW's mitigation goals and standards (OAR
17 635-415-0025).
18

19 Additional Conditions Consistent with Council Precedent. In addition to recommended
20 conditions (1) through (7) above, a review of site certificates for Biglow Canyon, Klondike III
21 and Leaning Juniper shows that the Council has consistently found certain additional conditions
22 necessary to find compliance with OAR 345-022-0060.¹⁴⁹ Therefore, the Council adopts the
23 following parallel conditions in the site certificate:
24

- 25 **(IV.M.8) The certificate holder shall design and construct all aboveground**
26 **transmission line support structures following the practices suggested by the**
27 **Avian Powerline Interaction Committee (APLIC 1996, referenced in the**
28 **Application for a Site Certificate, at P-33) and shall install anti-perching**
29 **devices on transmission pole tops and cross arms where the poles are within**
30 **the site or are located within one-quarter mile of any wind turbine.**
31
- 32 **(IV.M.9) The certificate holder may construct turbines and other facility components**
33 **within the 900-foot corridors shown on Figures P-1 through P-10 of the**
34 **Application for a Site Certificate and August 2008 supplement, subject to the**
35 **following requirements addressing potential habitat impact:**
36 **(a) The certificate holder shall not construct any facility components**
37 **within areas of Category 1 or Category 2 habitat and shall avoid**
38 **temporary disturbance of Category 1 or Category 2 habitat, except**
39 **for those acreages allowed in Table IV.M.1 in the Final Order.**
40 **(b) The certificate holder shall design and construct facility components**
41 **that are the minimum size needed for safe operation of the energy**
42 **facility.**
43

¹⁴⁹ In its comments on the Draft Proposed Order, GHWF requested that anti-perching devices not be required. However, the requirement applied to Leaning Juniper and was supported by ODFW. *See* Email from Keith Kohl, ODFW, to Adam Bless (Dec. 22, 2008). Therefore the Department recommended retaining this condition.

1 **(IV.M.10) During construction, the certificate holder shall protect the area within a**
2 **1300-foot buffer around any active nests of the following species during the**
3 **sensitive period, as provided in this condition:**
4

Species	Sensitive Period	Early Release Date
Swainson's hawk	April 1 to August 15	May 31
Golden eagle	February 1 to August 31	May 31
Ferruginous hawk	March 15 to August 15	May 31
Burrowing owl	April 1 to August 15	July 15

5
6 **The 1300-foot buffer may be reduced, with Department approval, if there is**
7 **an adequate physical barrier between the nest site and the construction**
8 **impacts such that a 1300-foot buffer proves to be excessive.**
9

10 **During the year in which construction of any phase occurs, the certificate**
11 **holder shall use a protocol approved by ODFW to determine whether there**
12 **are any active nests of these species within a half-mile of any areas that**
13 **would be disturbed during construction. If a nest is occupied by any of these**
14 **species after the beginning of the sensitive period, the certificate holder shall**
15 **not engage in high-impact construction activities (activities that involve**
16 **blasting, grading or other major ground disturbance) or allow high levels of**
17 **construction traffic within 1300 feet of the nest site, or such lesser distance as**
18 **may be approved by the Department in the event there is an adequate**
19 **physical barrier between the nest site and the construction impacts.**
20

21 **In addition, the certificate holder shall flag the boundaries of the 1300-foot**
22 **buffer area, or such lesser distance as may be approved by the Department in**
23 **the event there is an adequate physical barrier between the nest site and the**
24 **construction impacts, and shall instruct construction personnel to avoid any**
25 **unnecessary activity within the buffer area. The certificate holder shall direct**
26 **a qualified independent third-party biological monitor, as approved by the**
27 **Department, to observe the active nest sites during the sensitive period for**
28 **signs of disturbance and to notify the Department of any noncompliance with**
29 **this condition. If the monitor observes nest site abandonment or other**
30 **adverse impact to nesting activity, the certificate holder shall implement**
31 **appropriate mitigation, in consultation with ODFW and subject to the**
32 **approval of the Department, unless the adverse impact is clearly shown to**
33 **have a cause other than construction activity. The certificate holder may**
34 **begin or resume high-impact construction activities before the ending day of**
35 **the sensitive period if any known nest site is not occupied by the early release**
36 **date. If a nest site is occupied, then the certificate holder may begin or**
37 **resume high-impact construction before the ending day of the sensitive**
38 **period with the approval of ODFW, after the young are fledged. The**
39 **certificate holder shall use a protocol approved by ODFW to determine when**
40 **the young are fledged (the young are independent of the core nest site).**
41

42 **Conclusion**

1 The Council finds that the design, construction, operation and retirement of the proposed
2 facility, taking into account mitigation and subject to the conditions stated in this Final Order,
3 would be consistent with ODFW's habitat mitigation goals and standards (OAR 635-415-0025).
4 Based on these findings and recommended conditions, the Council concludes that the proposed
5 facility complies with the Council's Fish and Wildlife Habitat Standard.
6

7 **V. STANDARDS NOT APPLICABLE TO SITE CERTIFICATE ELIGIBILITY**

8

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). Nevertheless, the Council may impose site certificate conditions based
13 on the requirements of these standards.
14

15 **A. STRUCTURAL STANDARD, OAR 345-022-0020**

16

- 17 (1) *Except for facilities described in sections (2) and (3), to issue a site certificate, the*
18 *Council must find that:*
- 19 (a) *The applicant, through appropriate site-specific study, has adequately*
20 *characterized the site as to Maximum Considered Earthquake Ground*
21 *Motion identified at International Building Code (2003 edition) Section*
22 *1615 and maximum probable ground motion, taking into account ground*
23 *failure and amplification for the site specific soil profile under the*
24 *maximum credible and maximum probable seismic events; and*
 - 25 (b) *The applicant can design, engineer, and construct the facility to avoid*
26 *dangers to human safety presented by seismic hazards affecting the site*
27 *that are expected to result from maximum probable ground motion events.*
28 *As used in this rule "seismic hazard" includes ground shaking, ground*
29 *failure, landslide, liquefaction, lateral spreading, tsunami inundation,*
30 *fault displacement, and subsidence;*
 - 31 (c) *The applicant, through appropriate site-specific study, has adequately*
32 *characterized the potential geological and soils hazards of the site and its*
33 *vicinity that could, in the absence of a seismic event, adversely affect, or*
34 *be aggravated by, the construction and operation of the proposed facility;*
35 *and*
 - 36 (d) *The applicant can design, engineer and construct the facility to avoid*
37 *dangers to human safety presented by the hazards identified in subsection*
38 *(c).*
- 39 (2) *The Council may issue a site certificate for a facility that would produce power*
40 *from wind, solar or geothermal energy without making the findings described in*
41 *section (1). However, the Council may apply the requirements of section (1) to*
42 *impose conditions on a site certificate issued for such a facility.*
43

44 **Proposed Conditions**

45 GHWF provided information about the seismic characteristics of the site and possible
46 seismic and geological hazards in Exhibit H of the ASC. The analysis area for the Structural

1 Standard is the area within the site boundary. GHWF assessed the geologic and seismic
2 conditions of the site by reviewing available reference materials, topographic and geologic maps,
3 aerial photos, and conducting a field reconnaissance. GHWF did not perform site-specific
4 subsurface and geophysical investigations as part of this preliminary assessment. Before
5 beginning construction of the facility, GHWF will conduct a detailed design level site-specific
6 geotechnical investigation to assess subsurface and geologic conditions and provide information
7 for the design of foundations, site grading, utilities, roadways and improvements to existing
8 infrastructure. For the two proposed transmission lines, GHWF will perform detailed site-
9 specific geotechnical investigation to develop design and construction recommendations that
10 minimize potential for destabilizing marginally stable slopes and minimize the potential for
11 erosion at stream crossings. Council rules include mandatory conditions regarding geotechnical
12 investigation and protection of the public from seismic hazards.
13

14 The proposed site is located in the north-central part of Sherman County, in north-central
15 Oregon. The site is characterized by rolling hills and canyons ranging in elevation from about
16 1,100 feet on the northern edge to about 1,900 feet on the rolling hills near the southern edge.
17 The area is located in the Columbia Plateau physiographic province.
18

19 Preliminary geotechnical work done by GHWF indicates that much of the facility area is
20 characterized by layers of windblown sand and silt (loess) on top of basalt bedrock. The loess
21 deposits range up to about 40 feet thick (averaging about 15 feet). The deposit appears to thin or
22 not exist within the stepper areas along the sides of relatively narrow ridges and within drainage
23 ways where the basalt is exposed.
24

25 The seismic hazard in the vicinity of the proposed facility site would result from three
26 seismic sources: Cascadia Subduction Zone (“CSZ”) interplate events, CSZ intraslab events and
27 crustal events.
28

29 Interplate and intraslab events are related to the subduction of the Juan De Fuca plate
30 beneath the North American plate. Interplate events occur because of movement at the interface
31 of these two tectonic plates. Intraslab events originate within the subducting tectonic plate, away
32 from its edges, when built-up stresses within the subducting plate are released. These source
33 mechanisms are referred to as the CSZ source mechanisms. The CSZ is located near the
34 coastlines of Oregon, Washington and British Columbia. The CSZ interplate and intraslab source
35 mechanisms are currently thought to be capable of producing maximum earthquakes with
36 moment magnitudes of about 9.0 and 7.5, respectively.
37

38 Local crustal faults in the facility generally include small thrust faults located just beyond
39 the southwest corner of the site. GHWF reported nine mapped crustal faults in the facility
40 vicinity.¹⁵⁰ One was within two kilometers of the southwest corner of the site, and one was
41 within six kilometers. The others ranged from 10 to 84 kilometers from the site. All had slip rates
42 that were either unknown or less than 0.2 mm/year. There is little basis for a deterministic model
43 of crustal seismicity. GHWF represented local crustal seismicity by modeling a magnitude 5
44 earthquake located two miles from the center of the facility.
45

¹⁵⁰ GeoEngineers memorandum to Dana Siegfried “Response to DOGAMI Review comments” (Nov. 8, 2007).

1 EFSC rules define the maximum probable event (“MPE”) as the maximum earthquake
2 that would occur under the known tectonic framework with a 10 percent probability of being
3 exceeded in 50 years (475-year event). The USGS National Seismic Mapping Project (2002)
4 reports that the MPE is equivalent to an earthquake with magnitude 6.4 and an epicentral
5 distance of 46 miles from the facility.
6

7 EFSC rules require the Applicant to identify the Maximum Considered Earthquake
8 (“MCE”) motion shown at International Building Code (“IBC”) (2003 edition) Section 1615.¹⁵¹
9 The USGS National Seismic Mapping Project reports that the MCE is equivalent to an
10 earthquake of magnitude 6.2 and an epicentral distance of 22 miles from the facility.
11

12 GHWF estimated peak ground accelerations (“PGA”) for the CSZ interplate and intraslab
13 events and the MCE and MPE. The maximum PGA estimated was 0.19g for the MCE. For the
14 MPE, the PGA was 0.09g.
15

16 Based on the above assumptions regarding maximum credible and maximum probable
17 events, GHWF presented the response spectra for earthquakes from each of the three
18 mechanisms listed above. Based on its preliminary information regarding soil conditions, GHWF
19 projected that the IBC response spectrum for a class C soil profile envelopes the spectra for the
20 MPE, local crust fault earthquake and deep CSZ earthquake.
21

22 EFSC rules at OAR 345-021-0010(1)(h) prescribe a geotechnical investigation meeting
23 the requirements of Oregon Department of Geology and Mineral Industries’ (“DOGAMI”)
24 “Guidelines for Engineering Geology Reports and Site-Specific Seismic Hazard Report.” For
25 wind projects, if the Applicant does not perform the detailed site-specific geotechnical
26 investigation consistent with these DOGAMI guidelines then OAR 345-021-0010(h) requires
27 direct consultation with DOGAMI to obtain concurrence on the level of site-specific
28 investigation required for ASC completeness.
29

30 In its November 8, 2007 response to RAI #1, GHWF noted that it held the required
31 consultation on October 4, 2007. DOGAMI did not recommend subsurface investigations at the
32 site as a condition of ASC completeness.
33

34 Also in its November 2007 response, GHWF addressed additional issues raised by
35 DOGAMI. Specifically, GHWF addressed DOGAMI concerns regarding the classification of
36 soil types.¹⁵² GHWF also reviewed recent references listing local crustal faults and concluded
37 that these recent references did not change the conclusion stated in ASC Exhibit H regarding
38 seismic hazards at the site.¹⁵³

¹⁵¹ Before May 2007, EFSC rules defined the MCE as an event with 2 percent probability of being exceeded in 50 years. The Council changed the definition to conform to IBC Section 1615 in May 2007.

¹⁵² The ASC, Ex. H, at H-13, categorizes the site as IBC Seismic Design Category “B” for a class B soil profile. In its November 8, 2007 response to ODOE’s RAI #1, GHWF noted that the reference to class B soil was in error, and that the intended soil profile was class C. Also, in its response to DOGAMI comments of September 27, 2007, GHWF concurred that class D is appropriate given the lack of subsurface investigation to support the ASC. GHWF stated that it will reevaluate the soil profile classification final design following site-specific geotechnical investigation and testing of soil and rock.

¹⁵³ Memorandum from GeoEngineers to Dana Siegfried re DOGAMI comments of Sept. 27, 2007 (Nov. 8, 2007).

1
2 Therefore, the Council shall adopt a site certificate condition requiring GHWF to submit
3 the site-specific geotechnical investigation, subject to DOGAMI approval, prior to start of
4 construction.

5
6 Regarding non-seismic hazards, GHWF states that most slopes within the facility
7 boundary are gentle rolling hills consisting of basalt with a relatively thin veneer of windblown
8 silts, which are generally not susceptible to stability failures at native slope angles. GHWF also
9 concluded that the likelihood of deep-seated slope failures is very low.

10
11 In the ASC, GHWF notes that “the proposed wind turbine sites are not located on or near
12 unstable slopes that would pose a significant risk of ground movement or other geologic
13 hazards.” In a January 15, 2008 response to ODOE questions, GHWF clarified that this
14 statement referred to turbine corridors, not precise turbine locations.¹⁵⁴

15
16 In a January 2008 response to ODOE RAI #1, GHWF provided additional clarification
17 regarding its evaluation of seismic hazards. Specifically, GHWF noted that “based on the work
18 conducted to date, the corridors are situated outside and well beyond areas with steep slopes or
19 other potential geologic hazards.”

20
21 GHWF went on to clarify that “[a]lthough portions of the underground collector lines and
22 several transmission towers will be located in the Natural Hazards (NH) Combining Zone, based
23 on the geotechnical work performed to date, all turbine and transmission line corridor alignments
24 avoid potentially unstable geologic hazard areas.”¹⁵⁵

25
26 GHWF also states that, “wind turbine corridors and major structures will be constructed
27 with sufficient setbacks from all steeper slopes to minimize the potential for creating marginally
28 stable conditions.” The Council considers this a commitment under OAR 345-027-0020(11) and
29 shall adopt a condition based on this commitment.

30
31 In comments on the ASC, Exhibit H, Bill Burns of DOGAMI noted that, “Regarding
32 non-seismic hazard, GHWF states that most slopes within the facility boundary are gentle rolling
33 hills consisting of basalt with a relatively thin veneer of wind blown silts, which are generally
34 not susceptible to stability failures at native slope angles. GHWF also concluded that the
35 likelihood of deep-seated slope failures is very low. The slope stability issues should be studied
36 in the site-specific geotechnical report and conclusions and recommendations about slope
37 stability should be provided by the consulting geologists and engineers.”¹⁵⁶

38
39 The Council finds that this recommendation from DOGAMI shall be made a site
40 certificate condition. The Council adopts the following conditions in the site certificate:

41
42 **(V.A.1) The certificate holder shall submit a site-specific geotechnical investigation**
43 **report to the Oregon Department of Geology & Mineral Industries**

¹⁵⁴ Memorandum from David Rankin, GeoEngineers to Dana Siegfried, DEA Inc. (Jan. 15, 2008).

¹⁵⁵ *Id.*

¹⁵⁶ Email from Bill Burns, DOGAMI, to Adam Bless (Sept. 3, 2008).

1 (“DOGAMI”). The investigation and report shall conform to the Oregon
2 Board of Geologists Examiners guidelines titled “Guidelines for Engineering
3 Geology Reports” and “Guidelines for Site-Specific Seismic Hazard Reports
4 for Essential and Hazardous Facilities and Major and Special-Occupancy
5 Structures in Oregon.” The certificate holder shall provide the Department
6 with the report and with evidence of concurrence by DOGAMI prior to start
7 of construction.
8

- 9 (V.A.2) The certificate holder shall instruct the consulting geologist and engineer to
10 study slope stability issues and include conclusions and recommendations
11 about slope stability in the site-specific geotechnical report.
12
- 13 (V.A.3) The certificate holder shall design and construct the facility in accordance
14 with requirements set forth by the State of Oregon’s Building Code Division
15 and any other applicable codes and design procedures.
16
- 17 (V.A.4) The certificate holder shall design, engineer and construct the facility to
18 avoid dangers to human safety presented by non-seismic hazards. As used in
19 this condition, “non-seismic hazards” include settlement, landslides, flooding
20 and erosion.
21
- 22 (V.A.5) The certificate holder shall ensure that wind turbine corridors and major
23 structures are constructed with sufficient setbacks from all steeper slopes to
24 minimize the potential for creating unstable or marginally stable conditions.
25

26 **B. HISTORIC, CULTURAL AND ARCHAEOLOGICAL RESOURCES, OAR 345-022-0090**
27

- 28 (1) *Except for facilities described in sections (2) and (3), to issue a site certificate, the*
29 *Council must find that the construction and operation of the facility, taking into*
30 *account mitigation, are not likely to result in significant adverse impacts to:*
 - 31 (a) *Historic, cultural or archaeological resources that have been listed on, or*
32 *would likely be listed on the National Register of Historic Places;*
 - 33 (b) *For a facility on private land, archaeological objects, as defined in ORS*
34 *358.905(1)(a), or archaeological sites, as defined in ORS 358.905(1)(c);*
35 *and*
 - 36 (c) *For a facility on public land, archaeological sites, as defined in ORS*
37 *358.905(1)(c).*
- 38 (2) *The Council may issue a site certificate for a facility that would produce power*
39 *from wind, solar or geothermal energy without making the findings described in*
40 *section (1). However, the Council may apply the requirements of section (1) to*
41 *impose conditions on a site certificate issued for such a facility.*
42

43 **Proposed Conditions**

44 GHWF provided information regarding historic, cultural and archaeological resources in
45 Exhibit S of the ASC. The analysis area for potential impacts to these resources is the area within

1 the site boundary. GHWF commissioned Tetra Tech to prepare a Cultural Resources Survey
2 Report applicable to the analysis.
3

4 The ASC states that one historic property, DeMoss Springs Park, is listed on the National
5 Register of Historic Places. The facility was redesigned to avoid potential impact on this site. In
6 addition, the facility crosses portions of the historic Oregon Trail and the Barlow Cutoff Trail.
7 The Oregon Trail is designated as a Historic Trail under both federal and Oregon statute. Apart
8 from two historic period isolated finds (described in detail in the ASC)¹⁵⁷ no other physical
9 evidence of the historic trail was observed within the surveyed areas of the facility. Farming
10 activity is likely to have obliterated the physical traces of the trail. Similarly, no physical
11 evidence of the Barlow Cutoff Trail was observed within the surveyed portions of the facility
12 area.
13

14 Tetra Tech researched archives maintained by the SHPO to assess the cultural and
15 environmental background and history of the proposed facility site and to develop an interpretive
16 context for the cultural resources inventory. Tetra Tech also researched background literature at
17 the Sherman County Historical Society and Museum in Moro, the Dalles-Wasco County library
18 and the Oregon Historical Society. Consultation was also undertaken with Native American
19 groups including the Confederate Tribes of the Warm Springs Reservation, the Confederated
20 Tribes and Bands of the Yakama Indian Nation, the Colville Confederated Tribes, the
21 Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce Tribe. None of the
22 above tribes responded to inquiries from the Applicant or submitted comments to the Department
23 on the ASC.
24

25 As a result of its research, TetraTech concluded that no archeological sites, isolated finds
26 or aboveground resources were recorded on any private land within the facility Area of Potential
27 Effect (“APE”). There are no public lands within the APE.
28

29 Archeological field investigations were conducted in May and June 2007 and April 2008.
30 During the 2007 investigation, a pedestrian survey was conducted in areas with good ground
31 visibility to identify surface artifacts and aboveground features associated with prehistoric and
32 historic period archeological sites and aboveground historic period sites. Portions of the APE
33 were planted in crops and were not surveyed due to poor ground visibility. In portions of the
34 APE where surface visibility was deemed adequate, the surface survey was performed by three
35 to six archeologists walking transects spaced no greater than 25 meters. Archeological sites,
36 isolated finds and historic structures were documented and mapped. No subsurface testing or
37 collection of artifacts was conducted during the 2007 investigation. All archeological sites,
38 isolated finds and aboveground resources identified during the 2007 field investigation were
39 recommended for avoidance during facility construction.
40

41 After initial review and consultation by the SHPO, 1,011 acres were identified for
42 supplemental investigation in 2008.
43

44 As a result of pedestrian surveys, 16 cultural resources were identified. The resources are
45 described briefly at pages S-5, S-6 and S-7 of the August 2008 ASC Supplement, and in greater

¹⁵⁷ ASC Revised, Ex. S, June 2008, at S-6, S-7.

1 detail in the Archeological Inventory reviewed by the SHPO. These resources include nine
2 identified sites and seven isolated finds.

3
4 By letter dated August 5, 2008, the SHPO notified the Department that the SHPO had
5 reviewed the Archeological Inventory prepared by Tetra Tech for GHWF and concurred that the
6 facility would have no effect on any archeological resources, provided certain stipulations were
7 met. Specifically, the SHPO recommended inclusion of certain conditions, and the Council
8 adopts the following conditions in the site certificate:¹⁵⁸

9
10 **(V.B.1) The certificate holder shall design the facility to avoid impacts to sites**
11 **35SH217, 35SH220, GH site 6 (aboveground resource), 35SH219 and GH**
12 **Isolate 6.**

13
14 **(V.B.2) For site 35SH215, 35SH216 and 35SH221, the certificate holder shall avoid**
15 **impacts to these sites during construction and subsequent operations. The**
16 **certificate holder shall develop a Cultural Resource Management Plan (the**
17 **“CRMP”) that includes a 30-meter buffer area around these listed sites**
18 **designated as a “no-work zone” for all ground-disturbing activities. The**
19 **certificate holder shall submit the CRMP to the State Historic Preservation**
20 **Office (the “SHPO”) for concurrence and shall provide to the Department**
21 **documentation confirming SHPO concurrence prior to start of construction.**

22
23 **(V.B.3) The certificate holder shall consult with the SHPO regarding the**
24 **development of a CRMP that will address the protection of aboveground**
25 **historic resources and belowground archeological resources. The CRMP**
26 **shall include established protocol and procedures for unanticipated**
27 **discoveries, such as discovery of new archeological sites or Native American**
28 **human remains during ground-disturbing activities, and shall document how**
29 **these protocols will follow State laws and rules at ORS 358.905-955, ORS**
30 **390.235, OAR 736-051-0090 and ORS 97.740-760 as in effect on the date of**
31 **this site certificate.**

32
33 The Council adopts additional conditions consistent with the Biglow Canyon and
34 Klondike III site certificates. Conditions (V.B.6) and (V.B.7) below are commitments made in
35 the ASC and are recommended conditions under OAR 345-027-0020(10). In addition, the
36 Council adopts Condition (V.B.10) to address concerns raised by the Oregon Historic Trails
37 Advisory Council respecting recognition of the history that has taken place in the vicinity of the
38 proposed facility.

39
40 **(V.B.4) Before beginning construction of any phase of the facility, the certificate**
41 **holder shall provide to the Department a map showing the final design**
42 **locations of all components of that phase of the facility and areas that would**
43 **be temporarily disturbed during construction and also showing the areas**
44 **surveyed by Tetra Tech in preparing the Archeological Inventory for Golden**

¹⁵⁸ The conditions in the Final Order reflect changes requested by GHWF in its comments on the Draft Proposed Order after review and final modification by the SHPO.

1 Hills Wind Energy Development included in the Application for a Site
2 Certificate as Attachment S-1. If there are any additional areas where
3 ground-disturbing activities will occur that were not part of the original
4 facility area, the certificate holder shall contact the SHPO to determine
5 whether there will be additional impacts to cultural resources.
6

7 (V.B.5) The certificate holder shall ensure that a qualified archaeologist instructs
8 construction personnel on the identification of cultural resources
9

10 (V.B.6) If any cultural resources are discovered during construction activities, all
11 work at that location shall cease immediately and the certificate holder shall
12 contact the SHPO to determine whether it is necessary to have an
13 archeologist travel to the worksite and assess the discovery or monitor
14 construction activities.
15

16 (V.B.7) “No access” buffers shall be identified on construction plans and temporarily
17 demarcated in the field before and during construction. The Project
18 Environmental Inspector shall monitor flagged “no access” buffers around
19 archeological sites during construction to prevent accidental damage to
20 cultural resources. These flags or markers shall not be moved or removed
21 during construction activities, and construction personnel shall be advised of
22 these restrictions.
23

24 (V.B.8) The certificate holder shall ensure that construction personnel cease all
25 ground-disturbing activities in the immediate area if any archaeological or
26 cultural resources are found during construction of the facility until a
27 qualified archaeologist can evaluate the significance of the find. No
28 construction personnel will be allowed in the discovery area except for
29 facility management in consultation with the SHPO. The certificate holder
30 shall notify the Department and the SHPO of the find. If the SHPO
31 determines that the resource is significant, the certificate holder shall make
32 recommendations to the Council for mitigation, including avoidance or data
33 recovery, in consultation with the Department, the SHPO, the appropriate
34 Oregon tribes and other appropriate parties. The certificate holder shall not
35 restart work in the affected area until the certificate holder has
36 demonstrated to the Department that it has complied with state
37 archaeological protection and archaeological permit laws in coordination
38 with the SHPO.
39

40 (V.B.9) The certificate holder shall ensure that construction personnel proceed
41 carefully in the vicinity of the mapped alignment of the Oregon Trail. If any
42 intact physical evidence of the trail is discovered, the certificate holder shall
43 avoid any disturbance to the intact segments, by redesign, reengineering or
44 restricting the area of construction activity. The certificate holder shall
45 promptly notify the Department and SHPO of the discovery. The certificate

1 holder shall consult with the Department and with SHPO to determine
2 appropriate mitigation measures.

3
4 **(V.B.10)** Upon completion of construction, the certificate holder shall consult with the
5 Oregon Historic Trails Advisory Council regarding the appropriate content
6 of an interpretive sign. After such consultation, the certificate holder shall
7 place in a publicly accessible location a sign giving notice of the historic
8 background of the facility site and surrounding areas.
9

10 **C. PUBLIC SERVICES, OAR 345-022-0110**

- 11
12 (1) *Except for facilities described in sections (2) and (3), to issue a site certificate, the*
13 *Council must find that the construction and operation of the facility, taking into*
14 *account mitigation, are not likely to result in significant adverse impact to the*
15 *ability of public and private providers within the analysis area described in the*
16 *project order to provide: sewers and sewage treatment, water, storm water*
17 *drainage, solid waste management, housing, traffic safety, police and fire*
18 *protection, health care and schools.*
19 (2) *The Council may issue a site certificate for a facility that would produce power*
20 *from wind, solar or geothermal energy without making the findings described in*
21 *section (1). However, the Council may apply the requirements of section (1) to*
22 *impose conditions on a site certificate issued for such a facility.*
23

24 **Proposed Conditions**

25 GHWF provided information in Exhibit U about the potential impacts of the facility on
26 public services. The analysis area for public services is the area within the site boundary and 30
27 miles from the site boundary, including area within the State of Washington. The analysis area
28 includes significant portions of Gilliam, Sherman and Wasco counties in Oregon and Klickitat
29 County in Washington. GHWF identified 10 Oregon cities and one Washington city within the
30 analysis area that could be affected by construction and operation of the proposed facility:
31 Arlington, Condon, Grass Valley, Moro, Rufus, Wasco, Dufur, The Dalles, Maupin, and Mosier,
32 Oregon, and Goldendale, Washington.
33

34 **Sewage, Storm Water and Solid Waste.** During construction of the proposed facility,
35 the impact on sewers and sewage treatment facilities would be minimal. The Department
36 recommends that the Council adopt conditions (V.D.3) and (V.D.4) that would require GHWF to
37 provide and maintain portable toilets for on-site sewage handling during construction and to
38 discharge sanitary wastewater to an on-site septic system during operation of the proposed
39 facility. Storm water drainage during construction would be subject to the NPDES Storm Water
40 Discharge General Permit (1200-C), which would ensure appropriate on-site handling of storm
41 water. There are no local storm sewers serving the proposed Golden Hills site. Construction of
42 the facility would generate solid waste that would be recycled to the extent feasible and
43 otherwise hauled to an appropriate landfill by local garbage haulers.
44

1 **Water.** GHWF estimated that water use during construction of the proposed facility
2 would be about 25 million gallons.¹⁵⁹ Water would be used primarily for dust control and
3 concrete mixing. The water would be obtained from the cities of Wasco and Moro, both of which
4 have stated they have adequate supplies to fulfill facility needs.¹⁶⁰
5

6 During operation of the proposed facility, GHWF would use less than 5,000 gallons per
7 day at the O&M facility. The water would come from an on-site well, and its use would have no
8 effect on municipal water systems. Use of this small volume of water would be unlikely to
9 adversely affect other wells serving local landowners. The Council adopts the following
10 condition to require that GHWF limit its use of water at the O&M facility to no more than 5,000
11 gallons per day:
12

13 **(V.C.1) During operation of the facility, the certificate holder shall obtain water for**
14 **on-site use from one well located at the O&M facility, subject to compliance**
15 **with applicable permit requirements. During operation of the facility, the**
16 **certificate holder shall not use more than 5,000 gallons of water per day from**
17 **the on-site well.**
18

19 **Housing, Police and Fire Protection, Health Care and Schools.** GHWF expects that
20 construction of the proposed facility would employ up to 175 temporary workers over a period of
21 about nine months and that at least half of those workers would be hired from outside the
22 analysis area. GHWF believes that most workers would seek lodging in Moro, Biggs Junction,
23 Wasco and The Dalles. Based on 2000 U. S. Census data included in the ASC,¹⁶¹ it appears that
24 these communities could provide housing for about 350 workers.
25

26 GHWF expects that the permanent operations workforce would comprise 10 to 15 full-
27 time and part-time employees and that nine of these employees would come from outside the
28 area. According to the 2000 U. S. Census data, there are about 2,800 vacant housing units in
29 communities within the analysis area. The Council finds that construction and operation of the
30 proposed facility would not have a significant adverse effect on the supply of housing in the
31 analysis area.
32

33 The Dalles, Goldendale and Condon are the only cities within the analysis area that
34 provide their own police service. Other municipalities rely on the county sheriff for police
35 service. The Sherman County Sheriff's Office provides police service for all of Sherman County,
36 including the location of the proposed facility. Other sheriff's departments within the analysis
37 area include the Gilliam County Sheriff's Department, the Wasco County Sheriff's Department
38 and the Klickitat Sheriff's Department, though the proposed facility would be outside the
39 jurisdiction of the Klickitat Sheriff's Department. The Sherman County Sheriff's Office and the
40 Gilliam County Sheriff's Department each employ five full-time officers. The Wasco County
41 Sheriff's Department employs 17 full-time officers. All three of these Oregon sheriff's
42 departments are party to agreements to provide backup service for one another, as needed. The
43 Sherman County Sheriff's Office advised GHWF that the proposed facility would not have an

¹⁵⁹ ASC, Ex. O, at O-1.

¹⁶⁰ ASC Addendum, May 2008, Ex. O.

¹⁶¹ ASC, Ex. U, at U-15.

1 adverse impact on the office.¹⁶² The Council adopts the following condition that would require
2 the certificate holder to implement on-site security and establish a line of communication with
3 the Sherman County Sheriff's Office:
4

5 **(V.C.2) During construction and operation of the facility, the certificate holder shall**
6 **install on-site security and shall require on-site security personnel to**
7 **establish a line of communication with the Sherman County Sheriff's Office**
8 **to regularly report on the status of on-site security operations.**
9

10 The Council finds that construction and operation of the proposed facility would not have
11 an adverse effect on local police agencies to provide police protection within the analysis area.
12

13 The proposed facility would be located in the North Sherman Fire Protection District
14 based in Wasco. The North Sherman Fire Protection District provides fire protection service and
15 has trained EMT volunteers but does not provide ambulance service. It contracts with the Moro
16 Rural Fire Protection District for ambulance service. Local farmers also provide fire suppression
17 and are often the first to respond because of the large areas serviced by the fire protection
18 districts. During interviews with the North Sherman Fire Protection District and the Moro Rural
19 Fire Protection District, GHWF learned that the proposed facility could affect the districts'
20 ability to provide fire protection or ambulance service, especially during the construction phase.
21 GHWF proposes to coordinate response protocols with the North Sherman Fire Protection
22 District, the Moro Rural Fire Protection District and other wind energy facility operators in the
23 area. The Council adopts the following condition in the site certificate:
24

25 **(V.C.3) During construction and operation of the facility, the certificate holder shall**
26 **develop and coordinate response protocols with the North Sherman Fire**
27 **Protection District, the Moro Rural Fire Protection District, and other wind**
28 **energy facility operators in the vicinity of Golden Hills.**
29

30 To minimize the potential for fires starting during construction of the proposed facility,
31 GHWF proposes the following steps: (1) establishment of roads as a first step in the construction
32 process to minimize vehicle contact with dry grasses; (2) avoidance of idling vehicles in grassy
33 areas; (3) keeping open flames, such as cutting torches, away from grassy areas; (4) applying
34 gravel to staging areas; and (5) maintaining a water truck on site to respond to potential fire
35 incidents. The Council adopts the following conditions in the site certificate:
36

37 **(V.C.4) During construction of the facility, the certificate holder shall ensure that**
38 **construction vehicles and equipment are operated on graveled areas to the**
39 **extent possible and that open flames, such as cutting torches, are kept away**
40 **from grassy areas.**
41

42 **(V.C.5) During construction and operation of the facility, the certificate holder shall**
43 **ensure that the O&M facility and all service vehicles are equipped with**
44 **shovels and portable fire extinguishers of a 4A50BC or equivalent rating.**
45

¹⁶² ASC, Ex. U. Attachment U-1.

1 (V.C.6) During construction of the facility, the certificate holder shall maintain a
2 water truck on site to respond to potential fire incidents.

3
4 (V.C.7) The certificate holder shall construct turbines on concrete pads with a
5 minimum of 10 feet of nonflammable and non-erosive ground cover on all
6 sides. The certificate holder shall cover turbine pad areas with
7 nonflammable, non-erosive material immediately following exposure during
8 construction and shall maintain the pad area covering during operation of
9 the facility.

10
11 GHWF stated it would have trained staff and appropriate equipment on site to respond to
12 events that cannot be handled by the local fire districts, such as high angle rescue. In addition,
13 facility personnel would be trained to handle small brush fires. The Council adopts the following
14 conditions in the site certificate:

15
16 (V.C.8) During operation of the facility, the certificate holder shall ensure that all on-
17 site employees receive annual fire prevention and response training,
18 including tower rescue training, from qualified instructors or members of
19 local fire districts and that all employees are instructed to keep vehicles on
20 roads and off dry grassland, except when off-road operation is required for
21 emergency purposes.

22
23 (V.C.9) Upon beginning operation of the facility, the certificate holder shall provide
24 to North Sherman Fire Protection District and Moro Rural Fire Protection
25 District a site plan indicating the identification number assigned to each
26 turbine and the location of all facility structures. During operation of the
27 facility, the certificate holder shall ensure that appropriate district personnel
28 have an up-to-date list of the names and telephone numbers of facility
29 personnel available to respond on a 24-hour basis in case of an emergency on
30 the facility site.

31
32 The Council finds that construction and operation of the proposed facility would not have
33 a significant adverse effect on local fire protection districts to provide emergency fire response
34 services within the analysis.

35
36 The only full-service medical facility located in the analysis area is the Mid-Columbia
37 Medical Center in The Dalles, Oregon. The Center provides emergency services, as well as
38 surgery. If an accident were to occur on the proposed facility site, ambulance service would be
39 available from the Moro Rural Fire Protection District. If required, evacuation by means of
40 helicopter is also available. The Council finds that the small temporary and permanent
41 population increases during construction and operation of the proposed facility are not likely to
42 result in a significant adverse impact on the ability of local health care service providers to
43 provide health care services.

44
45 Within the analysis area, there are five grade schools (Grass Valley, Wasco, Condon,
46 Arlington and Goldendale), one middle school (Goldendale), four high schools (Moro, Condon,

1 Arlington and Goldendale) and one school serving grades kindergarten through 12 (Dufur).
2 GHWF does not expect construction workers to move their families to the analysis area, so
3 construction of the proposed facility should have no impact on local schools. GHWF expects the
4 number of in-migrant operational staff to be small, creating few new households with school-age
5 children. Interviews with local school districts indicated that the small number of potential new
6 students would not have a significant impact on the school districts and all districts would be
7 able to accommodate students with existing capacity. The Council finds that the small temporary
8 and permanent population increases during construction and operation of the proposed facility
9 are not likely to result in a significant adverse impact on schools in the analysis area.

10
11 **Traffic Safety.** During construction and operation of the proposed facility, GHWF
12 expects traffic to gain access to the facility site by means of U.S. Highway 97 or Oregon
13 Highway 206 and a series of interconnecting county roads. Traffic from the east or west would
14 probably travel on I-84, intersect with U.S. Highway 97 at Biggs Junction of Oregon Highway
15 206 about three miles west of Biggs Junction, and continue south to an intersecting county road.
16 Traffic from the State of Washington would probably use U.S. Highway 97 to cross the
17 Columbia River at Biggs Junction and continue south on U.S. Highway 97 to an intersecting
18 county road. Traffic from the south would probably use U.S. Highway 97 to an intersecting
19 county road. Both U.S. Highway 97 and Oregon Highway 206 are two-lane paved highways with
20 poor to fair pavement conditions.¹⁶³ County access roads are generally gravel rural roadways
21 with little traffic other than local agricultural and residential traffic.

22
23 During construction of the proposed facility, construction-related traffic will gain access
24 to the proposed facility site by means of public roads. To accommodate the length and weight of
25 vehicles that will deliver the turbines and equipment necessary for construction, some of the
26 county roads will require improvements. Reconstructed roadways will be improved to
27 accommodate two eight-foot travel lanes and will be covered with six inches of crushed
28 aggregate on top of a geo-textile separation fabric. GHWF states that all improvements to local
29 roads will be constructed within the public right-of-way.¹⁶⁴ Construction-related traffic may
30 cause short-term traffic delays when trucks deliver turbines and equipment, but GHWF states
31 those delays will be temporary and are not expected to have an adverse impact on highways in
32 the facility area. Delays on local roadways could occur but are not expected to have an adverse
33 impact due to the limited use of those roadways. GHWF proposes to develop a construction-
34 phase traffic management plan in consultation with the local community. The Council adopts the
35 following conditions in the site certificate:

36
37 **(V.C.10) Before and during beginning construction of the facility, the certificate**
38 **holder shall develop and implement a construction-phase traffic management**
39 **plan with all affected local jurisdictions.**

40
41 **(V.C.11) During construction of the facility, the certificate holder shall implement**
42 **measures to reduce traffic impacts, including:**
43 **(a) Providing notice to all affected local jurisdictions in advance of**
44 **deliveries;**

¹⁶³ ASC, Ex. U, at U-16.

¹⁶⁴ *Id.*

- 1 **(b) Providing notice to adjacent landowners and residents of Biggs**
- 2 **Junction in advance of deliveries; and**
- 3 **(c) Requiring flaggers to be at appropriate locations at appropriate times**
- 4 **during construction to direct traffic and reduce accident risks.**

5

6 During operation of the proposed facility, the expected staff of 10 to 15 employees would

7 not significantly increase traffic in the analysis area. The Council finds that the use of area

8 highways and local roads during construction and operation of the proposed facility is not likely

9 to result in a significant adverse impact on traffic safety.

10

11 Sherman County, in its review of the completed ASC, also recommended the following

12 three conditions, which the Council adopts in the site certificate:

13

14 **(V.C.12) Prior to start of construction, the certificate holder shall obtain from the**

15 **Sherman County Road Department an assessment of road conditions in the**

16 **facility area prior to the start of construction of the facility. The certificate**

17 **holder shall also obtain from the county road department an evaluation of**

18 **the roads following completion of the facility to determine any significant**

19 **change in condition. The certificate shall cooperate with the Sherman County**

20 **Road Department to ensure that any unusual damage or wear caused by the**

21 **use of the County’s roads by the developer during the construction of the**

22 **facility will be the responsibility of the developer. In addition, no equipment**

23 **or machinery of the developers shall be parked or stored on any county road**

24 **except while in use.**

25

26 **(V.C.13) Prior to beginning construction, the certificate holder will:**

27 **(a) Designate a route or routes for the transport of wind turbine**

28 **construction material (including water, aggregate, concrete,**

29 **machinery and tower pieces) with the intention of minimizing damage**

30 **to non-designated roads, and provide these designations to the County**

31 **Road Master;**

32 **(b) Provide to the County Road Master a written summary of possible,**

33 **anticipated road damage to the designated route or routes, and an**

34 **estimate of the cost of repair to the designated route or routes;**

35 **(c) Establish and maintain an escrow account for as long as construction**

36 **is ongoing funded in an amount equal to the estimated cost to repair**

37 **the designated route or routes consistent with the estimate provided in**

38 **(b) above; and**

39 **(d) Conduct an inspection of the roads along the designated route or**

40 **routes before and after construction with a representative of the**

41 **Sherman County Road Department and an independent third party**

42 **with the required expertise to inspect and evaluate paved and**

43 **graveled roads. In the event a dispute arises, the third party shall be**

44 **the final arbiter. The cost of the hiring of the third party shall be**

45 **borne by the certificate holder.**

46

1 (V.C.14) The certificate holder shall work with Sherman County Emergency Manager
2 to assign a 911 5-digit rural address to every tower road that intersects a
3 state or county road. The county will provide and install the signage for these
4 addresses.
5

6 **D. WASTE MINIMIZATION, OAR 345-022-0120**
7

8 (1) *Except for facilities described in sections (2) and (3), to issue a site certificate, the*
9 *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 and*
12 *operation of the facility, and when solid waste or wastewater is generated,*
13 *to result in recycling and reuse of such wastes;*

14 (b) *The applicant's plans to manage the accumulation, storage, disposal and*
15 *transportation of waste generated by the construction and operation of the*
16 *facility are likely to result in minimal adverse impact on surrounding and*
17 *adjacent areas.*
18

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

24 **Proposed Conditions**

25 GHWF provided information about waste minimization in Exhibit V of the ASC.
26

27 **Solid Waste.** Solid waste generated during construction of the proposed facility would
28 consist primarily of concrete and wood waste from turbine pad construction and scrap steel from
29 turbine construction. In addition, miscellaneous materials, including packing materials for
30 turbine parts and electrical equipment, and erosion control materials, including straw bales and
31 silt fencing, would be generated during construction.
32

33 GHWF proposes to minimize the generation of waste during construction of the proposed
34 facility by estimation of materials needs and implementation of efficient construction practices.
35 Where feasible, wastes would be recycled. Solid waste, including steel, wood, paper and other
36 materials, would be sorted, stored in dumpsters and transported to the regional landfill that
37 provides recycling services. With agreement of the landowner, concrete waste would be buried
38 in an excavated hole, covered with at least three feet of topsoil and graded to match existing
39 contours on the facility site. Hazardous materials, including oil, oily rags, and lubricant and
40 cleaning solution containers, would be stored in sealed drums and removed for recycling by a
41 licensed contractor. All other solid waste generated during construction of the proposed facility
42 would be transported to a regional landfill by the local garbage hauler.¹⁶⁵ The Council adopts the
43 following condition, which summarizes GHWF's waste management plan during construction:
44

¹⁶⁵ ASC, Ex. V, at V-1 – V-5.

- 1 **(V.D.1) During construction, the certificate holder shall implement a waste**
2 **management plan that includes but is not limited to the following measures:**
3 **(a) Recycling steel and other metal scrap;**
4 **(b) Recycling wood waste;**
5 **(c) Recycling packaging wastes, such as paper and cardboard;**
6 **(d) Collecting non-recyclable waste for transport to a landfill; and**
7 **(e) Segregating all hazardous wastes, such as used oil, oily rags and oil-**
8 **absorbent materials, lubricant and cleaning solution containers,**
9 **mercury-containing lights and lead-acid and nickel-cadmium**
10 **batteries, for disposal by a licensed firm specializing in the proper**
11 **recycling or disposal of hazardous wastes.**
12

13 Solid waste generated during operation of the proposed facility would consist primarily
14 of paper and other office waste, including food packaging and food scraps at the O&M facility.
15 Facility maintenance could also generate waste, including oily rags and empty lubricant and
16 cleaning solution containers. GHWF would implement a recycling program at the O&M
17 facility.¹⁶⁶ Non-recyclable solid waste generated during operation of the proposed facility would
18 be transported to a regional landfill by the local garbage hauler.¹⁶⁷ The Council adopts the
19 following condition, which summarizes GHWF's waste management plan during operation:
20

- 21 **(V.D.2) During operation, the certificate holder shall implement a waste management**
22 **plan that includes but is not limited to the following measures:**
23 **(a) Training employees to minimize and recycle solid waste;**
24 **(b) Recycling paper products, metals, glass and plastics;**
25 **(c) Recycling used oil and hydraulic fluid;**
26 **(d) Collecting non-recyclable waste for transport to a landfill; and**
27 **(e) Segregating all hazardous wastes, such as used oil, oily rags and oil-**
28 **absorbent materials, oil and cleaning solution containers, mercury-**
29 **containing lights and lead-acid and nickel-cadmium batteries, for**
30 **disposal by a licensed firm specializing in the proper recycling or**
31 **disposal of hazardous wastes.**
32

33 **Wastewater.** During construction of the proposed facility, water would be used for dust
34 suppression, road compacting and concrete mixing. Wastewater from vehicle wash down would
35 occur at a local batch plant on pervious surface, and the wastewater would be expected to
36 infiltrate into the ground.¹⁶⁸ A contractor would regularly pump and remove wastewater from on-
37 site portable toilets.¹⁶⁹ The Council adopts the following condition, which summarizes GHWF's
38 plan for treatment of wastewater during construction of the proposed facility.
39

- 40 **(V.D.3) During construction, the certificate holder shall provide portable toilets for**
41 **on-site sewage handling and shall ensure that they are pumped and cleaned**
42 **regularly by a licensed contractor.**

¹⁶⁶ ASC, Ex. V, at V-3.

¹⁶⁷ ASC, Ex. V, at V-1 – V-5.

¹⁶⁸ ASC, Ex. V, at V-2.

¹⁶⁹ ASC, Ex. V, at V-1.

1
2 During operation of the proposed facility, wastewater would be generated from sinks and
3 toilets at the O&M building. This wastewater would be discharged to an on-site septic system
4 capable of handling up to 5,000 gallons per day.¹⁷⁰ The Council adopts the following condition,
5 which would require GHWF to discharge sanitary wastewater at the O&M building to a licensed
6 on-site septic system:
7

8 **(V.D.4) During operation, the certificate holder shall discharge sanitary wastewater**
9 **generated at the O&M facility to a licensed on-site septic system in**
10 **compliance with county permit requirements. The certificate holder shall**
11 **design the septic system with a discharge capacity of less than 5,000 gallons**
12 **per day.**
13

14 **Impact on Surrounding and Adjacent Areas.** The accumulation, storage, disposal and
15 transportation of waste generated by construction and operation of the proposed facility would
16 have minimal adverse impact on surrounding and adjacent areas. Most waste would be removed
17 from the site and reused, recycled or discarded at an appropriate disposal facility.
18

19 Transportation of wastes to landfills or recycling facilities would involve periodic truck
20 trips over public and private roads between the proposed facility and the landfill or recycling
21 facilities. Because of the expected low volume of waste materials, these trips would not have an
22 adverse impact on surrounding and adjacent areas.
23

24 Water used on site during construction for dust suppression, road compaction and
25 concrete mixing would evaporate or infiltrate into the ground. During construction, sanitary
26 wastewater would be collected in portable toilets that would be regularly pumped and cleaned.
27 During operation, sanitary wastewater would be discharged to a licensed on-site septic system.
28

29 During construction, GHWF would ensure that contractors manage and monitor waste
30 generation and recycle or dispose of wastes in an appropriate manner. During operation, staff
31 would implement a waste management program designed to ensure that solid waste is recycled to
32 the extent feasible and that hazardous materials are disposed of in accordance with applicable
33 regulations.
34

35 **VI. OTHER APPLICABLE REGULATORY REQUIREMENTS: FINDINGS AND CONCLUSIONS**

36 **A. REQUIREMENTS UNDER COUNCIL JURISDICTION**

37 Under ORS 469.503(3) and under the Council's General Standard of Review (OAR
38 345-022-0000), the Council must determine that the proposed facility complies with "all other
39 Oregon statutes and administrative rules identified in the project order, as amended, as applicable
40 to the issuance of a site certificate for the proposed facility." Applicable Oregon statutes and
41 administrative rules that are not otherwise addressed in Sections IV and V of this Final Order
42 include the noise control regulations adopted by the Environmental Quality Commission, the
43 DSL's regulations for removal or fill of material affecting waters of the state, the Water
44
45

¹⁷⁰ ASC, Ex. V, at V-3.

1 Resources Department's regulations for appropriating ground water and the Council's statutory
2 authority to consider protection of public health and safety.

3
4 1. NOISE CONTROL REGULATIONS, OAR 340-035-0035

5
6 (1) *Standards and Regulations:*

7
8 (b) *New Noise Sources:*

9

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

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

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

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

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

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

1 *ambient background level" does not include noise*
2 *generated or caused by the wind energy facility.*

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

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

32 (V) *For purposes of determining whether an operating*
33 *wind energy facility complies with the ambient*
34 *noise standard where a landowner has not waived*
35 *the standard, noise levels at the appropriate*
36 *measurement point are measured when the facility's*
37 *nearest wind turbine is operating over the entire*
38 *range of wind speeds between cut-in speed and the*
39 *windspeed corresponding to the maximum sound*
40 *power level and no turbine that could contribute to*
41 *the noise level is disabled. The facility complies*
42 *with the noise ambient background standard if the*
43 *increase in noise over either the assumed ambient*
44 *noise level of 26 dBA or to the actual ambient*
45 *background L10 and L50 noise level, if measured, is*

1 *not more than 10 dBA over this entire range of wind*
2 *speeds.*

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

12 (VII) *For purposes of determining whether an operating*
13 *wind energy facility satisfies the Table 8 standards,*
14 *noise generated by the energy facility is measured*
15 *at the appropriate measurement point when the*
16 *facility's nearest wind turbine is operating at the*
17 *windspeed corresponding to the maximum sound*
18 *power level and no turbine that could contribute to*
19 *the noise level is disabled.*
20

21 Discussion

22 **Applicable Regulations.** The proposed facility would be a “new industrial or
23 commercial noise source” under OAR 340-035-0035 because construction of the facility would
24 begin after January 1, 1975.¹⁷¹ The noise control regulations impose different limits on new
25 noise sources constructed on a “previously used industrial or commercial site” compared to the
26 limits imposed on new sources constructed on a “previously unused industrial or commercial
27 site.” A site is considered a “previously unused industrial or commercial site” if the site has not
28 been in an industrial or a commercial use at any time during the 20 years preceding the
29 construction of a new noise source on the site.¹⁷² According to the Applicant, all the equipment
30 associated with Golden Hills would be located on property that has not been used for industrial
31 or commercial operations during the past 20 years. Therefore, the noise generated by the
32 proposed facility must comply with OAR 340-035-0035(1)(b)(B).
33

34 All equipment associated with Golden Hills would be located on property that has not
35 been used for industrial or commercial operations during the past 20 years. Therefore, the noise
36 generated by the proposed facility must comply with OAR 340-035-0035(1)(b)(B).
37

38 The regulation quoted above requires that the noise generated by a new wind energy
39 facility located on a previously unused site must comply with two tests. Facility-generated noise
40 must not increase the ambient hourly L₁₀ or L₅₀ noise levels at any noise sensitive receiver by
41 more than 10 dB when turbines are operating “between cut-in speed and the wind speed
42 corresponding to the maximum sound power level.”¹⁷³ This requirement is known as the

¹⁷¹ OAR 340-035-0015(33) defines “new industrial or commercial noise source.”

¹⁷² OAR 340-035-0015(47) defines “previously unused industrial or commercial site.”

¹⁷³ The regulation applies the test “as measured at an appropriate measurement point.” The “appropriate measurement point,” as defined by OAR 340-035-0035(3)(b)(A)-(B) is “25 feet (7.6 meters) toward the noise source

1 “ambient degradation” test. To show compliance with this test, the Applicant may use an
 2 assumed ambient hourly L₅₀ noise level of 26 dBA; otherwise, the Applicant must measure the
 3 actual ambient hourly noise levels at the receiver in accordance with the procedures specified in
 4 the regulation. OAR 340-035-0035(1)(b)(B)(iii)(III) relieves the Applicant from having to show
 5 compliance with the ambient degradation test “if the person who owns the noise sensitive
 6 property executes a legally effective easement or real covenant that benefits the property on
 7 which the wind energy facility is located.”
 8

9 The potential “waiver” of the ambient degradation test does not relieve the wind facility
 10 from compliance with the second test imposed under OAR 340-035-0035(1)(b)(B). A new wind
 11 energy facility located on previously unused sites may not radiate sound levels to any noise
 12 sensitive receiver exceeding the noise limits specified in Table 8 of the regulation. This is known
 13 as the “Table 8” or “maximum allowable” test. Table 8 provides the following limits:
 14

Statistical Noise Limits for Industrial and Commercial Sources		
Statistical Descriptor	Maximum Permissible Statistical Noise Levels (dBA)	
	Daytime (7:00 a.m. - 10:00 p.m.)	Nighttime (10:00 p.m. - 7:00 a.m.)
L ₅₀	55	50
L ₁₀	60	55
L ₁	75	60
The hourly L ₅₀ , L ₁₀ and L ₁ noise levels are defined as the noise levels equaled or exceeded 50 percent, 10 percent and 1 percent of the hour, respectively.		

15
 16 The proposed energy facility would potentially operate on a 24-hour basis. Therefore, the
 17 noise radiating from the proposed facility must not exceed the maximum allowable nighttime
 18 noise limits (10:00 p.m. to 7:00 a.m.). Consequently, to comply with the regulation, the noise
 19 radiating from Golden Hills must not exceed an hourly L₅₀ noise level of 50 dBA at any noise
 20 sensitive receiver. For the purpose of assessing whether a proposed wind facility would comply
 21 with this test, noise levels must be predicted “assuming that all of the proposed wind facility’s
 22 turbines are operating at the maximum sound power level.”
 23

24 **Compliance with the Regulations.** OAR 340-035-0035(5)(g) specifically exempts noise
 25 caused by construction activities. Construction would produce localized, short duration noise
 26 levels similar to those produced by any large construction project with heavy construction
 27 equipment. Much of the facility work would be far removed from any noise sensitive property.
 28 Nevertheless, in those areas near residences, the certificate holder should confine the noisiest
 29 construction activities to daylight hours to help mitigate noise impacts at the residences.
 30

31 Rather than assuming an hourly L₅₀ noise level of 26 dBA for the ambient noise level,
 32 GHWF chose to conduct noise measurements at noise sensitive properties in the vicinity of the
 33 facility. Accordingly, to show compliance with the ambient degradation test, the Council must
 34 find that the noise generated by operation of the wind facility will not increase the ambient noise

from that point on the noise sensitive building nearest the noise source” or “that point on the noise sensitive property line nearest the noise source,” whichever is farther from the source. OAR 340-035-0015(38) defines “noise sensitive property” as “real property normally used for sleeping, or normally used as schools, churches, hospitals, or public libraries.” Private residences are the only “noise sensitive properties” potentially affected by the proposed GHWF. We refer to these as the “noise sensitive receivers.”

1 at any noise sensitive property by more than 10 dBA. Because ambient noise depends on wind
 2 speed, GHWF took baseline noise measurements over a one-week period along with wind speed
 3 measurements and correlated noise with wind speed at five different wind conditions: cut in
 4 speed (4.2 meters per second (“m/s”)), quarter load speed (7 m/s), half load speed (8.4 m/s),
 5 three-quarter load speed (9.8 m/s) and full load speed (13.9 m/s). Because sound levels were not
 6 necessarily measured during the exact wind speed associated with the five different operating
 7 conditions, GHWF used a regression analysis approach to establish the ambient sound levels that
 8 would be associated with the five wind speeds. To further improve the accuracy of that data,
 9 GHWF used only the sound level data measured during nighttime hours so that noise associated
 10 with sources unrelated to wind was eliminated from the analysis.

11
 12 In addition to addressing different wind speeds in its analysis, GHWF noted that the
 13 facility site covers a variety of locations. GHWF selected four measurement locations to be
 14 representative of residences throughout the facility area. The four locations were:

- 15 1. A house on the north side of DeMoss Springs Lane about 1.9 miles east of U.S.
 16 Highway 97
- 17 2. A house on the east side of Sawtooth Road about 3.25 miles north of the town of
 18 Moro
- 19 3. A house on the east side of Van Gilder Road about 2.6 miles south of Oregon
 20 Highway 206
- 21 4. A farm on the west side of Mud Hollow Road about 2.8 miles south of the
 22 intersection with U.S. Highway 97

23
 24
 25 The results of the measurement data and its analysis are shown in Table VI.A.1.1 as
 26 follows:
 27

Table VI.A.1.1 - Existing Ambient Sound Levels at Different Wind Speeds (dBA)					
Monitoring Location	Cut in Wind Speed	¼ Load	½ Load	¾ Load	Full Load
Location 1	20.8	26.7	29.6	32.6	41.2
Location 2	18.8	25.9	29.5	33.1	43.7
Location 3	22.3	26.8	29.1	31.3	37.9
Location 4	24.7	28.2	29.9	31.7	36.7

28
 29 GHWF used the commercially available CadnaA model to predict the facility’s noise
 30 levels at all residences in the facility vicinity.¹⁷⁴ GHWF has not yet selected a specific turbine
 31 model, and in its ASC has requested flexibility to use a range of turbine models depending on
 32 current technology and availability. Therefore, for purposes of analyzing noise impact, GHWF
 33 based its analysis on the loudest turbine of those under consideration, the Clipper C96.¹⁷⁵
 34 Because the exact layout will not be known until final selection of turbine design and final

¹⁷⁴ The same software was used for the nearby Klondike and Biglow Canyon projects.

¹⁷⁵ For the Clipper C96, only 181 turbines would be constructed in order to reach rated capacity of 400 MW. ODOE asked if a smaller turbine would be a more conservative basis for analysis since GHWF would then install a greater number of turbines. In response, GHWF’s noise consultant stated that the Clipper C96 was sufficiently louder than other models under consideration to make it the conservative choice for analysis purposes. The Council concurs.

1 facility design, GHWF performed a “bounding” or “worst case” analysis. Conservatism in the
2 analysis included:

- 3
- 4 ▪ Conservative selection of temperature and humidity for modeling purposes (50⁰ F
- 5 temperature, 70 percent relative humidity)
- 6 ▪ A 2-dB margin was added to turbine sound power levels
- 7 ▪ No credit for shielding of any residence by terrain
- 8 ▪ All receptors were treated as if they were simultaneously downwind of all turbines.
- 9

10 Turbine noise levels were modeled at five different load levels ranging from cut in to full
11 load. This full range of wind speeds was selected because the turbines produce less noise at low
12 loads but the wind speeds are also lower, resulting in lower ambient noise level. For this facility,
13 the greatest increases over ambient noise level were generally found to occur at low wind speeds,
14 when the ambient noise level is lowest. Detailed noise contour maps are included in Exhibit X of
15 the ASC (May 2008 revision). The noise contour maps are overlaid on topographic maps that
16 show all 181 turbines, the 56 closest residences, the Ag Center in Moro and DeMoss Springs
17 Park. The contour maps show that there are no residences at which the noise level from the wind
18 facility would be 50 dBA or higher. Therefore, with the facility built and operating as assumed,
19 the facility would comply with the “Maximum Allowable” noise requirements set forth in Table
20 8 of OAR 340-035-0035(1)(b)(B).

21

22 Because of the low ambient noise levels found during baseline measurements, the
23 “ambient degradation” rule is more limiting than the maximum allowable noise limits from OAR
24 340-035-0035(1)(b)(B) Table 8. The ambient degradation rules states that noise at any noise
25 sensitive receptor cannot be increased due to facility operations by more than 10 dB over the
26 ambient level. For the ambient noise impact analysis, the site was divided into four quadrants,
27 corresponding to the four ambient sound measurement locations. Then the houses within each
28 quadrant were concluded to be exposed to the same ambient noise levels as that found at the
29 ambient measurement location within the quadrant. The total noise, with the facility operating,
30 was predicted at each house in the vicinity of the facility for each of the five wind conditions
31 described under the ambient noise measurements section: cut in speed, quarter load speed, half
32 load speed, three-quarter load speed and full load speed (the results were presented as noise
33 contours in Figures 19 through 23 of Attachment X-1 and as individually predicted levels at each
34 house in Table 6 of Attachment X-1). Once the predicted levels were obtained, the ambient noise
35 at each house was subtracted mathematically to arrive at the increase in sound at the residence
36 caused by the facility.

37

38 The data in Table 6 of Attachment X-1 shows several houses where the 10-dBA increase
39 limit is exceeded for at least one of the five wind conditions. Some of those houses are on
40 properties whose owners have reached lease agreements with the Applicant (the ASC states that
41 they are “involved in the project”).

42

43 As provided under OAR 340-035-0035(1)(b)(B)(iii)(III), the certificate holder would be
44 relieved from having to meet the ambient degradation test by obtaining a “legally effective
45 easement or real covenant” from the affected landowner where the noise level would exceed 10

1 dBA above ambient. The owners of properties involved in the facility have already agreed to
2 such waivers.
3

4 Table 6 of Attachment X-1 identified eight houses that are not involved in the facility
5 where the facility would exceed the 10-dB ambient degradation limit. GHWF would be required
6 to obtain written waivers from the owners of these eight properties, or reduce the sound level at
7 those properties either by eliminating turbines, moving turbines or imposing operational limits.
8 The Department recommends site certificate conditions requiring the certificate holder to
9 provide, prior to construction, information satisfactory to the Department demonstrating that
10 necessary waivers have been obtained or the facility has been modified to meet the ambient
11 degradation rule outright.
12

13 The noise modeling described above is based on a particular choice of turbine and facility
14 layout. However, the turbine model and exact layout would not be known until just before start
15 of construction. The Department considered recommending findings and conditions based on a
16 particular facility design. However, in response to a question from ODOE, GHWF stated that
17 “we do not yet know the final layout or turbine. We made some assumptions that we considered
18 ‘worse case’ with regard to turbine selection and layout in the noise analysis that was done for
19 the permit application. We would prefer the flexibility to do an analysis of the final layout once
20 we have it to determine the necessity for noise waivers since some of those houses may not need
21 one outside of a worse case scenario.”¹⁷⁶
22

23 To ensure that Golden Hills would comply with the applicable state noise control
24 regulations, the Council shall adopt a condition that would require the certificate holder, before
25 beginning construction of the facility, to present to the Department data specifying the final
26 selected make, model and location of all turbines and substations. Prior to construction, the
27 certificate holder would be required by condition to submit a layout-specific analysis showing
28 that the facility as built would not generate noise that increases the sound level by greater than 10
29 dB above the measured ambient levels presented in Table VI.A.1.1 above, over the full range of
30 wind conditions, at any property for which GHWF has not obtained an ambient noise
31 degradation waiver. For any house where the 10-dB ambient increase criterion was not met and a
32 waiver was not obtained, GHWF would be required to reduce the noise levels either by
33 eliminating a turbine, stipulating to reduced operations or moving the turbine.
34

35 **Comments from the Public Regarding the Noise Standard.** ODOE received many
36 comments from local property owners regarding the noise from the facility. In comments on the
37 ASC, local property owners stated that GHWF had not obtained the necessary waivers, in some
38 cases those waivers would not be granted, and EFSC should require an operational noise-
39 measuring program.¹⁷⁷ The Council has not previously adopted a condition requiring operational
40 noise monitoring of wind energy projects, although such a requirement appears in all site
41 certificates for other electric generating facilities. ODOE recommended that the Council adopt a
42 condition requiring the certificate holder to submit an operational noise-monitoring plan for
43 ODOE concurrence prior to commercial operation.
44

¹⁷⁶ Email from Kelly O’Brien, GHWF, to Adam Bless, ODOE (Sept. 5, 2008).

¹⁷⁷ Letter from Gary van Gilder (Sept. 7, 2008).

1 ODOE received further comments on the Draft Proposed Order regarding the noise
2 standard. The issues raised in comments on the Draft Proposed Order included:
3

4 *Failure to obtain waivers:* Exhibit X of the ASC includes maps showing the expected
5 noise from a “conservative” turbine layout based on the noisiest of the turbine models currently
6 being considered. The maps show eight houses where GHWF would need noise waivers from
7 property owners who are not financially involved in the facility. Commenters state that GHWF
8 should not receive a site certificate without the necessary waivers. However, the Draft Proposed
9 Order and this Final Order include conditions stating that construction cannot begin unless all
10 necessary waivers have been obtained or the turbine layout has been altered so that the noise
11 standard is met. Certain comments also raised the possibility that properties that are depicted as
12 being subject to something close to, but less than a 10-dBA increase, may in reality incur an
13 increase greater than 10 dBA, and also require waivers. However, the turbine layout shown in
14 Exhibit X was deliberately based on conservative assumptions regarding turbine model and
15 design. The proposed conditions require GHWF to do a final analysis based on its final design
16 layout. That final layout is very likely to be quieter than the one modeled in Exhibit X, and very
17 unlikely to be as noisy or noisier. If the final layout results in a greater than 10-dBA increase for
18 any additional noise-sensitive properties, GHWF will be required to either obtain waivers for
19 these additional properties or alter the final layout so that the standard is met. As a result of the
20 conservative modeling assumptions and the noise conditions set forth below, the Council finds
21 that the standard is met. Finally, the Council adopts a condition pertaining to post-construction
22 noise monitoring to ensure compliance with the standard.
23

24 Attorney Steven Schell submitted written comments on the Draft Proposed Order on
25 behalf of the owners of three noise-sensitive properties (McArthur, Macnab and Van Gilder).
26 GHWF’s noise analysis indicates that noise at each of the affected homes could increase by more
27 than 10 dBA at certain wind-turbine load levels, depending on the final turbine layout. The
28 comments include signed statements by each property owner indicating his or her intent not to
29 sign waivers if they are required. In response, GHWF has provided a revised layout for the
30 purposes of demonstrating a potential turbine layout that would not require waivers for any of
31 these properties.¹⁷⁸ Therefore, even given the statements of these landowners, the Council finds
32 that the facility as conditioned herein complies with the standard.
33

34 *Baseline noise at affected houses:* In comments on the Draft Proposed Order, Jeanney
35 McArthur, Gary Van Gilder and others commented that baseline measurements had not been
36 taken at their houses. This statement is correct. As described in the ASC, GHWF took baseline
37 measurements at four locations that were representative of the noise-sensitive houses near the
38 site. The measurements were reviewed by an independent noise consultant under contract to
39 ODOE. The ODOE consultant did find some technical issues that required further work by
40 GHWF. Those issues are described in detail in ODOE’s RAI #2, dated May 22, 2008. GHWF
41 responded to those questions in its updated Exhibit X, which ODOE deemed “complete” on
42 August 4, 2008. In summary, the Council finds that the four baseline measurements provide an
43 adequate representation of baseline sound for purposes of setting the “ambient” level that Golden
44 Hills cannot exceed by more than 10 dB.
45

¹⁷⁸ December 8, 2008 supplemental submittal from GHWF to Adam Bless.

1 *Construction noise:* Some commenters stated that the construction noise would be
2 unacceptable. ODOE recognizes that construction of the facility will create noise. However,
3 construction noise is specifically excluded from the DEQ noise standards. The Draft Proposed
4 Order and this Final Order include some conditions that will reduce construction noise but will
5 not eliminate it. The Council has no applicable rule that it could use to deny a site certificate
6 based on noise during construction.
7

8 *Improper delegation and denial of due process:* As noted above, GHWF has requested a
9 site certificate based on corridors, with the final layout and design to be specified prior to
10 construction. This use of corridors, with flexibility as to the exact facility layout within those
11 corridors, is the same licensing model used for the Klondike III, Biglow Canyon, Leaning
12 Juniper and Shepherds Flat wind energy facilities. The proposed conditions require GHWF to
13 perform a final noise analysis based on the actual turbine design and layout. That final analysis
14 will result in a new and more precise set of homes that would require waivers. Depending on the
15 final layout chosen, it is possible GHWF will not be required to seek any waivers. In any case,
16 construction could not begin until the Department has reviewed and approved the final noise
17 analysis and determined that any necessary waivers have been obtained. If GHWF is unable to
18 obtain a required waiver, it will be required to submit a modified final layout that the Department
19 determines will meet the standard without the waiver. In written testimony on the Draft Proposed
20 Order submitted by attorney Steven Schell representing Mike and Jeanney McArthur and others,
21 Mr. Schell states that the proposed conditions are an unlawful delegation from the Council to
22 Department staff.
23

24 The Council finds that the proposed conditions do not constitute an impermissible
25 delegation. ORS 469.402 provides that when the Council imposes a condition in a site certificate
26 that requires “subsequent review and approval of a future action, the council may delegate the
27 future review and approval to the State Department of Energy if, in the council’s discretion, the
28 delegation is warranted under the circumstances of the case.” The condition objected to by
29 Steven Schell requires the Department’s review and approval of a future action (submission of
30 the final layout, along with any necessary waivers, by the Applicant). ORS 469.402 provides
31 EFSC with authority to delegate this review and approval to ODOE if, in the Council’s sole
32 discretion, the delegation is warranted under the circumstances. The Department notes that the
33 Council has approved similar delegations of authority in the Klondike III, Biglow Canyon,
34 Leaning Juniper and Shepherds Flat final orders and site certificates and does not believe the
35 circumstances warrant a different determination here.
36

37 Steven Schell argues that ORS 469.402 does not apply when compliance with a condition
38 is necessary to meet a standard required for issuance of a site certificate. This interpretation
39 violates the maxim of statutory construction “not to insert what has been omitted.” ORS 174.010.
40 The plain language of ORS 469.402 does not limit its ASC to conditions that are not required to
41 meet a siting standard. It applies simply to “conditions...that require subsequent review and
42 approval of a future action...” As described above, ORS 469.402 is applicable to the conditions
43 objected to by Mr. Schell and his clients.
44

45 Steven Schell argues in the alternative if the delegation is proper under ORS 469.402, it
46 is nonetheless a violation of the Due Process Clause of the Fifth Amendment of the U.S.

1 Constitution. The argument is that his clients do not have notice of or an opportunity to be heard
2 on the final layout and noise analysis provided by GHWF to the Department to determine
3 satisfaction of the condition. However, Mr. Schell’s clients have the ability at any time following
4 issuance of a site certificate to present information to the Council that the certificate holder is not
5 complying with a condition of the site certificate. The Council has the authority to suspend or
6 revoke a site certificate following its issuance if the certificate holder has failed to comply with
7 the terms of the condition. ORS 469.440. Mr. Schell’s clients are not deprived of an opportunity
8 to ensure that the siting standards are met.
9

10 In a similar vein, certain commenters also state that similar conditions in the Klondike III
11 site certificate and the Hay Canyon Conditional Use Permit were not effective. If property
12 owners near Klondike III believe that the noise from Klondike III exceeds the standard, they can
13 report the allegation to the Department or the Council, which could investigate and compel the
14 licensee to take corrective action. No property owner has contacted the Department or the
15 Council with a complaint about noise from Klondike III. The Hay Canyon project was reviewed
16 by Sherman County, not the Council, and therefore it provides no information about the
17 effectiveness of Council conditions.
18

19 *Studies performed by out-of-state consultant:* In further comments on the Draft Proposed
20 Order, Steven Schell notes that GHWF used a noise consultant registered in Colorado but not
21 Oregon to conduct ambient noise measurements. Mr. Schell argues that these measurements do
22 not constitute reliable evidence because ORS 672.020(1) requires engineers practicing in Oregon
23 to have a valid certificate issued by the state. However, this provision does address the issue of
24 reliance on documents prepared by an out-of-state engineer by an administrative proceeding or a
25 court. ORS 183.450(1) provides that in a contested case, “evidence...commonly relied upon by
26 reasonably prudent persons in conduct of their serious affairs shall be admissible.” No reason is
27 provided why a report prepared by an engineering firm in another state would not meet this
28 standard. Indeed, no commenter has alleged that the baseline noise values used in the analysis
29 are incorrect. Finally, Kerrie Standlee, a consultant to the Council who is registered in Oregon,
30 did review Exhibit X on the Council’s behalf.¹⁷⁹ There is no factual reason to conclude that the
31 ambient noise levels are different from what was reported in Exhibit X. The Department
32 recommends the Council find that the baseline noise levels reported in Exhibit X are the
33 appropriate levels for the purposes of determining compliance with the “ambient degradation”
34 section of the DEQ standard.
35

36 *Post-Construction Testing:* Some commenters questioned the accuracy of the computer
37 models used in Exhibit X. Also, one commenter, Gary Van Gilder, suggested operational
38 monitoring. The Department agreed and proposed a new condition requiring GHWF to develop a
39 program for a complaint-based post-construction noise testing protocol. The Draft Proposed
40 Order acknowledges that no wind facility under Council jurisdiction has done such testing.
41 However, because of the many public comments regarding noise, the Department recommends
42 that the Council adopt this condition. In its comments on the Draft Proposed Order, GHWF
43 called this new condition “onerous.” The Department acknowledges that noise testing for an

¹⁷⁹ Kerrie Standless’s review is documented in his memorandum included as Attachment B to ODOE Request for Additional Information #2 (May 22, 2008).

1 operating wind facility is more difficult than testing for a thermal generating plant, because the
2 wind itself is an important variable. However, Golden Hills is the first wind facility under
3 Council review to receive much local concern based on noise impacts to nearby residences.
4 Exhibit X shows several houses that could experience increases in ambient noise greater than 10
5 dB, depending on wind conditions. Therefore, the Council finds that the new condition, requiring
6 operational noise testing, shall be retained.
7

8 However, at the Council's review of the Draft Proposed Order on January 23, 2009 ("first
9 reading"), the Council discussed a compromise condition where post-construction noise testing
10 would only be required based on a complaint from a property owner. This would give property
11 owners recourse without requiring a comprehensive set of noise tests involving all potentially
12 affected properties. The Council directed staff to modify the proposed condition, and in this Final
13 Order adopts a condition requiring operational noise testing based on property owners'
14 complaints.
15

16 The Council finds that the noise levels generated by the siting, construction and operation
17 of the proposed facility are consistent with Oregon noise control regulations. The Council adopts
18 the following conditions in the site certificate:
19

20 **(VI.A.1.1) To reduce noise impacts at nearby residential areas, the certificate holder
21 shall:**

- 22
- 23 (a) **Confine the noisiest operation of heavy construction equipment to**
24 **daylight hours;**
 - 25
 - 26 (b) **Require contractors to install and maintain exhaust mufflers on all**
27 **combustion engine-powered equipment; and**
 - 28
 - 29 (c) **Establish a complaint response system at the construction manager's**
30 **office to address noise complaints.**
 - 31

32 **(VI.A.1.2) The certificate holder shall submit, for Department approval prior to**
33 **construction, a complete new noise analysis for the facility as designed and**
34 **generate a new table listing each noise-sensitive property, as defined in OAR**
35 **340-035-0015(38), and the predicted maximum hourly L₅₀ noise level at each**
36 **noise-sensitive property. In addition, the certificate holder shall provide the**
37 **predicted sound levels contributed by each turbine at each noise-sensitive**
38 **property that does not provide a waiver of the ambient noise rule. The**
39 **certificate holder shall perform the analysis using the CADNA/A by**
40 **DataKustik GmbH of Munich, Germany, and shall base the analysis on the**
41 **final facility design including final choice of turbine and location of all**
42 **facility components. The analysis shall demonstrate to the satisfaction of the**
43 **Department that each of the following requirements have been met:**

- 44 (a) **For any noise sensitive property, the certificate holder shall identify**
45 **the final design locations of all turbines to be built and perform a**
46 **noise analysis demonstrating, in accordance with OAR 340-035-**
47 **0035(1)(b)(B)(iii)(IV), that the total hourly L₅₀ noise level generated**

1 by the facility would not exceed 50 dBA at the appropriate
2 measurement point. The certificate holder shall assume the following
3 input parameters:

- 4 • The maximum sound power level warranted by the manufacturer
- 5 or confirmed by other means acceptable to the Department;
- 6 • The exact locations of the proposed turbines;
- 7 • Attenuation of sound due to absorption to be calculated using a
- 8 methodology satisfactory to the Department;
- 9 • The use of 50⁰ F temperature and 70 percent relative humidity in
- 10 the analysis;
- 11 • A 2-dB safety margin shall be added to turbine sound power
- 12 levels;
- 13 • No credit for shielding of any residence by terrain; and
- 14 • All receptors treated as simultaneously downwind of all turbines

- 15 (b) If the hourly L_{50} noise levels caused by the facility at any noise-
16 sensitive property would increase the ambient noise level at any noise-
17 sensitive property over the full set of wind conditions ranging from
18 cut in to full load by more than 10 dBA, the certificate holder shall
19 obtain a legally effective easement or real covenant from that
20 property owner pursuant to which the owner of the property
21 authorizes the certificate holder's operation of the facility to increase
22 ambient statistical noise levels L_{10} and L_{50} by more than 10 dBA at the
23 appropriate measurement point. A legally effective easement or real
24 covenant shall (i) include a legal description of the burdened property
25 (the noise-sensitive property); (ii) be recorded in the real property
26 records of the county; (iii) expressly benefit the certificate holder; (iv)
27 expressly run with the land and bind all future owners, lessees or
28 holders of any interest in the burdened property; and (v) not be
29 subject to revocation without the certificate holder's written approval.
- 30 (c) If, for any noise-sensitive property where the hourly L_{50} noise levels
31 caused by the facility would increase by more than 10 dBA above the
32 ambient level over the full range of wind conditions measured for that
33 property, and the certificate holder has not obtained a legally effective
34 easement or real covenant as described in (b) above, the certificate
35 holder shall identify measures to reduce noise at that property either
36 by eliminating or moving turbines, and shall perform the noise
37 analysis again to demonstrate, in accordance with OAR 340-035-
38 0035(1)(b)(B)(iii)(IV), that the total noise generated by the facility
39 would meet the ambient noise degradation test at the appropriate
40 measurement point at that noise-sensitive property. The certificate
41 holder shall obtain Department concurrence of the new analysis prior
42 to start of construction.

43
44 (VI.A.1.3) During operation, the certificate holder shall maintain a complaint response
45 system to address noise complaints. The certificate holder shall promptly
46 notify the Department of any complaints received regarding facility noise

1 and of any actions taken by the certificate holder to address those
2 complaints. Prior to start of commercial operation, the certificate holder
3 shall notify, in writing, the owners of potentially affected noise sensitive
4 properties identified in Exhibit X of the completed Application for a Site
5 Certificate. The notice shall inform the property owners of the procedure
6 and contact information for filing a complaint regarding the noise level from
7 the facility once it is operating. The certificate holder shall document the
8 issuance of this notice and provide that documentation to the Department.
9

10 **(VI.A.1.4)** Prior to start of commercial operation, the certificate holder shall submit a
11 plan for complaint-based operational noise monitoring to the Department.
12 Commercial operation shall not commence until the Department has
13 concurred in writing with the complaint-based noise monitoring protocol.
14 The plan shall provide for testing at houses whose owners or occupants
15 submit a complaint to the Council or the Department. The plan shall include
16 a schedule for completion of required testing, and a date certain by which
17 written results shall be provided to the Council. If the owner of the property
18 that filed the complaint refuses to grant access for the purpose of performing
19 the noise test described in this condition after reasonable attempts are made
20 by the certificate holder to receive permission for access, then the
21 Department shall not require further corrective action.
22

23 **Conclusion**

24 Based on these findings and recommended conditions, the Council concludes that the
25 proposed facility complies with the applicable state noise control regulations in OAR 340-035-
26 0035(1)(b)(B).
27

28 **2. REMOVAL-FILL LAW**

29 The Oregon Removal-Fill Law (ORS 196.800 through 990) and regulations (OAR 141-
30 085-0500 through 141-085-0785) adopted by the DSL require a permit if 50 cubic yards or more
31 of material is removed, filled or altered within any “waters of the state” at the proposed site.¹⁸⁰
32 The Council must determine whether a permit is needed. The U.S. Army Corps of Engineers
33 administers Section 404 of the Clean Water Act, which regulates the discharge of fill into waters
34 of the United States (including wetlands). A nationwide or individual fill permit may be required.
35

36 **Discussion**

37 The analysis area for “wetlands” is the area within the site boundary. GHWF provided
38 information about wetlands and other waters of the state in Exhibit J of the ASC. At GHWF’s
39 request, David Evans and Associates, Inc., prepared a wetland delineation report that included a
40 review of background resources and an on-site investigation.
41

42 Based on the wetland delineation report, GHWF stated there would be no permanent
43 impacts to wetlands or other waters of the state as a result of the proposed facility but that a total
44 of about 0.05 acre of palustrine emergent wetland would be temporarily affected by construction

¹⁸⁰ OAR 141-085-0510(89) defines “Waters of This State.” The term includes wetlands and certain other water bodies.

1 activities when installing portions of the underground collector system.¹⁸¹ Accordingly, GHWF
2 stated it would seek a removal-fill permit for temporary impacts to wetlands and included a copy
3 of the Joint Permit Application Form in the ASC.¹⁸² Subsequently, GHWF concluded it would
4 avoid impacts to these wetlands by boring the wetland/waterway crossings and would no longer
5 require a removal-fill permit in connection with construction of the proposed facility. DSL
6 concurred with that conclusion.¹⁸³

7 8 **Conclusion**

9 Based on the findings discussed above, the Council concludes that the proposed facility
10 would not need a removal-fill permit.

11 12 **3. GROUND WATER ACT**

13 Through the provisions of the Ground Water Act of 1955, ORS 537.505 to 537.796, and
14 OAR chapter 690, the Oregon Water Resources Commission administers the rights of
15 appropriation and use of the ground water resources of the state. Under OAR 345-022-0000(1),
16 the Council must determine whether Golden Hills complies with these statutes and
17 administrative rules.

18 19 **Discussion**

20 Construction and operation of the proposed Golden Hills would not require a new water
21 right. During construction, approximately 25 million gallons of water would be used primarily
22 for dust suppression, road compaction and concrete mixing. This water would be obtained under
23 contract from the cities of Wasco and Moro.

24
25 During operation of the facility, water use would be insignificant. ORS 537.545(1)(f)
26 provides that a new water right is not required for industrial and commercial uses of up to 5,000
27 gallons per day. During operation, water would be used for domestic purposes at the O&M
28 facility. This water would come from a new on-site well.

29 30 **Conclusion**

31 Based on the findings above, the Council concludes that, subject to the recommended
32 conditions stated herein, the proposed use of ground water for the construction and operation of
33 Golden Hills complies with the Ground Water Act of 1955 and the rules of the Oregon Water
34 Resources Department.

35 36 **4. PUBLIC HEALTH AND SAFETY**

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

¹⁸¹ ASC, Ex. J, at J-3, J-4.

¹⁸² ASC, Ex. J, Attachment J-2.

¹⁸³ Email from Jess Jordan, DSL (Jan. 15, 2008).

1
2 **Discussion**

3 **Electric and Magnetic Fields.** The proposed facility would include a 62-mile network of
4 underground electric transmission lines (collector system). In addition, there would be an
5 aboveground 0.7-mile 230-kV transmission line to carry power from the east facility substation
6 to the IBR facility site at the Klondike Schoolhouse Substation and an aboveground 11-mile 500-
7 kV transmission line to carry power from the west facility substation to the BPA John Day
8 Substation. Electric transmission lines create both electric and magnetic fields. The electric field
9 standard is addressed above at Section K, Siting Standards for Transmission Lines, and for the
10 reasons discussed there, the proposed transmission lines would not exceed the Council’s standard
11 of 9 kV per meter at one meter above the ground surface in areas accessible to the public.
12

13 The strength of a magnetic field is a function of the current (amperage) in the electric
14 transmission line: the higher the current, the greater the strength of the magnetic field. The
15 magnetic field strength decreases as the distance from the conductor increases. The strength of a
16 magnetic field fluctuates hourly and daily with changes in the amount of current in the
17 transmission line. Magnetic field strength is measured in units of milligauss (mG).
18

19 The Council has previously considered the issue of whether exposure to magnetic fields
20 might cause health risks.¹⁸⁴ This issue has been the subject of considerable scientific research
21 and discussion. Based on its review in other cases, the Council has concluded that the credible
22 evidence of a health risk from low levels of exposure to magnetic fields is inconclusive. The
23 Council has not found sufficient information upon which to set health-based limits for exposure
24 to magnetic fields. Nevertheless, given the uncertainty about possible health consequences, the
25 Council has encouraged applicants to propose low-cost ways to reduce or manage public
26 exposure to magnetic fields from transmission lines under the Council’s jurisdiction. This
27 approach is sometimes referred to as “prudent avoidance.”
28

29 **Coordination with the PUC.** The Oregon Public Utility Commission Safety and
30 Reliability Section (“PUC”) has previously requested that the Council ensure that certificate
31 holders coordinate with PUC staff on the design and specifications of electrical transmission
32 lines and the natural gas pipelines. The PUC has explained that others in the past have made
33 inadvertent but costly mistakes in the design and specifications of power lines and pipelines that
34 could have easily been corrected early if the developer had consulted with the PUC staff
35 responsible for the safety codes and standards. The certificate holder would be required to
36 coordinate the design of electric transmission lines with the PUC.
37

38 **Coordination with Local Electric Utilities and Transmission Service Providers.** On
39 August 15, 2008, Jeff Davis, Manager of the Wasco County Electric Coop, a provider of electric
40 service in the vicinity of the proposed facility, contacted the Department to report that crane
41 operators associated with an existing wind energy facility had driven under energized power

¹⁸⁴ Final Order for the Klamath Generation Facility (Sept. 2005); Final Order for the COB Energy Facility (Jan. 2005); Final Order for the Summit/Westward Project (Oct. 2002); Final Order for the Port Westward Generating Project (Nov. 2002); Final Order for the Hermiston Power Project (Mar. 1996); Report of the EMF Committee to the Energy Facility Siting Council (Mar. 30, 1993); Final Report on Human Health Effects from Exposure to 60-Hz Electric and Magnetic Fields from High Voltage Power Lines to the Council (Apr. 1990).

1 lines without first obtaining proper clearance from the local utility. In one instance, a crane boom
2 had come into contact with a transmission line operated by Pacific Power & Light. Failure to
3 provide notice to local electric utilities and transmission service providers is potentially
4 dangerous to the crane operator and could interrupt local electric service.
5

6 The Department could not find evidence that this incident was ever reported to either the
7 Oregon Public Utility Commission or the Oregon OSHA. The Council shall address this concern
8 by adopting a condition requiring the Applicant to develop and implement a plan to coordinate
9 crane movements with the local electric utility and transmission service providers during
10 construction and operation of the proposed facility.
11

12 The Council adopts the following conditions in the site certificate:
13

- 14 **(VI.A.4.1) The certificate holder shall take reasonable steps to reduce or manage**
15 **human exposure to electric and magnetic fields, including but not limited to:**
16 **(a) Constructing all aboveground transmission lines at least 200 feet from**
17 **any residence or other occupied structure, measured from the**
18 **centerline of the transmission line;**
19 **(b) Fencing all areas near the facility substations to ensure that substation**
20 **equipment is not accessible to the public;**
21 **(c) Providing to landowners a map of underground and overhead**
22 **transmission lines on their property and advising landowners of**
23 **possible health risks; and**
24 **(d) Designing and maintaining all transmission lines so that alternating**
25 **current electric fields do not exceed 9 kV per meter at one meter**
26 **above the ground surface in areas accessible to the public.**
27
- 28 **(VI.A.4.2) In advance of, and during, preparation of detailed design drawings and**
29 **specifications for 230-kV, 500-kV and 34.5-kV transmission lines, the**
30 **certificate holder shall consult with the Utility Safety and Reliability Section**
31 **of the Oregon Public Utility Commission to ensure that the designs and**
32 **specifications are consistent with applicable codes and standards.**
33
- 34 **(VI.A.4.3) Prior to start of construction, the certificate holder shall submit to ODOE a**
35 **procedure for coordinating with all affected local electric service utilities and**
36 **transmission service providers crane movements under electric transmission**
37 **lines during construction and maintenance of the facility. The procedure**
38 **shall address subjects including but not limited to minimum advance**
39 **notification prior to any crane movement under an electric transmission or a**
40 **distribution line, protocols for determining adequate line clearance, and**
41 **specific crane path locations. With the procedure, the certificate holder shall**
42 **provide evidence of concurrence by each affected electric service utility or**
43 **transmission service provider. The certificate holder shall ensure that all**
44 **employees, construction contractors and subcontractors adhere to this**
45 **procedure throughout construction and maintenance of the facility.**
46

1 **Conclusion**

2 Based on the findings above, the Council concludes that the siting, construction and
3 operation of Golden Hills, subject to the conditions stated in this Final Order, are consistent with
4 protection of public health and safety.

5
6 **B. SUMMARY OF MONITORING REQUIREMENTS**

7
8 This section summarizes site certificate requirements for monitoring that would apply to
9 the proposed facility. Condition (VII.19) requires the certificate holder to have specific
10 monitoring programs for impacts to resources protected by Council standards and to resources
11 addressed by other applicable statutes, administrative rules and local ordinances. The certificate
12 holder's monitoring programs should include the requirements listed below and any other
13 monitoring necessary to comply with site certificate conditions.

14
15 **C. REQUIREMENTS THAT ARE NOT UNDER COUNCIL JURISDICTION**

16
17 **1. FEDERALLY DELEGATED PROGRAMS**

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

24
25 **2. REQUIREMENTS THAT DO NOT RELATE TO SITING**

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

33
34 **VII. CONDITIONS REQUIRED BY COUNCIL RULES**

35
36 This section lists conditions to be included in the site certificate as specifically required
37 by OAR 345-027-0020 (Mandatory Conditions in Site Certificates), OAR 345-027-0023 (Site
38 Specific Conditions), OAR 345-027-0028 (Monitoring Conditions) and in OAR chapter 345,
39 division 26 (Construction and Operation Rules for Facilities). These conditions should be read
40 together with the specific facility conditions listed in Sections IV, V and VI to ensure compliance
41 with the siting standards of OAR chapter 345, divisions 22 and 24, and to protect the public
42 health and safety. References in preceding sections to specific conditions are included for
43 convenience only. Such references do not relieve the certificate holder from the obligation to
44 comply with all site certificate conditions.

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

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

12
13 **(VII.1) OAR 345-027-0020(1): The Council shall not change the conditions of the site**
14 **certificate except as provided for in OAR Chapter 345, Division 27.**

15
16 **(VII.2) OAR 345-027-0020(2): The certificate holder shall submit a legal description**
17 **of the site to the Department of Energy within 90 days after beginning**
18 **operation of the facility. The legal description required by this rule means a**
19 **description of metes and bounds or a description of the site by reference to a**
20 **map and geographic data that clearly and specifically identifies the outer**
21 **boundaries that contain all parts of the facility.**

22
23 **(VII.3) OAR 345-027-0020(3): The certificate holder shall design, construct, operate**
24 **and retire the facility:**

- 25 (a) Substantially as described in the site certificate;
26 (b) In compliance with the requirements of ORS Chapter 469, applicable
27 Council rules, and applicable state and local laws, rules and
28 ordinances in effect at the time the site certificate is issued; and
29 (c) In compliance with all applicable permit requirements of other state
30 agencies.

31
32 **(VII.4) OAR 345-027-0020(4): The certificate holder shall begin and complete**
33 **construction of the facility by the dates specified in the site certificate. [*See***
34 ***Conditions (III.D.1) and (III.D.2).*]**

35
36 **(VII.5) OAR 345-027-0020(5): Except as necessary for the initial survey or as**
37 **otherwise allowed for wind energy facilities, transmission lines or pipelines**
38 **under this section, the certificate holder shall not begin construction, as**
39 **defined in OAR 345-001-0010, or create a clearing on any part of the site**
40 **until the certificate holder has construction rights on all parts of the site. For**
41 **the purpose of this rule, "construction rights" means the legal right to engage**
42 **in construction activities. For wind energy facilities, transmission lines or**
43 **pipelines, if the certificate holder does not have construction rights on all**
44 **parts of the site, the certificate holder may nevertheless begin construction,**
45 **as defined in OAR 345-001-0010, or create a clearing on a part of the site if**
46 **the certificate holder has construction rights on that part of the site and:**

- 1 (a) The certificate holder would construct and operate part of the facility
2 on that part of the site even if a change in the planned route of the
3 transmission line or pipeline occurs during the certificate holder's
4 negotiations to acquire construction rights on another part of the site;
5 or
6 (b) The certificate holder would construct and operate part of a wind
7 energy facility on that part of the site even if other parts of the facility
8 were modified by amendment of the site certificate or were not built.
9

10 (VII.6) **OAR 345-027-0020(6):** If the Council requires mitigation based on an
11 affirmative finding under any standards of Division 22 or Division 24 of
12 OAR Chapter 345, the certificate holder shall consult with affected state
13 agencies and local governments designated by the Council and shall develop
14 specific mitigation plans consistent with Council findings under the relevant
15 standards. The certificate holder must submit the mitigation plans to the
16 Office and receive Office approval before beginning construction or, as
17 appropriate, operation of the facility.
18

19 (VII.7) **OAR 345-027-0020(7):** The certificate holder shall prevent the development
20 of any conditions on the site that would preclude restoration of the site to a
21 useful, non-hazardous condition to the extent that prevention of such site
22 conditions is within the control of the certificate holder.
23

24 (VII.8) **OAR 345-027-0020(8):** Before beginning construction of the facility, the
25 certificate holder shall submit to the State of Oregon, through the Council, a
26 bond or letter of credit in a form and amount satisfactory to the Council to
27 restore the site to a useful, non-hazardous condition. The certificate holder
28 shall maintain a bond or letter of credit in effect at all times until the facility
29 has been retired. The Council may specify different amounts for the bond or
30 letter of credit during construction and during operation of the facility. [*See*
31 *Condition IV.C.4.*]
32

33 (VII.9) **OAR 345-027-0020(9):** The certificate holder shall retire the facility if the
34 certificate holder permanently ceases construction or operation of the
35 facility. The certificate holder shall retire the facility according to a final
36 retirement plan approved by the Council, as described in OAR 345-027-0110.
37 The certificate holder shall pay the actual cost to restore the site to a useful,
38 non-hazardous condition at the time of retirement, notwithstanding the
39 Council's approval in the site certificate of an estimated amount required to
40 restore the site.
41

42 (VII.10) **OAR 345-027-0020(10):** The Council shall include as conditions in the site
43 certificate all representations in the site certificate application and
44 supporting record the Council deems to be binding commitments made by
45 the applicant.
46

- 1 (VII.11) **OAR 345-027-0020(11):** Upon completion of construction, the certificate
2 holder shall restore vegetation to the extent practicable and shall landscape
3 all areas disturbed by construction in a manner compatible with the
4 surroundings and proposed use. Upon completion of construction, the
5 certificate holder shall remove all temporary structures not required for
6 facility operation and dispose of all timber, brush, refuse and flammable or
7 combustible material resulting from clearing of land and construction of the
8 facility.
9
- 10 (VII.12) **OAR 345-027-0020(12):** The certificate holder shall design, engineer and
11 construct the facility to avoid dangers to human safety presented by seismic
12 hazards affecting the site that are expected to result from all maximum
13 probable seismic events. As used in this rule “seismic hazard” includes
14 ground shaking, landslide, liquefaction, lateral spreading, tsunami
15 inundation, fault displacement and subsidence.
16
- 17 (VII.13) **OAR 345-027-0020(13):** The certificate holder shall notify the Department,
18 the State Building Codes Division and the Department of Geology and
19 Mineral Industries promptly if site investigations or trenching reveal that
20 conditions in the foundation rocks differ significantly from those described in
21 the Application for a Site Certificate. After the Department receives the
22 notice, the Council may require the certificate holder to consult with the
23 Department of Geology and Mineral Industries and the Building Codes
24 Division and to propose mitigation actions.
25
- 26 (VII.14) **OAR 345-027-0020(14):** The certificate holder shall notify the Department,
27 the State Building Codes Division and the Department of Geology and
28 Mineral Industries promptly if shear zones, artesian aquifers, deformations
29 or clastic dikes are found at or in the vicinity of the site.
30
- 31 (VII.15) **OAR 345-027-0020(15):** Before any transfer of ownership of the facility or
32 ownership of the site certificate holder, the certificate holder shall inform the
33 Department of the proposed new owners. The requirements of OAR 345-027-
34 0100 apply to any transfer of ownership that requires a transfer of the site
35 certificate.
36
- 37 (VII.16) **OAR 345-027-0020(16):** If the Council finds that the certificate holder has
38 permanently ceased construction or operation of the facility without retiring
39 the facility according to a final retirement plan approved by the Council, as
40 described in OAR 345-027-0110, the Council shall notify the certificate
41 holder and request that the certificate holder submit a proposed final
42 retirement plan to the Office within a reasonable time not to exceed 90 days.
43 If the certificate holder does not submit a proposed final retirement plan by
44 the specified date, the Council may direct the Department to prepare a
45 proposed a final retirement plan for the Council’s approval. Upon the
46 Council’s approval of the final retirement plan, the Council may draw on the

1 bond or letter of credit described in OAR 345-027-0020(8) to restore the site
2 to a useful, non-hazardous condition according to the final retirement plan,
3 in addition to any penalties the Council may impose under OAR Chapter
4 345, Division 29. If the amount of the bond or letter of credit is insufficient to
5 pay the actual cost of retirement, the certificate holder shall pay any
6 additional cost necessary to restore the site to a useful, non-hazardous
7 condition. After completion of site restoration, the Council shall issue an
8 order to terminate the site certificate if the Council finds that the facility has
9 been retired according to the approved final retirement plan.

10
11 **(VII.17) OAR 345-027-0023(4): If the facility includes any transmission line under
12 Council jurisdiction:**

- 13 (a) The certificate holder shall design, construct and operate the
14 transmission line in accordance with the requirements of the National
15 Electrical Safety Code 2007 edition; and
- 16 (b) The certificate holder shall develop and implement a program that
17 provides reasonable assurance that all fences, gates, cattle guards,
18 trailers, or other objects or structures of a permanent nature that
19 could become inadvertently charged with electricity are grounded or
20 bonded throughout the life of the line.

21
22 **(VII.18) OAR 345-027-0023(5): If the proposed energy facility is a pipeline or a
23 transmission line or has, as a related or supporting facility, a pipeline or
24 transmission line, the Council shall specify an approved corridor in the site
25 certificate and shall allow the certificate holder to construct the pipeline or
26 transmission line anywhere within the corridor, subject to the conditions of
27 the site certificate. If the applicant has analyzed more than one corridor in its
28 Application for a Site Certificate, the Council may, subject to the Council's
29 standards, approve more than one corridor.**

30
31 **(VII.19) OAR 345-027-0028: The following general monitoring conditions apply:**

- 32 (a) The certificate holder shall consult with affected state agencies, local
33 governments and tribes and shall develop specific monitoring
34 programs for impacts to resources protected by the standards of
35 divisions 22 and 24 of OAR Chapter 345 and resources addressed by
36 applicable statutes, administrative rules and local ordinances. The
37 certificate holder must submit the monitoring programs to the
38 Department of Energy and receive Department approval before
39 beginning construction or, as appropriate, operation of the facility.
- 40 (b) The certificate holder shall implement the approved monitoring
41 programs described in OAR 345-027-0028(1) and monitoring
42 programs required by permitting agencies and local governments.
- 43 (c) For each monitoring program described in OAR 345-027-0028(1) and
44 (2), the certificate holder shall have quality assurance measures
45 approved by the Department before beginning construction or, as
46 appropriate, before beginning commercial operation.

1 (d) If the certificate holder becomes aware of a significant environmental
2 change or impact attributable to the facility, the certificate holder
3 shall, as soon as possible, submit a written report to the Department
4 describing the impact on the facility and any affected site certificate
5 conditions.
6

7 (VII.20) **OAR 345-026-0048:** Following receipt of the site certificate or an amended
8 site certificate, the certificate holder shall implement a plan that verifies
9 compliance with all site certificate terms and conditions and applicable
10 statutes and rules. As a part of the compliance plan, to verify compliance
11 with the requirement to begin construction by the date specified in the site
12 certificate, the certificate holder shall report promptly to the Department of
13 Energy when construction begins. Construction is defined in OAR 345-001-
14 0010. In reporting the beginning of construction, the certificate holder shall
15 describe all work on the site performed before beginning construction,
16 including work performed before the Council issued the site certificate, and
17 shall state the cost of that work. For the purpose of this exhibit, “work on the
18 site” means any work within a site or corridor, other than surveying,
19 exploration or other activities to define or characterize the site or corridor.
20 The certificate holder shall document the compliance plan and maintain it
21 for inspection by the Department or the Council.
22

23 (VII.21) **OAR 345-026-0080:** The certificate holder shall report according to the
24 following requirements:

- 25 (a) General reporting obligation for energy facilities under construction
26 or operating:
- 27 (i) Within six months after beginning construction, and every six
28 months thereafter during construction of the energy facility
29 and related or supporting facilities, the certificate holder shall
30 submit a semiannual construction progress report to the
31 Department of Energy. In each construction progress report,
32 the certificate holder shall describe any significant changes to
33 major milestones for construction. The certificate holder shall
34 include such information related to construction as specified in
35 the site certificate. When the reporting date coincides, the
36 certificate holder may include the construction progress report
37 within the annual report described in OAR 345-026-0080.
 - 38 (ii) By April 30 of each year after beginning construction, the
39 certificate holder shall submit an annual report to the
40 Department addressing the subjects listed in OAR 345-026-
41 0080. The Council Secretary and the certificate holder may, by
42 mutual agreement, change the reporting date.
 - 43 (iii) To the extent that information required by OAR 345-026-0080
44 is contained in reports the certificate holder submits to other
45 state, federal or local agencies, the certificate holder may
46 submit excerpts from such other reports to satisfy this rule.

1 **The Council reserves the right to request full copies of such**
2 **excerpted reports.**

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

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

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

19 **(iii) Fuel Use: For thermal power plants:**

20 **(A) The efficiency with which the power plant converts fuel**
21 **into electric energy. If the fuel chargeable to power heat**
22 **rate was evaluated when the facility was sited, the**
23 **certificate holder shall calculate efficiency using the**
24 **same formula and assumptions, but using actual data;**
25 **and**

26 **(B) The facility's annual hours of operation by fuel type**
27 **and, every five years after beginning operation, a**
28 **summary of the annual hours of operation by fuel type**
29 **as described in OAR 345-024-0590(5).**

30 **(iv) Status of Surety Information: Documentation demonstrating**
31 **that bonds or letters of credit as described in the site certificate**
32 **are in full force and effect and will remain in full force and**
33 **effect for the term of the next reporting period.**

34 **(v) Monitoring Report: A list and description of all significant**
35 **monitoring and mitigation activities performed during the**
36 **previous year in accordance with site certificate terms and**
37 **conditions, a summary of the results of those activities, and a**
38 **discussion of any significant changes to any monitoring or**
39 **mitigation program, including the reason for any such**
40 **changes.**

41 **(vi) Compliance Report: A description of all instances of**
42 **noncompliance with a site certificate condition. For ease of**
43 **review, the certificate holder shall, in this section of the report,**
44 **use numbered subparagraphs corresponding to the applicable**
45 **sections of the site certificate.**

- (vii) **Facility Modification Report: A summary of changes to the facility that the certificate holder has determined do not require a site certificate amendment in accordance with OAR 345-027-0050.**
- (viii) **Nongenerating Facility Carbon Dioxide Emissions: For nongenerating facilities that emit carbon dioxide, a report of the annual fuel use by fuel type and annual hours of operation of the carbon dioxide emitting equipment as described in OAR 345-024-0630(4).**

(VII.22) **OAR 345-026-0105: The certificate holder and the Department of Energy shall exchange copies of all correspondence or summaries of correspondence related to compliance with statutes, rules and local ordinances on which the Council determined compliance, except for material withheld from public disclosure under state or federal law or under Council rules. The certificate holder may submit abstracts of reports in place of full reports; however, the certificate holder shall provide full copies of abstracted reports and any summarized correspondence at the request of the Department.**

(VII.23) **OAR 345-026-0170(1): The certificate holder shall notify the Department of Energy within 72 hours of any occurrence involving the facility if:**

- (a) **There is an attempt by anyone to interfere with its safe operation;**
- (b) **A natural event such as an earthquake, flood, tsunami or tornado, or a human-caused event such as a fire or explosion affects or threatens to affect the public health and safety or the environment; or**
- (c) **There is any fatal injury at the facility.**

VIII. GENERAL CONCLUSION

The Applicant has submitted an ASC to construct a wind energy facility consisting of up to 267 wind turbines having an average electric generating capacity of 133 MW. The Council includes in the site certificate the conditions listed in Sections IV, V, VI and VII of this Final Order. The Council finds that a preponderance of evidence on the record supports the following conclusions:

1. The proposed Golden Hills Wind Project complies with the requirements of the Oregon Energy Facility Siting statutes, ORS 469.300 to 469.520.
2. The proposed Golden Hills Wind Project complies with the standards adopted by the Council pursuant to ORS 469.501.
3. The proposed Golden Hills Wind Project complies with the statewide planning goals adopted by the LCDC.
4. The proposed Golden Hills Wind Project complies with all other Oregon statutes and administrative rules identified in the project order as applicable to the issuance of a site certificate for the proposed facility.

1 Based on the findings of fact, reasoning, recommended conditions and conclusions of law
2 in this Final Order, the Council concludes that the Applicant has satisfied the requirements for
3 issuance of a site certificate for Golden Hills, subject to the conditions stated in this Final Order.
4

5 **IX. ORDER**
6

7 The Council issues a site certificate to GHWF for the proposed Golden Hills Wind
8 Project, subject to the terms and conditions set forth above.
9

10 Issued this 15th day of May, 2009.
11

12 OREGON ENERGY FACILITY COUNCIL
13

14
15 By: _____
16 Robert Shiprack, Chair
17 Oregon Energy Facility Council
18

19 **Attachments**

20 Attachment A: Wildlife Monitoring and Mitigation Plan
21 Attachment B: Habitat Mitigation and Revegetation Plan
22

23 **NOTICE OF THE RIGHT TO APPEAL**

24 *You have the right to appeal this Final Order to the Oregon Supreme Court pursuant to ORS*
25 *469.403. To appeal, you must file a petition for judicial review with the Supreme Court within 60*
26 *days from the day this Final Order was served on you. If this Final Order was personally*
27 *delivered to you, the date of service is the date you received this Final Order. If this Final Order*
28 *was mailed to you, the date of service is the date it was mailed, not the day you received it. If you*
29 *do not file a petition for judicial review within the 60-day time period, you lose your right to*
30 *appeal.*
31