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BEFORE THE ENERGY FACILITY SITING COUNCIL  
OF THE  
STATE OF OREGON

IN THE MATTER OF THE APPLICATION            )  
FOR A SITE CERTIFICATE FOR THE            )     FINAL ORDER  
KLAMATH GENERATION PEAKERS            )

Issued by  
Oregon Energy Facility  
Siting Council

September 27, 2005

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Applicant	Klamath Energy, LLC
ASC	Application for Site Certificate
Btu	British thermal units
Btu/kWh	British thermal units per kilowatt hour
Council	Oregon Energy Facility Siting Council
CT	Combustion Turbine
Department	Oregon Department of Energy
DEQ	Oregon Department of Environmental Quality
DOGAMI	Oregon Department of Geology and Mineral Industries
DSL	Oregon Department of State Lands
EFSC	Oregon Energy Facility Siting Council
EPC	Engineering, Procurement and Construction
gpd	gallons per day
gpm	gallons per minute
HHV	higher heating value
KCP	Klamath Cogeneration Project
KE	Klamath Energy, LLC
KGF	Klamath Generation Facility
KGP	Klamath Generation Peakers
KW	kilowatt
kwh	kilowatt hour
kV	kilovolt
LCDC	Land Conservation and Development Commission
MW	megawatt
NRHP	National Registry of Historic Places
OAR	Oregon Administrative Rules
ODA	Oregon Department of Agriculture
ODFW	Oregon Department of Fish and Wildlife
ODOE	Oregon Department of Energy
ORNHP	Oregon Natural Heritage Program
ORS	Oregon Revised Statutes
PPM	PPM Energy, Inc.
PUC	Oregon Public Utility Commission
RAI	Request for Additional Information
SHPO	State Historic Preservation Officer
USDOT	U. S. Department of Transportation
USFWS	U. S. Fish and Wildlife Service
USFS	U. S. Forest Service
WPCF	Water Pollution Control Facilities

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**FINAL ORDER**  
**KLAMATH GENERATION PEAKERS**

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**A. INTRODUCTION**

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The Energy Facility Siting Council (“EFSC” or “the Council”) issues this Final Order (“Order”) pursuant to Oregon Revised Statutes (“ORS”) 469.370. This order addresses the Application for a Site Certificate (“ASC” or the “application”) for the operation of a dual fuel-fired, simple-cycle, combustion-turbine-based peaking power generation facility. The nominal electric generating capacity of the facility is about 95 MW at average annual conditions. The facility is located about 4.5 miles southwest of the City of Klamath Falls, Oregon, immediately adjacent to the existing 500-MW Klamath Cogeneration Project. The facility is known as the Klamath Generation Peakers (“KGP” or the “Project”).

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The KGP was originally constructed in 2001-2002 as the Klamath Expansion Project (“KEP”), a temporary generating facility for which an exemption was allowed under Oregon Revised Statute (“ORS”) 469.320(2)(g). If the owner of a temporary energy facility submits an application for a site certificate before the expiration of two years from first commercial operation, then the Council “shall extend the period constituting the exemption and shall allow the temporary energy generating facility to continue operation until the Council concludes its review of the site certificate application.” ORS 469.320(7)(d).

The KEP began commercial operation on May 17, 2002, and has operated since that date as a single fuel (natural gas) peaking power generation facility. The ASC was submitted by Klamath Energy, LLC (“KE” or the “Applicant”), a wholly-owned subsidiary of PPM Energy, Inc. (“PPM”), on May 10, 2004.

In the spring of 2004, a selective catalytic reduction (“SCR”) system was added to the KEP to reduce air emissions pursuant to an Air Contaminant Discharge Permit (“ACDP”) issued by the Oregon Department of Environmental Quality (“DEQ”) in January 2004.

The only new construction proposed by KE in its ASC is the addition of a distillate fuel system comprising a storage tank and associated piping and modifications to the turbine combustion system to accommodate dual fuel operation. Throughout this order, any reference to construction applies to KE’s construction of the distillate fuel system and associated modifications and not to the existing facility.

The Council bases this order on its review of the ASC and any comments and recommendations on the ASC by state agencies, local governments, Indian tribes, and the public.

With certain exceptions, no fossil fuel-fired energy facility with an electric generating capacity of 25 MW or more may be constructed or operated in Oregon without first obtaining a site certificate from the Council. ORS 469.300(9)(a) and 469.320.

1 It is the public policy of the State of Oregon that "the siting, construction and operation of energy  
2 facilities shall be accomplished in a manner consistent with protection of the public health and  
3 safety and in compliance with the energy policy and air, water, solid waste, land use and other  
4 environmental protection policies of this state." ORS 469.310.

5  
6 The Council must ensure that the site certificate contains "conditions for the protection of the  
7 public health and safety, for the time for completion of construction, and to ensure compliance  
8 with the standards, statutes and rules described in ORS 469.501 and ORS 469.503." ORS  
9 469.401(2).

10  
11 A site certificate issued by the Council binds the state and all counties, cities, and political  
12 subdivisions of Oregon. Once the Council issues the site certificate, the responsible state agency  
13 or local government must issue any necessary permits that are addressed in the site certificate  
14 without further proceedings upon payment of appropriate fees by the certificate holder. ORS  
15 469.401(3).

16  
17 The Oregon Department of Energy ("ODOE" or "the Department") served as staff to the  
18 Council. In this capacity, ODOE reviewed the application and the comments of reviewing  
19 agencies and affected local governments and tribes identified in accordance with Oregon  
20 Administrative Rule ("OAR") 345-021-0050. It also reviewed public comments. In its July 20,  
21 2005 Proposed Order, ODOE recommended that the Council grant the site certificate for the  
22 KGP, subject to the conditions stated in this order.

23  
24 The definitions in ORS 469.300 and OAR 345-001-0010 apply to terms used in this order. The  
25 following terms, paraphrased from the rule, are used frequently throughout this order:

- 26
- 27 • "Energy facility" means the proposed electric power generating plant. The term  
28 "energy facility" does not include any related or supporting facility. If a reference  
29 is intended to apply to both the energy facility and its related or supporting  
30 facilities, the term "facility" is used.
  - 31
  - 32 • "Energy facility site" means all land upon which an energy facility is located or  
33 proposed to be located.
  - 34
  - 35 • "Facility" means an energy facility, together with any related or supporting  
36 facilities.
  - 37
  - 38 • "Related or supporting facility" means any structure proposed to be built in  
39 connection with the energy facility, including but not limited to pipeline valves,  
40 regulators, compressors, vaults, enclosures, switching stations, substations,  
41 associated equipment, associated transmission lines, reservoirs, intake structures,  
42 road and rail access, pipelines, barge basins, office or public buildings,  
43 construction laydown, staging and parking areas, and commercial and industrial  
44 structures or other structures proposed by the applicant to be constructed or

1 substantially modified in connection with the construction or operation of the  
2 energy facility. “Related or supporting facility” does not include any structure  
3 existing prior to construction of the energy facility, unless such structure must be  
4 significantly modified solely to serve the energy facility.  
5

- 6 • “Related or supporting facilities site” means all land upon which related or  
7 supporting facilities for an energy facility are located or proposed to be located,  
8 including any linear rights-of-way.  
9
- 10 • “Site” means all land upon which a facility is located or proposed to be located.  
11

## 12 **B. PROCEDURAL HISTORY**

### 13 **B.1 COMMENTS ON APPLICATION**

14 ODOE, in consultation with state agencies, tribes and affected local government, reviewed the  
15 application to ensure that it was complete. ODOE received only one substantive comment from  
16 other agencies, most likely because the facility was already operating under the temporary  
17 exemption. The one comment was from ODFW, which stated that it had no concerns about the  
18 proposed facility so long as the cooling water for the KGP did not increase use of water from the  
19 Klamath River. The cooling water does not come from the river, as discussed under the Fish and  
20 Wildlife Habitat Standard.  
21

22 ODOE issued a Project Order and Request for Additional Information on July 8, 2004. The  
23 applicant issued two written responses, on August 7, 2004 and August 24, 2004. On December  
24 10, 2004, ODOE issued written notice to the public that the ASC was considered complete and  
25 filed, based on the information in the ASC and on information contained in KE’s responses to  
26 ODOE requests for additional information.  
27

28 Although the public notice requested comments from the public and other agencies on the  
29 application for site certificate, ODOE received none.  
30

### 31 **B.2 PUBLIC HEARING ON DRAFT PROPOSED ORDER**

32 ODOE issued a Draft Proposed Order on April 28, 2005, recommending approval of the facility  
33 with conditions. ODOE issued notice of the Draft Proposed order to the Council’s mailing list,  
34 adjacent property owners listed in Exhibit F of the ASC, and state agencies, tribes and local  
35 governments. The notice requested public comment on the Draft Proposed Order and announced  
36 a public hearing scheduled for May 25, 2005 in Klamath Falls.  
37

38 Two members of the public appeared at the hearing and entered comments. The City of Klamath  
39 Falls made comments regarding the city’s ability to collect property taxes on the facility. The  
40 Klamath County Board of Commissioners commented that the money provided to the Oregon  
41 Climate Trust towards carbon dioxide mitigation should be spent on offset projects located in  
42 Klamath County. Neither issue is within the Council’s jurisdiction.  
43

1 **B.3 COUNCIL REVIEW OF DRAFT PROPOSED ORDER**

2 On June 20, 2005, the Council reviewed the Draft Proposed Order at a public meeting in  
3 Pendleton, Oregon. The Council raised no concerns about the Draft Proposed Order.

4  
5 **B.4 PROPOSED ORDER AND CONTESTED CASE**

6 On July 20, 2005, the Department issued its Proposed Order recommending approval of the  
7 facility with conditions. Because no agency or member of the public had raised any issues  
8 regarding the Draft Proposed Order, the Proposed Order contained no substantive changes.

9  
10 Upon issuance of the Proposed Order, the Department issued notice of contested case. The  
11 notice stated that petitions for party status in the contested case must be received by the  
12 Department by August 5, 2005. Only persons who had commented on the record of the hearing  
13 on the Draft Proposed Order were eligible for party status. The Department received no petitions.

14  
15 On August 29, 2005, the Hearing Officer for the contested case issued an order stating that there  
16 were no participants in the contested case, and that the contested case was therefore closed.

17  
18 The Council considered the Proposed Order and issued this Final Order at a public meeting in  
19 Klamath Falls, Oregon on September 27, 2005.

20  
21 **C. GENERAL FINDINGS**

22 **C.1. DESCRIPTION OF THE PROPOSED FACILITY**

23 **C.1.a. The Energy Facility**

24 **Major Structures and Equipment.** The KGP is a dual fuel-fired, combustion turbine-based,  
25 simple-cycle power generation facility. It is based on advanced aero-derivative gas turbine-  
26 generator design and uses four combustion turbines (“CTs”) that are capable of firing either  
27 natural gas or No. 2 distillate to generate electricity.

28  
29 The existing facility consists of three major pieces of equipment: two CT-generator sets and one  
30 transformer. Each of the CT-generator sets consists of two Pratt & Whitney Model FT-8  
31 combustion turbines linked to a single generator. Each of these two CT-generator units is called a  
32 Twin Pac. The two Twin Pacs generate electricity at 13.8 kilovolts (“kV”).

33  
34 Additional facilities include water injection pumps, selective catalytic reduction and an oxidation  
35 catalyst for emissions control, a service and maintenance building, and other miscellaneous  
36 equipment. To improve the output and efficiency of each CT during the summer months, an  
37 evaporative cooler reduces the temperature of the outside air drawn into the air compressor. Each  
38 CT is surrounded with an acoustically insulated enclosure to reduce noise levels and to provide  
39 containment for automatic fire suppression equipment.

40  
41 KE proposes to convert from a single fuel (natural gas) to dual fuel (natural gas and distillate)  
42 firing capability. This modification would provide the facility with increased flexibility to meet  
43 electricity demand. The modifications associated with the dual fuel conversion include a one-  
44 time change-out of each of the CT’s combustors, along with installation of a 250,000-gallon

1 distillate storage tank, containment area, transfer pumps, and piping. The dual fuel capability  
2 modifications would not be initiated until after issuance of a site certificate for the facility.  
3

4 **Output.** At annual average conditions, the facility has an average electric generating capacity of  
5 about 94.7 megawatts (“MW”) when firing natural gas and would have an average electric  
6 generating capacity of about 93.1 MW when firing distillate.  
7

8 **Fuel Use.** The reconfigured facility would be designed to operate on either natural gas or  
9 distillate. When operated with natural gas as its fuel, the facility would use fuel at the rate of  
10 about 997 MM Btu per hour, Higher Heating Value (“HHV”). When operated with distillate as  
11 its fuel, the facility would use fuel at the rate of about 960 MM Btu per hour, HHV.  
12

13 **Water Use.** The only water used by the facility is de-mineralized water obtained from the City  
14 of Klamath Falls by means of a pipeline interconnecting the KGP with the Klamath  
15 Cogeneration Project (“KCP”). This de-mineralized water is used for nitrogen oxides (NOx)  
16 emissions control by water injection, CT inlet air-cooling, and intermittent rinsing. The amount  
17 of water required for operation of the facility with natural gas is about 110 gallons per minute.  
18 The amount of water required for operation with distillate is about 123 gallons per minute.  
19

#### 20 **C.1.b. Related or Supporting Facilities**

21 The facility includes the following related or supporting facilities:  
22

23 **Natural Gas Pipeline.** The existing natural gas pipeline interconnection is with the existing  
24 Pacific Gas & Electric Gas Transmission (“PG&E GT”) Bonanza to Medford Lateral (the  
25 “Medford Lateral”) that passes along the facility’s northern boundary.  
26

27 **Electric Transmission Line.** The KGP’s existing 13.8 to 500-kV transformer connects the  
28 facility’s output with the regional power grid at the existing KCP switchyard where the facility  
29 interconnects with PacifiCorp’s 500-kV Captain Jack to Meridian transmission line. There are no  
30 off-site electric transmission facilities.  
31

32 **Water Supply Pipeline.** De-mineralized water for use by the KGP is delivered by means of an  
33 existing pipeline running from the KCP southern boundary through KGP’s utility easement to  
34 the KGP site boundary.  
35

#### 36 **C.1.c. Finding Regarding Beginning and Completion of Construction**

37 The site certificate must contain conditions for the time for completion of construction. ORS  
38 469.401(2). Council rules require that:  
39

40 “The certificate holder shall begin and complete construction of the facility by the dates  
41 specified in the site certificate.” OAR 345-027-0020(4)  
42

43 As noted above, the KGP facility is unique in that it was constructed under a temporary  
44 exemption in 2002, and has operated since May 17, 2002. The application for site certificate  
45 describes a proposed modification to add the capability of operating on distillate fuel. However,

1 the facility can operate on natural gas alone, and the certificate holder need not add distillate fuel  
2 capability to comply with any applicable regulation or standard. Therefore, the Council finds  
3 that the certificate holder completed construction and commenced commercial operation on May  
4 17, 2004, and has therefore satisfied the mandatory condition of OAR 345-027-0020(4).

5  
6 **C.2. LOCATION OF THE PROPOSED FACILITY**

7 **C.2.a. The Energy Facility Site**

8 The energy facility is located on a 5-acre parcel of land located about 4.5 miles southwest of the  
9 City of Klamath Falls, Oregon, in Section 18, Township 39 South, Range 9 East, Klamath  
10 County, Oregon.

11  
12 **C.2.b. Related or Supporting Facility Sites**

13 **Natural Gas Pipeline.** The natural gas pipeline is located on the energy facility site in Section  
14 18, Township 39 South, Range 9 East, Klamath County, Oregon.

15  
16 **Electric Transmission Line.** The electric transmission line interconnection is located on the  
17 energy facility site in Section 18, Township 39 South, Range 9 East, Klamath County, Oregon.

18  
19 **Water Supply Pipeline.** The water supply pipeline is located in the utility easement between the  
20 KCP and the KGP in Section 18, Township 39 South, Range 9 East, Klamath County, Oregon.

21  
22 **D. COUNCIL FACILITY SITING STANDARDS: DISCUSSION & CONCLUSIONS**

23 **D.1. INTRODUCTION: GENERAL STANDARD OF REVIEW, OAR 345-022-0000**

24 The relevant section of this standard is section (1), which states that:

- 25  
26 “(1) To issue a site certificate for a proposed facility or to amend a site  
27 certificate, the Council shall determine that the preponderance of evidence  
28 on the record supports the following conclusions:
- 29 “(a) The facility complies with the requirements of the Oregon Energy  
30 Facility Siting statutes, ORS 469.300 to ORS 469.570 and 469.590  
31 to 469.619, and the standards adopted by the Council pursuant to  
32 ORS 469.501 or the overall public benefits of the facility outweigh  
33 the damage to the resources protected by the standards the facility  
34 does not meet as described in section (2);
  - 35 “(b) Except as provided in OAR 345-022-0030 for land use compliance  
36 and except for those statutes and rules for which the decision on  
37 compliance has been delegated by the federal government to a state  
38 agency other than the Council, the facility complies with all other  
39 Oregon statutes and administrative rules identified in the project  
40 order, as amended, as applicable to the issuance of a site certificate  
41 for the proposed facility. If the Council finds that applicable  
42 Oregon statutes and rules, other than those involving federally  
43 delegated programs, would impose conflicting requirements, the  
44 Council shall resolve the conflict consistent with the public

1 interest. In resolving the conflict, the council cannot waive any  
2 applicable state statute. \*\*\*  
3

4 Sections (2) and (3) of the standard address “balancing” provisions under which the Council may  
5 approve a facility that does not meet one or more of its standards. The applicant is not requesting  
6 such approval, and proposes to meet all Council standards outright.  
7

8 Section (1)(b) addresses compliance with standards and permitting requirements of agencies  
9 other than EFSC. For the KGP, the only applicable regulations are the Department of  
10 Environmental Quality (DEQ) noise standards, addressed at Section E of this Order.  
11

12 **D.2. ORGANIZATIONAL EXPERTISE, OAR 345-022-0010**

13 This standard has four paragraphs. Two paragraphs, OAR 345-022-0010(1) and OAR 345-022-  
14 0010(2), relate to the applicant’s qualification and capability. The other two paragraphs, OAR  
15 345-22-0010(3) and OAR 345-022-0010(4), relate to third party permits.  
16

17 **D.2.a. Applicant Qualification and Capability, OAR 345-022-0010(1)**

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

31 **Discussion**

32 PPM Energy, Inc. (“PPM”) is the owner of Klamath Energy, LLC, and would provide the  
33 organizational, managerial, and technical expertise to construct and operate the proposed facility.  
34 PPM is an integrated, non-utility, energy company that owns, controls, manages or operates  
35 independent power projects producing about 1,000 MW in the western United States. PPM  
36 would provide such expertise either directly or through another of its subsidiaries, Pacific  
37 Klamath Energy, Inc. (“PKE”). KE believes it has demonstrated sufficient expertise to construct  
38 the distillate fuel system modifications and to operate the proposed facility by virtue of its  
39 successful construction and operation of the KEP without engineering, management or  
40 regulatory problems.  
41

42 Involvement with the following energy facilities has provided PPM with a base of experience:  
43

1 Klamath Cogeneration Project. PPM serves as development manager, construction  
2 manager, operator, fuel manager, power purchaser and power broker for this 485-MW  
3 natural gas-fired power plant in Klamath Falls, Oregon.  
4

5 Klamath Expansion Project. PPM serves as developer, owner, construction manager,  
6 operator, fuel manager and power marketer for this 100-MW natural gas-fired power  
7 plant in Klamath Falls, Oregon.  
8

9 West Valley Power Generating Facility. PPM serves as developer, owner and  
10 construction manager of this 200-MW natural gas-fired power plant in West Valley City,  
11 Utah.  
12

13 StateLine Wind Plant. PPM serves as power purchaser and power marketer for this 300-  
14 MW wind power plant near Milton-Freewater, Oregon.  
15

16 Klondike Wind Plant. PPM serves as owner and power marketer for this 24-MW wind  
17 power plant in Wasco, Oregon.  
18

19 Flying Cloud Wind Plant. PPM serves as developer, owner, construction manager and  
20 power marketer for this 43.5-MW wind power plant in Iowa.  
21

22 Moraine Wind Plant. PPM serves as developer, owner, construction manager and power  
23 marketer for this 51-MW wind power plant in southwest Minnesota.  
24

25 Mountain View III Wind Plant. PPM serves as developer, owner, construction manager  
26 and power marketer for this 22-MW wind power plant in Palm Springs, California.  
27

28 Colorado Green Wind Plant. PPM serves as developer, owner, construction manager and  
29 power marketer for this 162-MW wind power plant in Lamar, Colorado.  
30

31 Members of the PPM development team have extensive engineering and project management  
32 experience associated with natural gas-fired and wind energy facilities. Given the limited design  
33 and construction effort required for installation of the distillate storage tank and associated  
34 equipment, PPM believes it is capable of performing necessary tasks. It may contract with an  
35 architect-engineering firm for design of the distillate fuel system in which case it would select a  
36 firm with substantial experience in the design and construction of similar facilities. And, it would  
37 contract with qualified contractors with substantial previous experience for construction of the  
38 distillate fuel system.  
39

40 KE has received no regulatory citations with respect to the KEP and is unaware of any regulatory  
41 citations issued to KE that would bear upon its ability to construct or operate the KGP.  
42

43 To find that KE complies with OAR 345-022-0010(1), the Council adopts the following standard  
44 conditions in the site certificate:  
45

- 1 (1) Before beginning construction of the distillate fuel modification, the  
2 certificate holder shall identify to the Energy Facility Siting Council  
3 (“Council”) whom it has chosen to act in the role of engineering,  
4 procurement and construction (“EPC”) contractor.  
5
- 6 (2) The certificate holder shall report promptly to ODOE any change in its  
7 corporate relationship with PPM Energy, Inc. The certificate holder shall  
8 report promptly to ODOE any change in its access to the resources, expertise  
9 and personnel of PPM Energy, Inc.  
10
- 11 (3) If the certificate holder chooses a third-party contractor to operate the  
12 facility, the certificate holder shall submit to the Council the identity of the  
13 contractor so the Council may review the qualifications and capability of the  
14 contractor to meet the standards of OAR 345-0022-0010. If the Council finds  
15 that a new contractor meets these standards, the Council shall not require an  
16 amendment to the site certificate for the certificate holder to hire the  
17 contractor.  
18
- 19 (4) Any matter of non-compliance under the site certificate shall be the  
20 responsibility of the certificate holder. Any notice of violation issued under  
21 the site certificate shall be issued to the certificate holder. Any civil penalties  
22 assessed under the site certificate shall be levied on the certificate holder.  
23
- 24 (5) The certificate holder shall contractually require the EPC contractor and all  
25 independent contractors and subcontractors involved in the construction and  
26 operation of the facility to comply with all applicable laws and regulations  
27 and with the terms and conditions of the site certificate. Such contractual  
28 provision shall not operate to relieve the certificate holder of responsibility  
29 under the site certificate.  
30
- 31 (6) The certificate holder shall obtain, or shall ensure that its contractors obtain,  
32 necessary state and local permits or approvals required for the construction,  
33 operation and retirement of the facility.  
34

### 35 **Summary**

36 The Council finds that, subject to the conditions stated in this order, KE has demonstrated the  
37 ability to design, construct and operate the proposed facility in compliance with site certificate  
38 conditions and in a manner that protects public health and safety and that KE has demonstrated  
39 the ability to restore the site to a useful, non-hazardous condition. The Council finds that KE  
40 meets the requirements of OAR 345-022-0010(1).  
41

### 42 **D.2.b. Applicant Qualification and Capability: ISO Programs, OAR 345-022-0010(2)**

43 “The Council may base its findings under section (1) on a rebuttable presumption  
44 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 **Discussion**

5 KE did not submit evidence of ISO certification and has not requested a rebuttable presumption  
6 of expertise pursuant to OAR 345-022-0010(2).  
7

8 **Summary**

9 The Council finds that KE has not requested a rebuttable presumption of expertise pursuant to  
10 OAR 345-022-0010(2).  
11

12 **D.2.c. Third-Party Services and Permits: Contracts, OAR 345-022-0010(3)**

13 “If the applicant does not itself obtain a state or local government permit or  
14 approval for which the Council would ordinarily determine compliance but  
15 instead relies on a permit or approval issued to a third party, the Council, to issue  
16 a site certificate, must find that the third party has, or has a reasonable likelihood  
17 of obtaining, the necessary permit or approval, and that the applicant has, or has a  
18 reasonable likelihood of entering into, a contractual or other arrangement with the  
19 third party for access to the resource or service secured by that permit or  
20 approval.”  
21

22 **Discussion**

23 KE would obtain water for construction of the distillate fuel system and operation of the  
24 proposed facility from the City of Klamath Falls. The City’s underlying water right has already  
25 been issued by the Oregon Water Resources Department (“WRD”), and no further action is  
26 required by WRD. The City of Klamath Falls has sufficient water available under its existing  
27 water right to serve the construction and operation needs of the proposed facility without  
28 imposing any adverse impact on its other customers.  
29

30 KE intends to obtain all other state or local government permits or approvals for which the  
31 Council would ordinarily determine compliance and does not intend to rely on a permit or  
32 approval issued to a third party.  
33

34 **Summary**

35 The Council finds that the City of Klamath Falls has obtained a water right with sufficient  
36 capacity to serve the facility, and that KE has entered into a contract for access to water from the  
37 City of Klamath Falls. The Council finds that KE meets the requirements of OAR 345-022-  
38 0010(3).  
39

40 **D.2.d. Third-Party Services and Permits: Conditions, OAR 345-022-0010(4)**

41 “If the applicant relies on a permit or approval issued to a third party and the third  
42 party does not have the necessary permit or approval at the time the Council  
43 issues the site certificate, the Council may issue the site certificate subject to the  
44 condition that the certificate holder shall not commence construction or operation  
45 as appropriate until the third party has obtained the necessary permit or approval

1 and the applicant has a contract or other arrangement for access to the resource or  
2 service secured by that permit or approval.”  
3

4 **Discussion**

5 With the exception of the water right already issued to the City of Klamath Falls, KE does not  
6 intend to rely on any permit or approval issued to a third party.  
7

8 **Summary**

9 The Council finds that, with the exception of the water right already issued to the City of  
10 Klamath Falls, KE does not intend to rely on any permit or approval issued to a third party. The  
11 Council finds that KE meets the requirements of OAR 345-022-0010(4).  
12

13 **Conclusion**

14 The Council finds that, subject to the conditions stated in this order, KE meets the organizational  
15 expertise standard, OAR 345-022-0010.  
16

17 **D.3. RETIREMENT AND FINANCIAL ASSURANCE, OAR 345-022-0050**

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

- 19 (1) The site, taking into account mitigation, can be restored adequately to a useful,  
20 non-hazardous condition following permanent cessation of construction or  
21 operation of the facility.  
22 (2) The applicant has a reasonable likelihood of obtaining a bond or letter of credit  
23 in a form and amount satisfactory to the Council to restore the site to a useful,  
24 non-hazardous condition.  
25

26 **Discussion**

27 This section addresses the requirement for restoration of the site to a useful, non-hazardous  
28 condition following permanent cessation of construction or operation of the facility, the amount  
29 of financial assurance the Council should require, and KE’s ability to offer such financial  
30 assurance.  
31

32 **Retirement.** For purposes of the retirement and financial assurance standard, a “useful, non-  
33 hazardous condition” is a condition consistent with the applicable local comprehensive land use  
34 plan and land use regulations. The proposed energy facility and its related or supporting facilities  
35 would be located in a designated “Heavy Industrial” land use zone.  
36

37 The estimated useful life of the proposed facility is 30 years. At the end of its useful life, KE  
38 would retire the facility in accordance with the approved retirement plan and in compliance with  
39 laws and regulations in effect at the time of retirement.  
40

41 Site restoration would consist of removal of equipment, dismantling of buildings, demolition of  
42 foundations to a depth of about three feet, and regrading. Certain related or supporting facilities,  
43 including the electric transmission line, gas pipeline, and water pipeline, could serve some other  
44 industrial purpose and might not be retired at the same time as the energy facility. Without  
45 regard to timing, retirement of these related or supporting facilities has been considered during

1 the Council's review of KE's retirement cost estimate. In accordance with Condition D.3(2),  
2 prior to closure of the facility, KE would develop and submit to the Council a proposed final  
3 retirement plan for the facility and the site for the Council's approval.

4  
5 To find that KE complies with OAR 345-02-0050(1), the Council adopts the following standard  
6 conditions in the site certificate:

- 7  
8       **(1) The certificate holder shall retire the facility if the certificate holder**  
9       **permanently ceases construction or operation of the facility. The certificate**  
10       **holder shall retire the facility according to a final retirement plan approved**  
11       **by the Council, as described in OAR 345-027-0110, and prepared pursuant to**  
12       **Condition D.3(2).**
- 13  
14       **(2) Two years before closure of the energy facility, the certificate holder shall**  
15       **submit to the Council a proposed final retirement plan for the facility and**  
16       **site, pursuant to OAR 345-027-0110, including:**
- 17               **(a) A plan for retirement that provides for completion of retirement**  
18               **without significant delay and that protects the public health, safety,**  
19               **and the environment;**
- 20  
21               **(b) A description of actions the certificate holder proposes to take to**  
22               **restore the site to a useful, non-hazardous condition, including**  
23               **information on how impacts to fish, wildlife and the environment**  
24               **would be minimized during the retirement process; and**
- 25  
26               **(c) A current detailed cost estimate, a comparison of that estimate to**  
27               **funds the certificate holder has set aside for retirement, and a plan for**  
28               **ensuring the availability of adequate funds for completion of**  
29               **retirement.**
- 30  
31       **(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

37 The Council finds that KE has demonstrated it can adequately restore the site to a useful, non-  
38 hazardous condition following facility retirement.

39  
40 **Financial Assurance.**

41 The proposed facility differs from other gas-fired energy facilities for which the Council has  
42 granted site certificates in the last several years in that it is a simple-cycle power plant rather than  
43 a combined-cycle plant. The cost of retiring a simple-cycle plant is expected to be less than the  
44 cost of retiring a combined-cycle plant of similar capacity, because a simple-cycle plant does not  
45 require equipment for producing, using, and condensing steam.

1  
2 Unlike facilities for which the Council has granted site certificates in the last several years, the  
3 proposed facility includes the capacity to use and to store a large quantity of fuel oil on site. The  
4 estimated cost of retirement should be greater for a plant having this capacity than for a similar  
5 facility without liquid fuel storage capacity, because the storage tank must be removed and the  
6 risk of site contamination is increased.  
7

8 In its Application for a Site Certificate, KE included a site retirement cost estimate of \$260,000  
9 and stated that it believed the salvage or scrap value of the equipment would completely offset  
10 this cost.  
11

12 After discussions with ODOE, KE submitted a revised retirement cost estimate of \$527,310<sup>1</sup>.  
13 This sum is intended to cover demolition, site restoration, attention to leaks and spills, project  
14 oversight, and a 20-percent contingency<sup>2</sup>. It includes a credit for the scrap value of equipment  
15 and other material. ODOE does not agree that all of the individual line items in KE's estimate are  
16 conservative, but it believes that there is sufficient margin in other line items so that the total sum  
17 of \$527,310 is within the range of reasonable estimates for retirement of the facility with an  
18 adequate level of conservatism.  
19

20 ODOE also notes that the risk of the applicant failing to restore the site is reduced for this  
21 facility, compared to other facilities that the Council has approved. One of the risks that this  
22 standard protects against is the risk that a certificate holder will begin construction but fail to  
23 finish. This risk is not a factor for the KGP, because, but for the distillate fuel storage tank, the  
24 facility is already constructed and operating under the temporary exemption of ORS  
25 469.320(8)(b). ODOE considered the absence of this "unfinished facility" risk in determining the  
26 necessary amount for a financial security such as a bond or letter of credit.  
27

28 The energy facility will run only during periods of peak demand, and on distillate fuel only when  
29 natural gas operation is uneconomic. The need to transfer and restock with chemicals or distillate  
30 fuel is greatly reduced, compared with a base load energy facility. The low number of expected  
31 hours of operation, especially operation on distillate fuel, was also considered in determining the  
32 contingency for chemical spills.  
33

34 The Council finds that the total estimate of \$527,310 is within the range of estimates that would  
35 be derived from the application of reasonable methods and assumptions. Accordingly, the  
36 amount of the retirement fund applicable to the facility is \$527,310 (in 2005 dollars).  
37

38 If a facility is not well-operated, leaks, spills, and improper handling of materials over a period  
39 of several years could contaminate large amounts of soil, particularly if the spills had access to  
40 cracks in concrete or asphalt cover or did not occur over an impermeable surface. In the absence

---

<sup>1</sup> Revised estimate transmitted by email from Peter Mostow to Adam Bless, October 6, 2004

<sup>2</sup> The 20% contingency is consistent with the practice documented in the Council's Final Order on the COB energy facility, January 28, 2005.

1 of an effective materials management and monitoring plan, careless practices could result in  
2 much higher site remediation costs.

3  
4 Accordingly, the Council adopts a condition that requires the certificate holder to prepare and  
5 implement a materials management and monitoring plan that addresses the handling of  
6 potentially hazardous substances. The Council will also require the certificate holder to conduct  
7 Phase I Environmental Site Assessments, in accordance with an industry-accepted standard, such  
8 as ASTM Standard E-1527, *Standard Practice for Environmental Site Assessments: Phase I*  
9 *Environmental Site Assessment Process*, each 10 years. If either monitoring pursuant to the plan  
10 or the Environmental Site Assessment concludes that there will be higher remediation costs than  
11 can be covered by the letter of credit then in place, the Council will require the certificate holder  
12 to increase its letter of credit to cover the higher costs.

13  
14 KE provided a letter from Safeco Surety (“Safeco”), of which PPM and its affiliates and  
15 subsidiaries are clients, whereby Safeco stated it understood that a potential bond could be  
16 required in the amount of \$500,000 and confirmed “there is a reasonable likelihood that Safeco  
17 Surety would provide an annual bond for this project, should one be required.” The letter from  
18 Safeco was issued when KE’s estimate of retirement costs amounted to \$260,000, minus salvage  
19 and scrap credit. ODOE recommends that the amount of \$500,000 (in 2004 dollars) that Safeco  
20 seems ready to cover is close enough to KE’s estimated retirement cost in the amount of  
21 \$527,310 (in 2005 dollars) to support the conclusion that KE will be able to obtain a bond or  
22 letter of credit in the appropriate amount.

23  
24 In its response to ODOE’s Request for Additional Information, KE not only increased its  
25 estimated retirement cost from \$260,000 to \$527,310, but also indicated that it would use a letter  
26 of credit as financial security. However, the conditions recommended in this order would allow  
27 KE to retain the flexibility to use either a bond or letter of credit.

28  
29 To find that KE complies with OAR 345-022-0050(2), the Council adopts the following  
30 conditions in the site certificate:

- 31  
32 **(4) Within 60 days of issuance of this site certificate, the certificate holder shall**  
33 **submit to the State of Oregon, through the Council, a bond or letter of credit**  
34 **in the amount of \$527,310 (in 2005 dollars) naming the State of Oregon,**  
35 **acting by and through the Council, as beneficiary or payee.**  
36  
37 **(a) The form of the bond or letter of credit and identity of the issuer shall**  
38 **be subject to approval by the Council.**  
39  
40 **(b) The certificate holder shall maintain the bond or letter of credit in**  
41 **effect at all times until the energy facility and its related or supporting**  
42 **facilities have been retired, as appropriate.**  
43  
44 **(c) The calculation of 2005 dollars shall be made using the US Gross**  
45 **Domestic Product Implicit Price Deflator, Chain-Weight, as published**

1 in the Oregon Department of Administrative Services' "Oregon  
2 Economic and Revenue Forecast," or by any successor agency ("the  
3 Index"). The amount of the letter of credit account shall increase  
4 annually by the percentage increase in the Index. If, at any time, the  
5 Index is no longer published, the Council shall select a comparable  
6 calculation of 2005 dollars.  
7

8 (d) The certificate holder shall not revoke or reduce the bond or letter of  
9 credit before retirement of the facility without approval by the  
10 Council.  
11

12 (5) Before beginning construction of the distillate fuel system, the certificate  
13 holder shall prepare and submit to ODOE a materials management and  
14 monitoring plan that addresses the handling of hazardous substances, the  
15 measures it will implement to prevent site contamination, and how it will  
16 document implementation of the plan during construction of the distillate  
17 fuel system. The materials management and monitoring plan shall be subject  
18 to approval by ODOE. For the purpose of this condition and Conditions  
19 D.3(6), D.3(8), D.3(9), and D.3(10), the terms "release" and "hazardous  
20 substances" shall have the meanings set forth at ORS 465.200.  
21

22 (6) Within 60 days after issuance of this site certificate, the certificate holder  
23 shall prepare and submit to ODOE a materials management and monitoring  
24 plan that addresses the handling of hazardous substances, the measures it  
25 will implement to prevent site contamination, and how it will document  
26 implementation of the plan during operation of the facility. The materials  
27 management and monitoring plan shall be subject to approval by ODOE.  
28

29 (7) Not later than 10 years after the issuance of this site certificate, and each  
30 10 years thereafter during the life of the energy facility, the certificate holder  
31 shall complete an independent Phase I Environmental Site Assessment of the  
32 energy facility site, using an accepted industry standard such as ASTM E-  
33 1527. Within 30 days after its completion, the certificate holder shall deliver  
34 the Phase I Environmental Site Assessment report to ODOE.  
35

36 (8) In the event that any Phase I Environmental Site Assessment identifies  
37 improper handling or storage of hazardous substances or improper record  
38 keeping procedures, the certificate holder shall correct such deficiencies  
39 within six months after completion of the corresponding Phase I  
40 Environmental Site Assessment. The certificate holder shall promptly report  
41 its corrective actions to ODOE. The Council shall determine whether the  
42 corrective actions are sufficient.  
43

44 (9) The certificate holder shall report any release of hazardous substances,  
45 pursuant to DEQ regulations, to ODOE within one working day after the

1                   discovery of such release. This obligation shall be in addition to any other  
2                   reporting requirements applicable to such a release.

3  
4           **(10) If the certificate holder has not remedied a release consistent with applicable**  
5           **DEQ standards, or if the certificate holder fails to correct deficiencies**  
6           **identified in the course of a Phase I Environmental Site Assessment within**  
7           **six months after the date of the release or the date of completion of the Phase**  
8           **I Environmental Site Assessment, the certificate holder shall, within such six-**  
9           **month period, submit to the Council for its approval an independently-**  
10           **prepared estimate of the additional cost of remediation or correction.**

11  
12           **(a) Upon approval of an estimate by the Council, the certificate holder**  
13           **shall increase the amount of its letter of credit by the amount of the**  
14           **estimate.**

15  
16           **(b) In no event, however, shall the certificate holder be relieved of its**  
17           **obligation to exercise all due diligence in remedying a release of**  
18           **hazardous substances or correcting deficiencies identified in the**  
19           **course of a Phase I Environmental Site Assessment.**

20  
21           **(11) All funds received by the certificate holder from the salvage of equipment**  
22           **and buildings or from the sale of scrap materials from the facility shall be**  
23           **committed to the restoration of the facility site to the extent necessary to fund**  
24           **the approved site restoration and remediation.**

25  
26           **(12) The certificate holder shall pay the actual cost to restore the site to a useful,**  
27           **non-hazardous condition at the time of retirement, notwithstanding the**  
28           **Council's approval in the site certificate of an estimated amount required to**  
29           **restore the site.**

30  
31           **(13) If the Council finds that the certificate holder has permanently ceased**  
32           **construction or operation of the facility without retiring the facility**  
33           **according to a final retirement plan approved by the Council, as described in**  
34           **OAR 345-027-0110 and prepared pursuant to Condition D.3(2), the Council**  
35           **shall notify the certificate holder and request that the certificate holder**  
36           **submit a proposed final retirement plan to ODOE within a reasonable time**  
37           **not to exceed 90 days.**

38  
39           **(a) If the certificate holder does not submit a proposed final retirement**  
40           **plan by the specified date or if the Council rejects the retirement plan**  
41           **that the certificate holder submits, the Council may direct ODOE to**  
42           **prepare a proposed final retirement plan for the Council's approval.**

43  
44           **(b) Upon the Council's approval of the final retirement plan prepared**  
45           **pursuant to Condition D.3(13)(a), the Council may draw on the letter**

1 of credit described in Condition D.3(4) and shall use the funds to  
2 cause restoration of the site to a useful, non-hazardous condition  
3 according to the final retirement plan, in addition to any penalties the  
4 Council may impose under OAR Chapter 345, Division 29. The  
5 Council may draw on the bond or letter of credit to pay for ODOE's  
6 costs incurred in preparing the final retirement plan described in  
7 Condition D.3(13)(a).  
8

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

14 (d) After completion of site restoration, the Council shall issue an order to  
15 terminate the site certificate if the Council finds that the facility has  
16 been retired according to the approved final retirement plan.  
17

18 The Council finds that KE has a reasonable likelihood of obtaining a bond or letter of credit in a  
19 form and amount sufficient to restore the site to a useful, non-hazardous condition.  
20

#### 21 **Summary**

22 The Council finds that KE has demonstrated that the site, taking into account mitigation, can be  
23 restored adequately to a useful, non-hazardous condition following permanent cessation of  
24 construction or operation of the facility. The Council also finds that KE has a reasonable  
25 likelihood of obtaining a bond or letter of credit in a form and amount satisfactory to the Council  
26 to restore the site to a useful, non-hazardous condition.  
27

#### 28 **Conclusion**

29 The Council finds that, subject to the conditions stated in this order, KE meets the retirement and  
30 financial assurance standard, OAR 345-022-0050.  
31

#### 32 **D.4. LAND USE, OAR 345-022-0030**

33 “(1) To issue a site certificate, the Council must find that the proposed facility  
34 complies with the statewide planning goals adopted by the Land Conservation and  
35 Development Commission.”  
36

#### 37 **Discussion**

38 The analysis area for the land use standard is the area within the site boundary and one-half mile  
39 from the site boundary plus laydown and staging areas.  
40

41 Pursuant to ORS 469.504(1)(a), KE elected to obtain land use permits directly from the affected  
42 local government. OAR 345-022-0030(2)(b) *et seq.* provides:  
43

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

1           “(a) The applicant elects to obtain local land use approvals under ORS  
2           469.504(1)(a) and the Council finds that the facility has received  
3           local land use approval under the acknowledged comprehensive  
4           plan and land use regulations of the affected local government  
5           \*\*\*\*”  
6

7 Klamath County is the only local government having land use jurisdiction over the facility site.  
8 The County has an acknowledged comprehensive land use plan and zoning ordinance in place.  
9 The Land Conservation and Development Commission (LCDC) issued the order acknowledging  
10 Klamath County’s comprehensive land use plan in 1985. The plan was revised in 1999.  
11

12 The facility site is located in a designated “Heavy Industrial” land use zone. KE filed an  
13 application for a conditional use permit (CUP) on March 15, 2001 for the peaker project, which  
14 at that time was called the Klamath Expansion Project and was exempt from EFSC jurisdiction  
15 as a temporary energy facility. On May 8, 2001, the county issued CUP 10-01 for the project.  
16 The CUP is included in Exhibit K of KE’s Application for a Site Certificate as Appendix K-1.  
17

18 The County reviewed the emissions control and distillate fuel modifications for the project. The  
19 County issued its order approving these modifications on February 4, 2004. The County’s order  
20 is included in Exhibit K of KE’s Application for a Site Certificate as Appendix K-2.  
21

## 22 **Conclusion**

23 The Council finds that the KGP facility has received local land use approval under Klamath  
24 County’s acknowledged comprehensive plan and land use regulations and complies with the land  
25 use standard, OAR 345-0022-0030. No conditions are required.  
26

## 27 **D.5. STRUCTURAL STANDARD, OAR 345-022-0020**

28       “(1) Except for facilities described in sections (2) and (3)<sup>3</sup>, to issue a site certificate,  
29       the Council must find that:

30           “(a) The applicant, through appropriate site-specific study, has adequately  
31           characterized the site as to seismic zone and expected ground motion  
32           and ground failure, taking into account amplification, during the  
33           maximum credible and maximum probable seismic events; and

34           “(b) The applicant can design, engineer, and construct the facility to avoid  
35           dangers to human safety presented by seismic hazards affecting the site  
36           that are expected to result from all maximum probable seismic events.  
37           As used in this rule ‘seismic hazard’ includes ground shaking, landslide,  
38           liquefaction, lateral spreading, tsunami inundation, fault displacement,  
39           and subsidence;

40           “(c) The applicant, through appropriate site-specific study, has adequately  
41           characterized the potential geological and soils hazards of the site and its  
42           vicinity that could, in the absence of a seismic event, adversely affect, or

---

<sup>3</sup> In this and other conditions that begin with a reference to “sections (2) and (3),” those sections refer to renewable energy facilities and special criteria facilities and do not apply to the Klamath Generation Peakers.

1 be aggravated by, the construction and operation of the proposed facility;  
2 and

- 3 “(d) The applicant can design, engineer and construct the facility to avoid  
4 dangers to human safety presented by the hazards identified in subsection  
5 (c). \*\*\*\*”  
6

## 7 **Discussion**

8 The analysis area for the structural standard is the area within the site boundary. The KGP site is  
9 surrounded by the existing Klamath Cogeneration Project (“KCP”) to the north and by the  
10 proposed Klamath Generation Facility (“KGF”) to the south, east and west. The analysis areas  
11 for the KCP and KGF included the KGP site. The application for the KGP uses the geotechnical  
12 studies performed in support of the KGF and submitted with the KGF application. No additional  
13 site-specific investigations were performed for the KGP; KE relied on investigations performed  
14 for KCP and KGF.  
15

16 In preparing the KGF and KCP applications for site certificate, the applicant retained Golder  
17 Associates, Inc. (“Golder”), as consulting geologists to provide information on the geological  
18 and seismological conditions at the proposed facility site. As required under OAR 345-021-  
19 0010(1)(h), Golder reviewed information from reasonably available sources regarding the  
20 geological and soil stability of the site and vicinity. In addition, the ASC for the KGP includes  
21 site-specific boring logs from the construction of the Klamath Expansion Peakers (KEP) in 2001  
22 (ASC, Exhibit H, Appendix H-2).  
23

## 24 **Site Characterization – Seismic Hazard**

25 The site is in the Lower Klamath Basin. The region contains volcanic and sedimentary rocks and  
26 unconsolidated deposits that formed in about the last 8 million years. The geological structure of  
27 the Klamath basin is dominated by northwest-trending normal faults.  
28

29 Site-specific investigations performed for KEP and KGF show that the site surface contains a  
30 combination of rockfill and organic debris. The debris is from prior industrial activity on the site,  
31 apparently from the adjacent wood products facility. Subsurface materials include volcanic  
32 sandstone, diatomaceous silt, basalt and basalt breccia.  
33

34 Seismic Activity: The ASC identifies 15 faults in the general area of the site. They range in  
35 distance from 6 to 52 km, and have maximum credible event (“MCE”) magnitudes ranging from  
36 6.2 to 7.0, with most around 6.7. Based on the studies performed for KCP, the peak ground  
37 acceleration for the MCE was reported to be 0.36g, based on an event of magnitude 6.6 and  
38 located 6 km away. KE used updated attenuation relationships developed in 1997 to calculate  
39 maximum credible ground motion, and arrived at peak ground acceleration up to 0.44 g for the  
40 site.  
41

42 Because earthquake intervals in the Klamath Basin are long and data is relatively sparse, the  
43 ASC does not identify probable seismic events for individual faults. KE did a probabilistic  
44 earthquake hazard analysis, and compared the results to previous seismic hazard assessments  
45 performed by DOGAMI and USGS. The MPE, or maximum ground motion from a seismic event

1 with 10% probability of being exceeded in 50 years, is estimated at .28g. This value is  
2 appropriately conservative when compared with quoted estimates by DOGAMI and USGS.

3  
4 Based on the boring results at the site and the peak accelerations predicted from the MPE, KE  
5 committed to designing the facility to Oregon Structural Specialty Code (1998) OSSC seismic  
6 zone 3<sup>4</sup>. KE also committed to using seismic design criteria for soil profile, seismic zone factor,  
7 seismic coefficient, near source factor, seismic source type, and distance to fault recommended  
8 by their geology consultant and shown in the ASC, Exhibit H, Appendix H-1, Table 4.

9  
10 Potential effects of ground motion at the facility site and surrounding area include:

- 11 • Amplification of ground motions by subsurface materials (site effects)
- 12 • Earthquake-induced slope instability
- 13 • Earthquake-induced differential soil settlement
- 14 • Soil liquefaction and lateral spreading
- 15 • Surface fault rupture.

16  
17 Amplification of Ground Motions by Subsurface Materials (Site Effects): The facility site may  
18 have a relatively high site amplification hazard due to the presence of diatomaceous silt in the  
19 subsurface soil profile. The magnitude of site amplification would depend primarily on the  
20 frequency, content and intensity of the ground motions and local soil conditions. Topographic  
21 amplification of earthquake shaking is not expected because of the low relief of the facility site.  
22 The effects of site amplification on proposed structures (in this case, the KGP, the distillate fuel  
23 tank, and associated piping) can be addressed in design once the extent and properties of the  
24 diatomaceous silt are known.

25  
26 Earthquake-Induced Slope Instability: There do not appear to be any large volume slumps or  
27 debris landslides underlying the proposed energy facility site. In addition, the surface of the site  
28 has relatively gentle slopes. Based on these factors, Golder concluded that the hazard from  
29 earthquake-induced slope failure is negligible at the proposed energy facility site.

30  
31 Earthquake-Induced Differential Soil Settlement: The facility site is underlain by non-engineered  
32 rocky and organic debris and diatomaceous silt of variable thickness. These materials could be  
33 susceptible to shaking-induced densification causing ground surface settlement and compaction.  
34 Some volume reduction of the upper layers of the diatomaceous silt might also be expected  
35 during earthquake shaking. The precise location and properties of these materials would be  
36 addressed during pre-construction excavation.

37  
38 Soil Liquefaction and Lateral Spreading: The proposed energy facility site appears to have no (or  
39 low) liquefaction hazard. Much of the energy facility would be founded on competent  
40 volcanoclastic sandstone and conglomerate. Based on available information, Golder concluded  
41 that the liquefaction risk at the proposed energy facility site is low.

---

<sup>4</sup> The 1998 OSSC has been replaced by the 2004 edition, which is based on the 2003 International Building Code. KE's application predates this change and therefore commits to 1998 code. However, the Department recommends conditioning the site certificate to the 2004 OSSC.

1  
2 Surface Fault Rupture: The literature review conducted by Golder showed that numerous faults  
3 capable of future surface rupture are known in the Klamath basin. None of those known faults  
4 cross the facility site. The contact between the diatomaceous silt and volcanoclastic sandstone  
5 and conglomerate is reported to be steep in site investigations for the KEP. A sedimentary  
6 contact is assumed, because faulting is reported to have occurred before sedimentation of the two  
7 strata. The arrangement of strata of these layers is typical for the deposits in the Klamath Basin.  
8 In its discussion of the larger KGF site, Golder noted that this contact could possibly be faulted,  
9 and recommended a site-specific exploration. For the KGP, KE took site-specific core samples  
10 before building the foundations for the combustion turbines, and installed custom-designed  
11 pilings based on the results. KE states that “\*\*\**although the site specific work already*  
12 *completed and presented in Appendix H-2 could arguably be used as sufficient geotechnical*  
13 *information for installation of the distillate storage tank and foundation, which impose static*  
14 *loads as opposed to the dynamic loads imposed by the combustion turbines the Applicant has*  
15 *committed to perform the additional geotechnical investigations in the storage tank area.*”  
16

17 In summary, KE characterized the site in terms of ground motion resulting from the maximum  
18 credible and maximum probable event. KE characterized the seismic hazards associated with  
19 those events. KE submitted information about the geotechnical characteristics of the site based  
20 on what it learned during the 2002 construction of the combustion turbines, and will perform  
21 similar site-specific work before constructing the distillate fuel modification. The Council finds  
22 that the geotechnical studies performed for the Klamath Generation Facility and relied on for the  
23 KGP adequately characterize the site in terms of seismic zone, peak ground acceleration for the  
24 MCE and MPE, and seismic hazards.  
25

### 26 **Facility Design for Seismic Hazards**

27 Because the KGP is already built and operating, the applicable requirement is to design the  
28 distillate fuel modification for the seismic hazard. KE committed to designing the distillate fuel  
29 modification to OSSC seismic zone 3.  
30

31 Seismic hazards described in the geotechnical investigation for KGF (and used for the KGP  
32 application) include amplification, earthquake induced soil settlement, and surface fault rupture.  
33

34 For amplification, the appropriate design measures depend on the amount of diatomaceous silt at  
35 the site. Mitigation measures include:  
36

- 37       ▪ Limited removal and replacement of the silt,
- 38       ▪ In-situ ground improvement,
- 39       ▪ Use of deep foundations, or
- 40       ▪ Relocation of structures, if feasible.

41  
42 For earthquake induced soil settlement, KE has identified mitigation measures including over-  
43 excavating and replacement with engineered fill, in-situ soil improvements, or supporting  
44 structures on deep foundations. For surface fault displacement, mitigation measures would be  
45 recommended once more is known about the contact between the diatomaceous silt and the

1 competent volcano clastic sediments. In installing the combustion turbines in 2002, KE mitigated  
2 for the seismic hazards by using deep pilings and soil replacement. The loads presented by the  
3 distillate fuel tank are static in nature, as opposed to the dynamic loads presented by the  
4 combustion turbines. Therefore hazard mitigation techniques that were used for the combustion  
5 turbines should be more than adequate for the fuel tank.  
6

7 In summary, the Council finds that KE can design the facility to avoid dangers to human safety  
8 from seismic hazards. KE has committed to ensuring that site-specific conditions are taken into  
9 account in design of the foundation for the distillate fuel modification. The Council adopts the  
10 following KE commitment as a condition of the site certificate:  
11

- 12 **(1) Prior to design and construction of the distillate fuel storage tank and its**  
13 **foundation, the certificate holder shall conduct a soils analysis of the specific**  
14 **area in which the tank is to be located. This analysis shall be performed by a**  
15 **qualified geotechnical firm and may include sample test drillings in the tank**  
16 **area to identify varying soil conditions and classification encompassed by the**  
17 **foundation footprint.**  
18

### 19 **Site Characterization - Geologic and Soils Hazards**

20 Geologic and soils hazards are hazards that are not related to earthquake occurrences. Golder did  
21 not identify any major non-earthquake geological hazards that could significantly affect  
22 development of the proposed energy facility. Potential impacts Golder addressed include: slope  
23 instability, differential settlement, erosion and excavation.  
24

25 Much of the site is covered with rock fill and organic debris. These non-engineered fills have  
26 potential for differential settlement, and would be replaced. Most of the potential hazards  
27 identified at the site are dependent on the thickness of diatomaceous silt at the site. As noted  
28 above in the discussion of seismic hazards, KE could mitigate the hazards through replacement,  
29 in-situ ground improvement, deep foundations, or re-locating. Erosion potential can be mitigated  
30 by proper control of surface water runoff. The area involved in the distillate tank is relatively  
31 flat, and precipitation at the energy facility site is low. Therefore, erosion potential is low.  
32

33 In summary, the Council finds KE has adequately characterized the site in terms of geological  
34 and soils hazards that could adversely affect the facility in the absence of a seismic event.  
35

### 36 **Facility Design Criteria for Geologic and Soils Hazards**

37 As noted above, the KGP is already built and operating, with the exception of the distillate fuel  
38 modification. Final design of the proposed facility would require additional site-specific  
39 geotechnical studies, including geophysical surveys, test borings, test pits, and laboratory testing.  
40 The design engineer would determine the exact number and types of tests. Results of the site-  
41 specific studies would be used to assess the stability of existing and proposed slopes and to  
42 determine the thickness and physical properties of subsurface materials so the settlement risk can  
43 be better identified. Study results would be used to develop appropriate slope stabilization and  
44 soil settlement mitigation measures in accordance with requirements of Oregon Structural

1 Specialty Code 1998 for Seismic Zone 3.<sup>5</sup> KE would reduce erosion by proper control of surface  
2 water runoff. Revegetation of post-construction disturbed soil areas would reduce the potential  
3 for further wind and water erosion at the site. Suitable offset of foundations from existing slopes  
4 would ensure that, if erosion occurs, it would not reduce the support to energy facility  
5 foundations.  
6

7 The Council adopts the following KE commitments as conditions of the site certificate:  
8

9 **(2) If the distillate fuel modification is installed, the certificate holder shall**  
10 **ensure that stability of existing slopes is maintained by directing surface**  
11 **water runoff away from slopes or by providing vegetation to those slopes.**  
12

13 **(3) If the distillate fuel modification is installed, the certificate holder shall**  
14 **develop setback distances from existing slopes to comply with applicable**  
15 **codes. References to the 1998 Oregon Structural Specialty Code in facility**  
16 **design shall be updated to reflect the 2004 Oregon Structural Specialty Code.**  
17

18 **(4) If the distillate fuel modification is installed, the certificate holder shall offset**  
19 **foundations adequately to ensure that erosion of existing slopes does not**  
20 **adversely affect foundation support.**  
21

## 22 **Summary**

23 The Council finds that KE, through appropriate site-specific study, has adequately characterized  
24 the site as to seismic zone and expected ground motion and ground failure, taking into account  
25 amplification, during the maximum credible and maximum probable seismic events; KE can  
26 design, engineer, and construct the facility to avoid dangers to human safety presented by  
27 seismic hazards affecting the site that are expected to result from all maximum probable seismic  
28 events; KE, through appropriate site-specific study, has adequately characterized the potential  
29 geological and soils hazards of the site and its vicinity that could, in the absence of a seismic  
30 event, adversely affect, or be aggravated by, the construction and operation of the proposed  
31 facility; and KE can design, engineer and construct the facility to avoid dangers to human safety.  
32

## 33 **Conclusion**

34 The Council finds that, subject to the conditions stated in this order, KE meets the structural  
35 standard, OAR 345-022-0020.  
36

## 37 **D.6. SOIL PROTECTION, OAR 345-022-0022**

38 "To issue a site certificate, the Council must find that the design, construction,  
39 operation and retirement of the facility, taking into account mitigation, are not  
40 likely to result in a significant adverse impact to soils including, but not limited

---

<sup>5</sup> The 1998 OSSC has been replaced by the 2004 edition. In the new edition, the use of seismic zones has been replaced with a more detailed method of characterizing seismic potential. The Department recommends that the site certificate be conditioned to require use of the 2004 edition. The Council accepts this recommendation.

1 to, erosion and chemical factors such as salt deposition from cooling towers, land  
2 application of liquid effluent, and chemical spills.”  
3

#### 4 **Discussion**

5 The Council considers adverse impacts to soils because of potential related impacts to  
6 agricultural and forest land uses, native vegetation, fish and wildlife habitat, and water quality.  
7 Relevant under this standard are the facility's potential impacts such as erosion, compaction,  
8 mass wasting, slumping, chemical spills, and salt deposition.  
9

10 The analysis area for the soil protection standard is the area within the site boundary and all  
11 laydown and staging areas.  
12

13 The work previously performed in assessing potential impacts to soils resulting from the KCP  
14 and KGF took into account the KGP site, including related or supporting facilities. For this  
15 reason, impacts on soils at the KGP site are expected to be similar to those for KCP, which is  
16 already permitted and operating.  
17

18 The site is zoned heavy industrial. There are no trees or agricultural uses. The site slopes gently  
19 at grades of two to five percent. The site was disturbed previously by grading activities  
20 associated with past construction and log storage. KGP's impacts on soils are minimized in part  
21 by the high level of previous disturbance from prior industrial activities.  
22

#### 23 **Soil Types**

24 In studies performed for KGF and KCP, thirteen soil types were identified. The analysis area for  
25 the KGP site is much smaller and contains some but not all of the 13 types identified for those  
26 larger projects. Of the 13 soil types identified for KCP and KGF, only Lorella Very Stony Loam  
27 appears to pose a potential water erosion hazard and, therefore, would be poorly suited for  
28 pipeline installation. However, this soil type is not present at the KGP site. One soil type present  
29 at the site, Capona Loam, is described as poorly suited for construction of foundations or for use  
30 as road fill.  
31

#### 32 **Impacts during construction, operation and retirement**

33 Impacts to soils would occur primarily during construction. KE proposes special construction  
34 and erosion control methods to protect against erosion of cut and fill slopes and foundations for  
35 the distillate fuel modifications. Measures include:  
36

- 37 • Ensuring that surface water runoff is directed away from slopes or providing  
38 vegetation to these slopes.
- 39 • Supporting foundations on bedrock or, alternately, over-excavating existing fills  
40 and replacing with engineered fills to support foundation and pipeline in areas  
41 susceptible to settlement.
- 42 • Offsetting foundations to ensure that erosion of existing slopes near the project  
43 area does not adversely affect foundation support.  
44

1 Impacts during operation are not expected to be significant. There are no cooling towers, and  
2 therefore no potential for salt deposition. Because of the facility's small size and simplicity, the  
3 potential for chemical spill is proportionately reduced. The one potential source of chemical spill  
4 is the distillate fuel system. However, KE expects to run on distillate fuel only a very small  
5 percentage of the time, using natural gas as the chief fuel (*See* ASC, Exhibit Y, and KE August  
6 24, 2004 Second Response to ODOE Request for Additional Information).  
7

8 To mitigate for potential soil impacts, KE proposed mitigation measures in its ASC. The Council  
9 adopts those commitments as the following conditions in the site certificate:  
10

- 11 **(1) If the distillate fuel modification is installed, the certificate holder shall**  
12 **mitigate potential erosion impacts to soils by restoring temporarily disturbed**  
13 **areas to pre-disturbed conditions.**
- 14
- 15 **(2) If the distillate fuel modification is installed, the certificate holder shall**  
16 **consider the limitations of Capona Silt Loam in design and construction of**  
17 **the distillate fuel system.**
- 18
- 19 **(3) If the distillate fuel modification is installed, the certificate holder shall use**  
20 **soil amendments or mechanical improvements as necessary to improve**  
21 **stability.**  
22

23 To minimize the potential for chemical spill, KE made commitments in its ASC. The Council  
24 adopts those commitments as the following conditions to the site certificate:  
25

- 26 **(4) If the certificate holder implements the distillate fuel modification, then it**  
27 **shall install and operate the distillate fuel system in accordance with National**  
28 **Fire Protection Association ("NFPA") 850.**
- 29
- 30 **(5) The certificate holder shall equip fuel control systems with automatic shutoff**  
31 **valves to stop all fuel flow under shutdown conditions.**
- 32
- 33 **(6) For non-fuel hazardous substances, the certificate holder shall equip**  
34 **pumping systems and storage tank controls with: (a) dry disconnects at**  
35 **transfer hose and piping connections; (b) automatic pump shutoffs on high**  
36 **level; (c) redundant tank level indicators and high level alarms; (d) inventory**  
37 **tracking; and (e) written unloading and transfer operation instructions.**
- 38
- 39 **(7) In all chemical storage areas, the certificate holder shall provide a secondary**  
40 **containment storage volume equal to 110 percent of the maximum chemical**  
41 **volume in primary containment.**
- 42
- 43 **(8) The certificate holder shall ensure that ammonia storage complies with**  
44 **NFPA and local fire department requirements and is designed in accordance**  
45 **with ANSI K61.1.**

1  
2 **Summary**

3 The Council finds that the design, construction, operation, and retirement of the facility, taking  
4 into account mitigation, are not likely to result in a significant adverse impact to soils including,  
5 but not limited to, erosion, salt deposition from cooling towers, land application of liquid  
6 effluent, and chemical spills.  
7

8 **Conclusion**

9 The Council finds that, subject to the conditions stated in this Order, KE meets the soil protection  
10 standard, OAR 345-022-0022.  
11

12 **D.7. PROTECTED AREAS, OAR 345-022-0040**

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

21 “(a) National parks, including but not limited to Crater Lake National  
22 Park and Fort Clatsop National Memorial;

23 “(b) National monuments, including but not limited to John Day Fossil  
24 Bed National Monument, Newberry National Volcanic Monument  
25 and Oregon Caves National Monument;

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

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

35 “(e) National coordination areas, including but not limited to  
36 Government Island, Ochoco and Summer Lake;

37 “(f) National and state fish hatcheries, including but not limited to  
38 Eagle Creek and Warm Springs;

39 “(g) National recreation and scenic areas, including but not limited to  
40 Oregon Dunes National Recreation Area, Hell's Canyon National  
41 Recreation Area, and the Oregon Cascades Recreation Area, and  
42 Columbia River Gorge National Scenic Area;

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

- 1 “(i) State natural heritage areas listed in the Oregon Register of Natural  
2 Heritage Areas pursuant to ORS 273.581;  
3 “(j) State estuarine sanctuaries, including but not limited to South  
4 Slough Estuarine Sanctuary, OAR Chapter 142;  
5 “(k) Scenic waterways designated pursuant to ORS 390.826, wild or  
6 scenic rivers designated pursuant to 16 U.S.C. 1271 et seq., and  
7 those waterways and rivers listed as potentials for designation;  
8 “(l) Experimental areas established by the Rangeland Resources  
9 Program, College of Agriculture, Oregon State University: the  
10 Prineville site, the Burns (Squaw Butte) site, the Starkey site and  
11 the Union site;  
12 “(m) Agricultural experimental stations established by the College of  
13 Agriculture, Oregon State University, including but not limited to:  
14 Coastal Oregon Marine Experiment Station, Astoria  
15 \*\*\*  
16 “(n) Research forests established by the College of Forestry, Oregon  
17 State University, including but not limited to McDonald Forest,  
18 Paul M. Dunn Forest, the Blodgett Tract in Columbia County, the  
19 Spaulding Tract in the Mary's Peak area and the Marchel Tract;  
20 “(o) Bureau of Land Management areas of critical environmental  
21 concern, outstanding natural areas and research natural areas;  
22 “(p) State wildlife areas and management areas identified in OAR  
23 chapter 635, Division 8.  
24 “(2) Notwithstanding section (1), the Council may issue a site certificate for a  
25 transmission line or a natural gas pipeline or for a facility located outside a  
26 protected area that includes a transmission line or natural gas or water  
27 pipeline as a related or supporting facility located in a protected area  
28 identified in section (1), if other alternative routes or sites have been  
29 studied and determined by the Council to have greater impacts.  
30 Notwithstanding section (1), the Council may issue a site certificate for  
31 surface facilities related to an underground gas storage reservoir that have  
32 pipelines and injection, withdrawal or monitoring wells and individual  
33 wellhead equipment and pumps located in a protected area, if other  
34 alternative routes or sites have been studied and determined by the  
35 Council to be unsuitable.  
36 “(3) The provisions of section (1) do not apply to transmission lines or natural  
37 gas pipelines routed within 500 feet of an existing utility right-of-way  
38 containing at least one transmission line with a voltage rating of  
39 115 kilovolts or higher or containing at least one natural gas pipeline of  
40 8 inches or greater diameter that is operated at a pressure of 125 psig.”

41  
42 **Discussion**

43 The analysis area for the protected areas standard is the area within the site boundary and 20  
44 miles from the site boundary.  
45

1 Twelve protected areas are located within the analysis area, as shown in Table D.7-1. No portion  
 2 of the facility would be located in a protected area. The protected area nearest the facility is the  
 3 Klamath State Wildlife Refuge that is one-half mile south of the facility site. The Oregon State  
 4 University Klamath Experiment Station is located about 2 ½ miles east of the facility site. All  
 5 other protected areas within the analysis area are at least six miles from the facility site.  
 6  
 7

8 **TABLE D.7-1**  
 9 **PROTECTED AREAS IN KLAMATH GENERATION PEAKERS ANALYSIS AREA**  
 10

Protected Area	Distance (Miles)	Direction	State
Klamath State Wildlife Refuge	0.5	SW	Oregon
OSU Klamath Experiment Station	2.5	E	Oregon
State Wildlife Area – Gorr Island	6	SW	Oregon
Upper Klamath National Wildlife Refuge – Hanks Marsh	8	N	Oregon
Bear Valley National Wildlife Refuge	9	SW	Oregon
Lower Klamath River National Wildlife Refuge	9	S, SE	Oregon, California
Upper Klamath River [National Wild and Scenic Rivers Act, § 2(a)(ii)]	13	SW	Oregon
Winema National Forest	13	N	Oregon
State Wildlife Area – Squaw Point	13	N	Oregon
Mountain Lakes Wilderness	15	NW	Oregon
State Wildlife Area – Shoalwater Bay	16	NW	Oregon
Klamath National Forest	18	SW	California

11  
 12 **Noise.** The Klamath State Wildlife Refuge is located about one-half mile southwest of the  
 13 facility site. It is the only protected area within the analysis area that may be affected by noise  
 14 during construction or operation of the facility.  
 15

16 KE’s noise analysis shows that operation of the facility in conjunction with the Klamath  
 17 Generation Facility may cause noise at the point within the Klamath State Wildlife Refuge  
 18 nearest the proposed facility to increase by 3.0 dBA. With the proposed facility in operation,  
 19 noise at that location would not exceed 50 dBA. Such an increase is not considered to be a  
 20 significant adverse impact, and noise from operation of the proposed facility would not result in  
 21 a significant adverse impact to any protected area.  
 22

23 The Council finds that noise from the proposed facility would not result in a significant adverse  
 24 impact on any protected area.  
 25

26 **Traffic.** Most of the construction work force would travel to the proposed facility site from the  
 27 Klamath Falls area by means of existing traffic routes, including Interstate 5, US Highway 97,  
 28 and State Highways 66 and 140. Access to the proposed facility site would be by means of an

1 existing private access road from US Highway 97. During the peak of construction, daily vehicle  
2 trips along US Highway 97 in the vicinity of the proposed facility site entrance could increase by  
3 about 25 round trips per day.

4  
5 Traffic on existing streets and highways during operation of the proposed facility would undergo  
6 a modest increase. Depending on the amount of distillate used for operation of the facility, there  
7 would be ongoing distillate fuel deliveries of up to 14 round trips per day during brief periods.  
8 Other truck traffic during operation of the facility would include delivery of ammonia for Nox  
9 emissions control (up to 6 round trips per year), wastewater removal (up to 10 round trips per  
10 year), and miscellaneous deliveries (about 50 round trips per year). Facility-related traffic during  
11 operation would not result in a significant adverse impact to any protected area.

12  
13 The Council finds that traffic generated by construction and operation of the proposed facility  
14 would not result in a significant adverse impact on any protected area.

15  
16 **Water Use.** Water is supplied to the facility by the City of Klamath Falls by means of an  
17 existing pipeline.

18  
19 The Council finds that water use during construction of the distillate fuel system and operation of  
20 the proposed facility would not result in a significant adverse impact on any protected area.

21  
22 **Wastewater Disposal.** The small amount of wastewater generated by the facility is temporarily  
23 stored at the facility site and periodically trucked off-site for recycling or disposal.

24  
25 The Council finds that wastewater disposal during construction of the distillate fuel system and  
26 operation of the proposed facility would not result in a significant adverse impact on any  
27 protected area.

28  
29 **Visual Impacts of Facility Structures.** The facility site is located on Collins' Products property  
30 in an area zoned and developed for heavy industrial use. The facility is not visible from most of  
31 the protected areas in the analysis area due to distance and intervening topography. For those  
32 protected areas from which the facility may be visible, *i.e.*, the Klamath State Wildlife Refuge  
33 and the OSU Klamath Experiment Station, the facility would blend with the adjacent industrial  
34 uses.

35  
36 The Council finds that the visual impacts of facility structures at the proposed facility would not  
37 result in a significant adverse impact on any protected area.

38  
39 **Visual Impacts from Air Emissions.** Air emissions from the facility are controlled by pollution  
40 control systems, the use of clean-burning fuel, and effective operating practices, all as required  
41 by the Air Contaminant Discharge Permit. Emissions of nitrogen oxides are controlled through  
42 the use of water injection in the combustion turbines and a selective catalytic reduction system.  
43 Emissions of carbon monoxide are controlled through the use of an oxidation catalyst. The  
44 emission of other pollutants, including air toxics, is controlled through the use of effective

1 combustion techniques and operating practices. Based on DEQ’s review, the facility does not  
2 result in any significant impacts to air quality in the analysis area.

3  
4 The Council finds that the visual impacts from air emissions of the proposed facility would not  
5 result in a significant adverse impact on any protected area.

6  
7 **Summary**

8 The Council finds that the proposed facility is not located in a protected area and, taking into  
9 account mitigation, the design, construction and operation of the facility are not likely to result in  
10 significant adverse impact to a protected area.

11  
12 **Conclusion**

13 The Council finds that the KGP project meets the protected areas standard, OAR 345-022-0040.

14  
15 **D.8 FISH AND WILDLIFE HABITAT, OAR 345-022-0060**

16 “To issue a site certificate, the Council must find that the design, construction, operation  
17 and retirement of the facility, taking into account mitigation, is consistent with the fish  
18 and wildlife habitat mitigation goals and standards of OAR 635-415-0025 in effect as of  
19 September 1, 2000.”

20  
21 **Discussion**

22 The analysis area for the fish and wildlife habitat standard is the area within the site boundary  
23 and 500 feet from the site boundary and all laydown and staging areas.

24  
25 OAR 635-415-0025 describes six categories of habitat in order of their value. The rule then  
26 establishes mitigation goals and corresponding implementation standards for each habitat  
27 category.

28  
29 **Habitat Categories**

30  
31 Habitat Category 1 is “irreplaceable, essential habitat for a fish or wildlife species,  
32 population, or a unique assemblage of species and is limited on either a physiographic  
33 province or site-specific basis, depending on the individual species, population or unique  
34 assemblage.” The mitigation goal for Habitat Category 1 is “no loss of either habitat  
35 quantity or quality.” The implementation standard requires “avoidance of impacts  
36 through alternatives to the proposed development action.”

37  
38 Habitat Category 2 is “essential habitat for a fish or wildlife species, population, or  
39 unique assemblage of species and is limited either on a physiographic province or site-  
40 specific basis depending on the individual species, population or unique assemblage.”  
41 The mitigation goal for Habitat Category 2, if impacts are unavoidable, is “no net loss of  
42 either habitat quantity or quality and to provide a net benefit of habitat quantity or  
43 quality.” The implementation standard is “avoidance of impact through alternatives to the  
44 proposed development action” or “mitigation of impacts, if unavoidable, through reliable  
45 in-kind, in-proximity habitat mitigation to achieve no net loss of either pre-development

1 habitat quantity or quality. In addition, a net benefit of habitat quantity or quality must be  
2 provided.”

3  
4 Habitat Category 3 is “essential habitat for fish and wildlife, or important habitat for fish  
5 and wildlife that is limited either on a physiographic province or site-specific basis,  
6 depending on the individual species or population.” The mitigation goal for Habitat  
7 Category 3 is "no net loss of either habitat quantity or quality." The implementation  
8 standard is “avoidance of impacts through alternatives to the proposed development  
9 action” or “mitigation of impacts, if unavoidable, through reliable in-kind, in-proximity  
10 habitat mitigation to achieve no net loss in either pre-development habitat quantity or  
11 quality.”

12  
13 Habitat Category 4 is “important habitat for fish and wildlife species.” The mitigation  
14 goal for Habitat Category 4 is "no net loss in either existing habitat quantity or quality.”  
15 The implementation standard is “avoidance of impacts through alternatives to the  
16 proposed development action” or “mitigation of impacts, if unavoidable, through reliable  
17 in-kind or out-of-kind, in-proximity or off-proximity habitat mitigation to achieve no net  
18 loss in either pre-development habitat quantity or quality.”

19  
20 Habitat Category 5 is “habitat for fish and wildlife having high potential to become either  
21 essential or important habitat.” The mitigation goal for Habitat Category 5, if impacts are  
22 unavoidable, is "to provide a net benefit in habitat quantity or quality.” The  
23 implementation standard is “avoidance of impacts through alternatives to the proposed  
24 development action” or “mitigation of impacts, if unavoidable, through actions that  
25 contribute to essential or important habitat.”

26  
27 Habitat Category 6 is “habitat that has low potential to become essential or important  
28 habitat for fish and wildlife.” The mitigation goal for Habitat Category 6 is "to minimize  
29 impacts.” The implementation standard is to “minimize direct habitat loss and avoid  
30 impacts to off-site habitat.”

### 31 32 **Habitat in the Analysis Area**

33 The KGP site is surrounded by the existing KCP site to the north and by the proposed KGF site  
34 to the south, east and west. The analysis area for those two larger projects encompasses the  
35 analysis area for the KGP. The work previously performed in assessing habitat impacts from  
36 construction and operation of KCP and KGF took the KGP site into account. KE’s application is  
37 an update of material previously submitted for KGF.

38  
39 The area where all three facilities are located is heavily disturbed and surrounded by heavily  
40 used roads and industrial facilities. The ecological communities analyzed in the KCP Final  
41 Order, as updated for KGF, are also applicable to the KGP.

42  
43 There are no category 1, 2 or 5 habitats at the facility site. There is category 3 and 4 habitat in the  
44 vicinity, but none will be affected by the facility. The facility site itself is category 6.  
45

1 **Potential Habitat Impacts – Construction and Operation**

2 Construction of the KGP under the temporary exemption resulted in loss of 5 acres of ruderal  
3 and development/landscape habitat. This loss does not affect any sensitive habitats and will have  
4 a negligible effect on fish and wildlife populations.

5  
6 The facility has no steam cycle and uses minimal water. An existing pipeline from KCP supplies  
7 demineralized water. The City of Klamath Falls is contracted to supply water under its municipal  
8 water right, but the KGP will not use water from the Klamath Falls wastewater treatment facility.

9  
10 The KGP will not result in the construction of new transmission lines. The transmission  
11 interconnection from the KGP site to the directly adjacent KCP switchyard already exists.  
12 Therefore, no new off-site transmission line will be constructed for the KGP.

13  
14 In summary, the Council finds that the KGP’s impact on fish and wildlife is not expected to be  
15 significant because: (1) the affected habitats are of relatively low value to wildlife due to past  
16 degradation and adjacent development, and (2) the species likely to be affected are regionally  
17 common.

18  
19 **Mitigation for Habitat Impacts**

20 Habitat Category 6 has low potential to become essential habitat for fish or wildlife. The ODFW  
21 mitigation goal for Category 6 is to minimize the impact. The impact of the KGP is minimized  
22 by the low use of water, location adjacent to other energy facilities to minimize the need for new  
23 transmission, and location of transmission lines away from primary flyways. Moreover, because  
24 the KGP facility is already constructed and operating, most construction impacts are already  
25 past. Construction of the distillate fuel modification is a small project compared to construction  
26 of the energy facility as a whole. For these reasons, KE did not propose further mitigation or  
27 monitoring conditions, and none are recommended.

28  
29 **Retirement**

30 At retirement, KE would restore the site to a useful, non-hazardous condition. In this case, the  
31 site would remain an industrial site, consistent with its previous use. Any hazardous material  
32 would be removed. There is no reason such restoration would affect habitat on or off the site.

33  
34 **Consistency with ODFW Goals**

35 In its comment on the ASC, ODFW stated it would be concerned if operation of the KGP added  
36 to the use of water from the Klamath River. However, ODFW stated that this would not be a  
37 concern if the KGP received its water from an existing water right. As noted earlier, the KGP  
38 will obtain water from an existing water right and will not increase the volume of water taken  
39 from the Klamath River.

40  
41 The habitat mitigation goal for Category 6 is to minimize the impact. Based on the site’s low  
42 habitat category, the high level of disturbance by previous development, the low use of water and  
43 lack of linear facilities, the project’s impact on habitat is minimized. Therefore, the construction,  
44 operation and retirement of the facility are consistent with the ODFW fish and wildlife habitat  
45 mitigation.

1  
2 **Summary**

3 The Council finds that, taking into account the mitigation proposed by KE, the facility would  
4 result in no net loss of habitat quantity or quality. The Council also finds that the facility is  
5 consistent with the fish and wildlife habitat mitigation goals and standards of OAR 635-415-  
6 0025 in effect as of September 1, 2000.

7  
8 **Conclusion**

9 The Council finds that KE meets the fish and wildlife habitat standard, OAR 345-022-0060. No  
10 conditions are required.

11  
12 **D.9 THREATENED AND ENDANGERED SPECIES, OAR 345-022-0070**

13 To issue a site certificate, the Council, after consultation with appropriate state agencies,  
14 must find that:

- 15  
16 (1) For plant species that the Oregon Department of Agriculture has listed as  
17 threatened or endangered under ORS 564.105(2), the design, construction,  
18 operation and retirement of the proposed facility, taking into account mitigation:  
19 (a) Are consistent with the protection and conservation program, if any, that  
20 the Oregon Department of Agriculture has adopted under ORS  
21 564.105(3); or  
22 (b) If the Oregon Department of Agriculture has not adopted a protection and  
23 conservation program, are not likely to cause a significant reduction in the  
24 likelihood of survival or recovery of the species; and  
25 (2) For wildlife species that the Oregon Fish and Wildlife Commission has listed as  
26 threatened or endangered under ORS 496.172(2), the design, construction,  
27 operation and retirement of the proposed facility, taking into account mitigation,  
28 are not likely to cause a significant reduction in the likelihood of survival or  
29 recovery of the species.  
30

31 **Discussion**

32 The analysis area for the threatened and endangered species standard is the area within the site  
33 boundary and 5 miles from the site boundary.

34  
35 The KGP application, Exhibit Q (Threatened and Endangered Species), is an update to previous  
36 applications for the Klamath Generation Facility and Klamath Cogeneration Project. KE  
37 searched the ORNHP database for special status plant species in March 2004, using a five-mile  
38 radius from the site boundary. No changes in the listing of protected species of plants have  
39 occurred since submittal of the KGF application. The same was done for fish and wildlife  
40 species, with the same result.

41  
42 **Threatened and Endangered Plant Species**

43 “Threatened and endangered plant species” means species listed as threatened or endangered by  
44 the state under ORS 564.105. The Oregon Department of Agriculture (“ODA”) designates state-

1 listed threatened or endangered plant species under ORS Chapter 564 and OAR Chapter 603,  
2 Division 73.

3  
4 The site does not provide suitable habitat for any candidate plants. KE listed twelve special status  
5 plants that may have potential habitat in the analysis area. These plants are the four-winged milk-  
6 vetch (*Astragalus tetrapteris*), Bolander's Sunflower (*Helianthus bolanderi*), flowering quillwort  
7 (*Lileia scilloides*), three-colored monkeyflower (*Mimulus tricolor*), Siberian water-milfoil  
8 (*Miriophyllum sibiricum*), red-root yampa (*Perideridia erythrorhiza*), Howell's false-caraway  
9 (*Perideridia howellii*), fibrous pondweed (*Potamogeton foliosus* var. *fibrillosus*), polished  
10 willow (*Salix bonplandiana*), fringed campion (*Silene nuda* ssp. *Insectivore*), short-podded  
11 thelypody (*Thelypodium brachycarpum*), and Howell's thelypody (*Thelypodium howellii*).  
12

13 ODA has expressed concern about Applegate's Milk Vetch, a highly endangered plant species  
14 that occurs in the facility area. The applicant did field studies in 1995 for the KCP and  
15 supplemented those field studies in 2002 in support of KGF. Three populations of Applegate's  
16 Milk Vetch were found in the outer portion of the analysis area, but not at the facility site. The  
17 KGP will not affect any of these populations.  
18

#### 19 Consistency with Oregon Department of Agriculture Goals

20 The KGP, and in particular the modifications for the distillate fuel system, will not adversely  
21 affect any plant species listed as threatened or endangered. Therefore, the facility is consistent  
22 with the Oregon Department of Agriculture Plant Conservation Program.  
23

#### 24 **Threatened and Endangered Fish and Wildlife Species**

25 "Threatened and endangered species" means species listed as threatened or endangered by the  
26 state under ORS 496.172(2) and by the federal government under 16 USC 1533. The Oregon  
27 Fish and Wildlife Commission has designated state-listed threatened and endangered wildlife  
28 species under ORS 496.172. OAR Chapter 635, Division 100, provides authority for adoption of  
29 the state sensitive species list and the Wildlife Diversity Plan and contains the state list of  
30 threatened and endangered wildlife species.  
31

32 KE listed 5 species known to occur at least occasionally in the project vicinity:  
33

- 34 • Shortnose sucker
- 35 • Lost river sucker
- 36 • Bull trout
- 37 • Bald eagle and
- 38 • Peregrine falcon.  
39

40 Issues identified by ODFW in connection with the KCP included bald eagles that utilize the  
41 Klamath River corridor as winter foraging habitat. Bald eagles occupying the Moore Park nest  
42 site about 4 miles from the project utilize Lake Ewauna as year-round foraging habitat.  
43 Waterfowl use the Klamath River corridor during flyway migrations in spring and fall. Other  
44 water-associated birds also use the Klamath River corridor during spring, summer and fall for

1 foraging, nesting and resting. ODFW was concerned about noise impacts and about potential for  
2 collisions with transmission lines. The noise analysis includes discussion of noise levels at the  
3 nearby Klamath Wildlife Refuge. The analysis shows that noise from the facility is expected to  
4 be below 50 dBA at the refuge. While the DEQ noise standard was intended to apply to  
5 properties occupied or used by people, KE offered this measurement as evidence that noise from  
6 the project will not significantly affect wildlife using the habitat. KE and ODOE are not aware of  
7 a specific threshold at which noise creates a significant impact on the type of wildlife in the  
8 vicinity of the project. However, KE projects noise levels of 45 dBA at the refuge during  
9 construction, which is below measured ambient noise levels at the refuge. Therefore, noise levels  
10 during construction are not likely to significantly affect sensitive species that may be present in  
11 the Wildlife Area.

12  
13 During the KCP review, ODFW also raised concern about the potential for collisions with the  
14 transmission line, especially with regard to the bald eagle flying between important daily use  
15 areas along Lake Ewauna and the Klamath River. The potential for such collisions is aggravated  
16 by the regular presence of dense fog within the river corridor. The KGP will not add to this  
17 concern because of its location near already existing facilities, and because no new transmission  
18 lines are proposed.

#### 19 20 **Summary**

21 The Council finds that, taking into account mitigation, the design, construction, operation and  
22 retirement of the facility are consistent with the protection and conservation program that the  
23 Oregon Department of Agriculture has adopted under ORS 564.105(3); are not likely to cause a  
24 significant reduction in the likelihood of survival or recovery of the plant species that the Oregon  
25 Department of Agriculture has listed as threatened or endangered under ORS 564.105(2); and are  
26 not likely to cause a significant reduction in the likelihood of survival or recovery of any wildlife  
27 species that the Oregon Fish and Wildlife Commission has listed as threatened or endangered  
28 under ORS 496.172(2).

#### 29 30 **Conclusion**

31 The Council finds that KE meets the threatened and endangered species standard, OAR 345-022-  
32 0070. No conditions are required.

#### 33 34 **D.10. SCENIC AND AESTHETIC VALUES, OAR 345-022-0080**

- 35 “(1) Except for facilities described in section (2), to issue a site certificate, the  
36 Council must find that the design, construction, operation and retirement  
37 of the facility, taking into account mitigation, are not likely to result in  
38 significant adverse impact to scenic and aesthetic values identified as  
39 significant or important in applicable federal land management plans or in  
40 local land use plans in the analysis area described in the project order.

41 \*\*\* “

#### 42 43 **Discussion**

44 The analysis area for the scenic and aesthetic values standard is the area within the site boundary  
45 and 30 miles from the site boundary.

1  
2 The facility is located just south of the existing Klamath Cogeneration Plant (“KCP”) and would  
3 be adjacent to the proposed Klamath Generation Facility (“KGF”) if that facility is granted a site  
4 certificate. The facility is located on a 5-acre parcel of land zoned for industrial use.

5  
6 The visual impacts of the facility are similar to those of the other industrial facilities located  
7 nearby, including the KCP, the Collins’ Products and Columbia Plywood lumber mills, and the  
8 former PG&E GT pipeline construction and materials storage yard.

9  
10 Based on its evaluation of fourteen observation points, KE believes that the facility has no  
11 significant adverse impacts to scenic and aesthetic values. The facility is located within a heavy  
12 industrial zone, would be similar to nearby industrial structures and would not change the visual  
13 character of the analysis area.

14  
15 **Klamath County Comprehensive Plan.** The Klamath County Comprehensive Plan requires the  
16 County to encourage the protection of recognized scenic views and sites in order to encourage  
17 tourism within the County and to protect scenic resources and vistas (Goal 5, Policy 27). KE  
18 evaluated the following seven observation points within the County, but outside the city limits of  
19 Klamath Falls:

- 20
- 21 • Highway 97, from the bridge approximately one-half mile to the east of the
  - 22 proposed site
  - 23 • Klamath State Wildlife Refuge, directly across the river to the south of the
  - 24 proposed site
  - 25 • West Klamath residential area
  - 26 • Two miles south on Highway 97 (for drivers heading toward Klamath Falls)
  - 27 • Three miles east on Midland/Washburn Way
  - 28 • One mile west on Highway 66
  - 29 • East end of Stewart Lennox subdivision
- 30

31 KE selected these observation points because they are the places from which the proposed  
32 facility would be most visible. From each of these vantage points, the proposed facility would be  
33 less imposing than the existing, neighboring industrial facilities.

34  
35 The Klamath State Wildlife Refuge is located directly across the Klamath River to the south of  
36 the facility and is the observation point nearest the facility. Given the facility’s location within an  
37 existing industrial setting, the fact that the facility’s grade elevation is lower than that of the  
38 KCP, and the fact that the refuge is not managed for scenic vistas, the facility does not result in a  
39 significant visual impact to the refuge.

40  
41 **Klamath Falls Comprehensive Plan.** KE evaluated the following seven scenic vantage points  
42 listed in the comprehensive land use plan of the City of Klamath Falls:

- 43
- 44 • Moore Park

- 1 • Loma Vista Drive
- 2 • Mountain View Boulevard
- 3 • Carlyle Street
- 4 • Lincoln and 6<sup>th</sup> Streets
- 5 • California Avenue
- 6 • Front Street

7  
8 The facility is not visible from Moore Park because of the intervening hill to the north of the  
9 facility site. The facility is located south-southwest of the other six vantage points and does not  
10 diminish the viewing of such scenic areas as Mt. Shasta (to the southwest), Stukel Mountain (to  
11 the southeast), Hogback Mountain and Basin View Ridgeline (to the northeast) or the Cascades  
12 (to the west). Therefore, the facility does not result in significant adverse impacts to the viewing  
13 of scenic areas.

14  
15 **Federal Land Management Plans.** Portions of the BLM Medford and Lakeview Districts fall  
16 within the analysis area. The eastern edge of the BLM Medford District is located about 30 miles  
17 to the west of the facility site, and the proposed facility is not visible from that district. The BLM  
18 Lakeview District includes the Upper Klamath Lake view shed to the north and the wild and  
19 scenic section of the Klamath River about 10 miles to the southwest of the site. The proposed  
20 facility is not visible from either of these locations.

21  
22 Portions of four national forests fall within the analysis area. In connection with its landscape  
23 management activities, the Forest Service may assign one of the following visual quality  
24 objectives to areas within the boundaries of these national forests:

- 25
- 26 • Preservation Area: Allows ecological change only. Alteration of the landscape,  
27 except for very low visual impact recreation facilities, is prohibited.
- 28 • Retention Area: Provides for management activities that are not visually evident.
- 29 • Partial Retention Area: Management activities are visually evident but remain  
30 visually subordinate to the natural landscape.
- 31 • Modification Area: Management activities may dominate the landscape but  
32 borrow from existing form, line, color and texture of the natural landscape so  
33 completely as to appear as a natural occurrence.
- 34 • Maximum Modification Area: Management activities may dominate the  
35 landscape. When viewed in the background, these activities should appear as  
36 naturally occurring openings.

37  
38 The Klamath National Forest is located about 15 miles to the southwest of the site but does not  
39 contain preservation or retention areas within the analysis area. The Modoc National Forest is  
40 located about 25 miles to the southeast of the site and includes partial retention and modification  
41 areas. The Rogue River National Forest is located about 30 miles to the west of the site.

42  
43 Two sections of the Winema National Forest are located within the analysis area. One section  
44 contains the Mountain Lakes Wilderness Area, a designated Class I Federal area. This area is

1 located about 15 miles to the northwest of the site. The other section lies about 20 miles to the  
2 north of the site. Due to distance and intervening topography, the facility does not result in a  
3 significant adverse impact on these scenic resources.  
4

5 The Lava Beds National Monument, a designated Class I Federal area, is located about 27 miles  
6 to the south-southeast of the facility. The facility structures are not visible from this distance.  
7 Therefore, the facility is unlikely to result in a significant adverse impact on this scenic resource.  
8

9 Portions of the Klamath Basin, Upper Klamath, Bear Valley, Lower Klamath and Tule Lake  
10 National Wildlife Refuges fall within the analysis area. There are no applicable management  
11 plans for visual resources within the National Wildlife Refuges, and the facility is not visible  
12 from any of the National Wildlife Refuges within the analysis area.  
13

14 **Klamath Tribes.** Former tribal lands of the Klamath Tribes are now included in portions of the  
15 Winema and Fremont National Forests and are referred to as the “Klamath Reservation Forest.”  
16 The facility is not visible from the forests or the former tribal lands. The Klamath Tribes have  
17 not formally identified scenic values on tribal lands within the analysis area, and there are no  
18 Confederated Tribes of Siletz tribal lands within the analysis area.  
19

#### 20 **Summary**

21 The Council finds that the design, construction, operation and retirement of the facility, taking  
22 into account mitigation, are not likely to result in significant adverse impact to scenic and  
23 aesthetic values identified as significant or important in applicable federal land management  
24 plans or in local land use plans in the analysis area described in the project order.  
25

#### 26 **Conclusion**

27 The Council finds that KE meets the scenic and aesthetic values standard, OAR 345-022-0080.  
28 No conditions are required.  
29

#### 30 **D.11. HISTORIC, CULTURAL AND ARCHAEOLOGICAL RESOURCES, OAR 345-022-0090**

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

- 35 (a) Historic, cultural or archaeological resources that have been listed on, or  
36 would likely be listed on the National Register of Historic Places;
- 37 (b) For a facility on private land, archaeological objects, as defined in ORS  
38 358.905(1)(a), or archaeological sites, as defined in ORS 358.905(1)(c);  
39 and
- 40 (c) For a facility on public land, archaeological sites, as defined in ORS  
41 358.905(1)(c). \*\*\*  
42

#### 43 **Discussion**

44 The analysis area for the historic, cultural and archaeological resources standard is the area  
45 within the site boundary and all laydown and staging areas.

1  
2 **Potential National Register of Historic Places Sites.** All land within the analysis area is within  
3 the boundaries of the Collins' Products (formerly Weyerhaeuser) property. The site consists of  
4 bulldozed areas, extensive areas of imported fill material, standing structures and other features.  
5 The oldest structures date from 1929. In 1993, the Weyerhaeuser property was recorded as an  
6 archaeological site (OR-KL-40) in conjunction with an archaeological survey along the PG&E  
7 GT Medford Lateral. Consequently, the Collins' Products property is eligible for listing in the  
8 National Register of Historic Places ("NRHP").  
9

10 The qualities of the archaeological site that make it eligible for listing in the NRHP derive from  
11 the property's association with individuals and events important in local and regional history.  
12 With the exception of a few structures that would not be disturbed by construction of the  
13 distillate fuel system or operation of the facility, the other physical features of the archaeological  
14 site are not considered significant for residual information values, research potential, or public  
15 exhibition and do not contribute to the property's potential eligibility for listing in the NRHP.  
16

17 **Archaeological Objects and Archaeological Sites.** An "archaeological site" as defined by ORS  
18 358.905(1)(c) is a location in Oregon that contains a group of archaeological objects and their  
19 contextual associations. An "archaeological object" as defined by ORS 358.905(1)(a) is an  
20 individual object that is at least 75 years old and meets several other criteria. An archaeological  
21 site will contain archaeological objects, but an isolated or individual archaeological object is not  
22 an archaeological site.  
23

24 With the exception of site OR-KL-40, no historic or cultural resources and no prehistoric cultural  
25 resources were found in the analysis area in the course of archaeological inventory surveys and  
26 evaluations, as well as a Native American consultation, undertaken for the KCP in 1995.  
27

28 In its ASC, KE offered the following observations to show it would satisfy the Council's  
29 historic, cultural and archaeological resources standard:  
30

- 31 • The facility would affect about 5 acres of about 850 acres encompassed by site  
32 OR-KL-40.
- 33 • The qualities of site OR-KL-40 that render it potentially eligible for inclusion in  
34 the NRHP derive from the site's association with individuals and events important  
35 in local and regional history. With the exception of several designated structures,  
36 none of which would be affected by the facility, the physical remains at the  
37 archaeological site are not considered significant for residual information values,  
38 research potential, or public exhibition and do not contribute to the archaeological  
39 site's eligibility for listing in the NRHP.
- 40 • The Advisory Council on History Preservation concluded that construction of the  
41 PG&E GT Medford Lateral through the archaeological site would not constitute  
42 an adverse effect, since contributing attributes would not be adversely affected.

- 1 • The Council previously concluded that construction, operation and retirement of  
2 the KCP, which is located in the immediate area of the facility, would not harm  
3 any significant archaeological resources.
- 4 • KE proposes to affect non-contributing portions of site OR-KL-40 in a manner  
5 similar to disturbances approved for the KCP and the PG&E GT Medford Lateral.  
6 Specifically, areas within the archaeological site would be used for construction  
7 of the distillate fuel system, including burying pipelines and installing a  
8 foundation for the distillate fuel storage tank.  
9

10 To find that KE complies with OAR 345-022-0090, the Council adopts the following standard  
11 conditions in the site certificate:  
12

- 13 (1) **During construction of the distillate modification, in the event any**  
14 **archaeological or cultural resources are discovered, the certificate holder**  
15 **shall cease all ground-disturbing activities in the immediate area until a**  
16 **qualified archaeologist can evaluate the significance of the find. If the**  
17 **archaeologist determines that the resources are significant, the certificate**  
18 **holder shall make recommendations to the Council for mitigation in**  
19 **consultation with the State Historic Preservation Office (“SHPO”), ODOE,**  
20 **the Klamath Tribe, the Klamath County Planning Department, and other**  
21 **appropriate parties. Mitigation measures shall include avoidance or data**  
22 **recovery. The certificate holder shall not restart work in the affected area**  
23 **until it has demonstrated to ODOE that it has complied with the**  
24 **archaeological permit requirements administered by SHPO or the SHPO**  
25 **concurs that a discovered resource is not significant and no permit is**  
26 **required.**
- 27  
28 (2) **The certificate holder shall locate facility structures to avoid impact on any**  
29 **existing structures within the boundaries of recorded historic site OR-KL-40.**  
30  
31

### 32 **Summary**

33 The Council finds that the construction, operation and retirement of the facility, taking into  
34 account mitigation, are not likely to result in significant adverse impact to historic, cultural or  
35 archaeological resources that have been listed on, or would likely be listed on the National  
36 Register of Historic Places; archaeological objects, as defined in ORS 358.905(1)(a); or  
37 archaeological sites, as defined in ORS 358.905(1)(c).  
38

### 39 **Conclusion**

40 The Council finds that, subject to the conditions stated in this order, KE meets the historic,  
41 cultural and archaeological resources standard, OAR 345-022-0090.  
42

### 43 **D.12. RECREATION, OAR 345-022-0100**

- 44 “(1) Except for facilities described in section (2), to issue a site certificate, the  
45 Council must find that the design, construction and operation of a facility,

1 taking into account mitigation, are not likely to result in a significant  
2 adverse impact to important recreational opportunities in the analysis area  
3 as described in the project order. The Council shall consider the following  
4 factors in judging the importance of a recreational opportunity:

5 “(a) Any special designation or management of the location;

6 “(b) The degree of demand;

7 “(c) Outstanding or unusual qualities;

8 “(d) Availability or rareness;

9 “(e) Irreplaceability or irretrievability of the opportunity. \*\*\*”

## 10 **Discussion**

11 The analysis area for the recreation standard is the area within the site boundary and five miles  
12 from the site boundary.

13  
14 No city or county plans identify existing recreational facilities within or adjacent to the facility  
15 site. The facility site is located in an area zoned for heavy industrial use that makes it unsuitable  
16 for recreational activities.

17  
18 The Klamath River is about one-fourth mile south of the facility, but this section of the river  
19 below Lake Ewauna and past the Collins’ Products property is not typically used for recreational  
20 purposes.

21  
22 The Klamath State Wildlife Refuge is located across the Klamath River to the south of the  
23 facility site. As a wildlife area, its recreational value is limited to wildlife observation.

24  
25 The Reames Golf and Country Club is located on the east side of Highway 97, approximately  
26 three-fourths mile from the facility site.

27  
28 The OC&E Woods Line State Trail, is a 100-mile rail-to-trail conversion built on the old railroad  
29 bed of the Oregon, California and Eastern Railroad. The trail begins in Klamath Falls at the north  
30 end of Lake Ewauna (approximately 5 miles from the facility site) and extends east to Bly and  
31 north through the Winema National Forest to Sycan Marsh.

32  
33 Within the City of Klamath Falls, the important recreational opportunities include neighborhood  
34 parks. Moore Park (approximately 6 miles from the facility site) is the largest and best-equipped  
35 recreational area with a scenic drive and nature trail, picnic facilities, playgrounds, a small zoo,  
36 tennis courts and a marina at the southern end of Klamath Lake. Moore Mountain, within the  
37 park, is considered a local scenic site. In its Parks, Recreation and Open Space Master Plan, the  
38 City has proposed two new recreational facilities: South Stewart-Lennox Park (approximately  
39 three-fourths mile north of the facility site) and Balsam Park (approximately 1.25 miles north of  
40 the facility site).

41  
42 Other recreational facilities in the analysis area, but not within the City, include the South  
43 Suburban athletic fields along Anderson Avenue north of the airport, Wiard Park (tennis,  
44

1 basketball, and picnic facilities) at Wiard Street and Hilyard Avenue and the Fairground Club  
2 Exchange picnic facilities adjacent to the Klamath County Fairgrounds.

3  
4 The facility has no direct impact on any important recreational facilities or opportunities in the  
5 analysis area. The facility structures are not visible from any of the identified recreational sites,  
6 with the exception of some vantage points within the Klamath State Wildlife Refuge. However,  
7 the recreational value of the wildlife area is the viewing of wildlife within the area rather than  
8 views outside the area. The addition of the KGP structures to the already existing industrial  
9 structures on the Collins' Products property does not result in a significant change in visual  
10 impact. Intervening terrain between the facility and the locations of possible future city parks  
11 (South Stewart-Lennox and Balsam Parks) would screen those parks from views of the facility.

12  
13 **Noise.** Noise during operation of the facility would comply with the DEQ noise standards at the  
14 point closest to the Klamath State Wildlife Refuge, i.e., across the river from the KGP.

15 Construction noise, not regulated under the noise standards, may be audible in the wildlife area.  
16 However, the impact of construction noise would be temporary and would not significantly  
17 interfere with recreational use. All other important recreational sites are farther removed from the  
18 facility, and noise from the facility would be inaudible or insignificant.

19  
20 The Council finds that noise from construction of the distillate fuel system and operation of the  
21 facility would not result in a significant adverse impact to any recreational opportunity.

22  
23 **Traffic.** Traffic associated with construction of the distillate fuel system and operation of the  
24 facility is not likely to cause any significant effect on recreational opportunities in the analysis  
25 area. The greatest traffic impact would occur during the construction phase. However, even  
26 during construction, traffic associated with the facility would not significantly affect traffic on  
27 roads that provide access to any of the identified recreational areas.

28  
29 The Council finds that traffic generated by construction of the distillate fuel system and  
30 operation of the facility would not result in a significant adverse impact to any recreational  
31 opportunity.

32  
33 **Water Use.** Water is supplied to the facility by the City of Klamath Falls by means of an  
34 existing pipeline.

35  
36 The Council finds that water use during construction of the distillate fuel system and operation of  
37 the proposed facility would not result in a significant adverse impact to any recreational area.

38  
39 **Wastewater Disposal.** The small amount of wastewater generated by the facility is temporarily  
40 stored at the facility site and periodically trucked off-site for recycling or disposal.

41  
42 The Council finds that wastewater disposal during construction of the distillate fuel system and  
43 operation of the facility would not result in a significant adverse impact to any recreational  
44 opportunity.

1 **Visual Impacts from Facility Structures or Air Emissions.** The facility site is located on  
2 Collins' Products property in an area zoned and developed for heavy industrial use. The facility  
3 is not visible from any of the recreational areas in the analysis area due to distance and  
4 intervening topography. For those areas from which the facility may be visible, the KGP would  
5 blend with the adjacent industrial uses.  
6

7 The emission of pollutants from the facility, including air toxics, is controlled through the use of  
8 effective combustion techniques and operating practices. Based on DEQ's review, the facility  
9 does not result in any significant impacts to air quality in the analysis area.  
10

11 The Council finds that the visual impacts from facility structures or air emissions would not  
12 result in a significant adverse impact to any recreational opportunity.  
13

#### 14 **Summary**

15 The Council finds that the design, construction and operation of the facility, taking into account  
16 mitigation, are not likely to result in a significant adverse impact to important recreational  
17 opportunities in the analysis area described in the project order.  
18

#### 19 **Conclusion**

20 The Council finds that the KGP meets the recreation standard, OAR 345-022-0100. No  
21 conditions are required.  
22

#### 23 **D.13. PUBLIC SERVICES, OAR 345-022-0110**

24 "(1) Except for facilities described in sections (2) and (3), to issue a site  
25 certificate, the Council must find that the construction and operation of the  
26 facility, taking into account mitigation, are not likely to result in  
27 significant adverse impact to the ability of public and private providers  
28 within the analysis area described in the project order to provide: sewers  
29 and sewage treatment, water, storm water drainage, solid waste  
30 management, housing, traffic safety, police and fire protection, health care  
31 and schools. \*\*\* "  
32

#### 33 **Discussion**

34 The analysis area for the public services standard is the area within the site boundary and 30  
35 miles from the site boundary. Affected communities within the analysis area include the City of  
36 Klamath Falls and Klamath County.  
37

38 Construction of the distillate fuel system would require a construction work force of about ten  
39 workers for a period of about three months. KE estimates the peak construction work force  
40 would comprise 12 workers. KE contends this temporary increase in the work force would be  
41 accommodated by the existing local services. Completion of construction of the distillate fuel  
42 system would not result in any increase in the operations work force.  
43

1 **Impacts During Construction**

2 **Sewers and Sewage Treatment.** During construction of the distillate fuel system, KE would use  
3 portable toilets to manage sanitary wastewater. This approach would have no adverse impact on  
4 the local sewer system.

5  
6 **Water.** Based on the use of portable toilets during construction of the distillate fuel system, KE  
7 estimates its use of waster would be about 1,000 gallons per day. This water could be procured  
8 by the construction contractor, delivered to the facility site by tanker trucks, and stored in one or  
9 more temporary on-site storage tanks. In the alternative, the water could be supplied by the City  
10 of Klamath Falls by means of the existing water supply line. An average increase of 1,000  
11 gallons per day over the amount of water currently provided to the facility by the City would not  
12 impose a burden on the City system.

13  
14 **Storm Water Disposal.** Storm water discharge impacts could occur during construction of the  
15 distillate fuel system. KE would be required to comply with federal, state, and local storm water  
16 discharge requirements. The facility would not require any public or private services in  
17 connection with storm water drainage.

18  
19 **Solid Waste Management.** Solid waste generated by the facility during construction of the  
20 distillate fuel system would include discarded equipment packing materials, wood materials, and  
21 construction debris. The construction debris would include excess piping, concrete, and steel  
22 scrap. The wood and steel would be sorted and recycled, where practicable. The concrete would  
23 be used for on-site fill, where practicable. Quantities of the materials that are not reusable would  
24 be disposed of at an off-site landfill. A licensed contractor would collect and dispose of other  
25 solid wastes generated during construction, e.g., oily rags, filters, or hazardous wastes.

26  
27 During construction, KE expects the facility to generate uncompacted, non-hazardous solid  
28 waste at the rate of about 10 cubic yards per week. Assuming a three-month construction period,  
29 the facility would produce about 120 cubic yards of uncompacted waste during construction.  
30 Assuming the volumetric ratio of uncompacted to compacted material is between 2:1 and 10:1,  
31 the facility would generate from 12 to 60 compacted cubic yards of non-hazardous solid waste  
32 during construction. Disposal of solid waste generated by construction of the distillate fuel  
33 system would have a negligible impact on the remaining capacity of the Klamath County  
34 Landfill.

35  
36 Construction of the facility would generate less than 40 gallons per month of materials classified  
37 as hazardous wastes, e.g., oily rags, waste oils, and spent solvents. KE expects it would reprocess  
38 or recycle these materials to the extent practicable. In the event these materials must be shipped  
39 to a suitable hazardous materials landfill, there is sufficient capacity at the Chemicals Waste  
40 Systems of the N. W. hazardous landfill located about ten miles south of Arlington, Oregon.

41  
42 **Housing.** Most available housing in Klamath County for temporary workers would be found in  
43 the City of Klamath Falls. Typically, the occupancy rate for rental homes, multiplexes, and  
44 apartment units is 90 to 95 percent. Rents for two-bedroom units ranges between \$450 and \$700  
45 per month, and three-bedroom units typically start at \$675 per month.

1  
2 Given the short duration of the construction phase, KE believes it is unlikely that many, if any,  
3 construction workers would relocate to the Klamath Falls area. Even if 100 percent of the peak  
4 construction work force were to relocate to the Klamath Falls area during the 3-month  
5 construction period, a maximum of 22 new households, 18 of which would be single employees,  
6 would require some form of housing in the area.  
7

8 According to the 2000 census, the vacancy rate for rental housing in Klamath Falls was 8.6  
9 percent. In 2000, Klamath Falls had 6,703 occupied rental units and 634 rental vacancies. Even if  
10 the entire peak construction work force were to relocate to Klamath Falls during the 3-month  
11 construction period, the vacancy rate would only be reduced from 8.6 percent to 8.3 percent.  
12 This reduction would not impose a significant adverse impact on the local housing market.  
13

14 **Traffic Safety.** KE estimates that the peak construction work force would comprise about 12  
15 workers, and the average work force would comprise about 10 workers. If all of these  
16 construction workers were to travel to the facility site independently, they would add a maximum  
17 of 12 round trips per day to the flow of traffic to and from the facility site. Owner's personnel,  
18 vendor representatives, and other visitors would add about 8 round trips per day, and truck  
19 deliveries would add about 5 round trips per day. KE estimates that during the peak construction  
20 period, the total increase in traffic would amount to about 25 round trips per day (or 50 vehicle  
21 trips).  
22

23 Most of the construction work force would travel from the Klamath Falls area. KE expects that  
24 traffic impacts would occur on Interstate 5, U. S. Highway 97, and State Highways 140 and 66.  
25 Access to the energy facility site would be from State Highway 97 onto an existing private  
26 access road. Based on information KE obtained from the Oregon Department of Transportation,  
27 average daily vehicle trips in the Klamath area are: 9,900 near State Highways 66 and 140; 8,300  
28 on U. S. Highway 97 north of State Highway 66; and 4,900 on U. S. Highway 97 south of State  
29 Highway 66. Therefore, KE concludes, the anticipated 50 peak construction vehicle trips would  
30 cause an increase of about one percent in the number of daily vehicle trips along U. S. Highway  
31 97 in the vicinity of the facility site entrance. KE does not anticipate that large truck traffic  
32 would travel through the City of Klamath Falls, and, because of the proximity of the interstate  
33 highway, other project-related traffic through the City should be minimal.  
34

35 Roads providing access to the proposed energy facility site are currently sufficient to handle the  
36 heavy traffic generated by the other local industries, and KE does not expect that street  
37 modifications would be required to accommodate the traffic or weight of equipment arriving at  
38 the site. Construction traffic would exist for a limited period of time and does not represent a  
39 significant increase over the current traffic. KE does not expect construction traffic would  
40 necessitate additional maintenance or any increase in operation costs for existing roads.  
41 Consequently, KE states, construction traffic should not have any significant adverse impact on  
42 these roads.  
43

44 **Police and Fire Protection.** The Klamath County Sheriff's Department has jurisdiction over the  
45 facility site and surrounding areas. The Klamath County Sheriff's Department is part of a large

1 cooperative effort with the Oregon State Police and Klamath City Police Department. These  
2 units have formed teams to combat major crime, drug-related activities, and child abuse. The  
3 County has a 911 emergency central dispatch service.

4  
5 The Sheriff's Department employs about 19 deputies in the main office in Klamath Falls, has an  
6 average of three officers on patrol at any given time, and has one resident deputy who is on call  
7 at all times. The Sheriff's Department has advised KG that it does not anticipate any problems  
8 with the construction of the facility.

9  
10 Klamath County Fire District #1, with 40 to 50 paid fire and EMT personnel in three stations,  
11 would provide fire protection and medical assistance for the facility. The fire departments in the  
12 area cooperate with one another under a mutual aid agreement. Equipment and personnel from  
13 neighboring fire departments respond to large or particularly problematic fires outside of their  
14 own districts. The departments that participate in the mutual aid agreement with Klamath County  
15 Fire District #1 are: Keno Fire Department (20-person fire department with 2 ambulances);  
16 Klamath County Fire District #4 (28 volunteer fire fighters), and Kingsley Field (21 paid fire  
17 personnel, crash and rescue team, and one ambulance). In conjunction with the other fire  
18 departments participating in the mutual aid agreement, Klamath County Fire District #1 would  
19 be capable of handling any fire emergency that could occur at the energy facility site.

20  
21 **Health Care.** The largest health care facility in Klamath County is Merle West Medical Center.  
22 The Center has 176 beds, over 120 physicians, and about 900 employees. This hospital is  
23 equipped to respond in case of large emergency or disaster situations. In coordination with  
24 Klamath County's emergency plan, the Center is prepared to mobilize resources within the  
25 hospital or in the field. The Center does not have its own burn unit, but it is equipped to stabilize  
26 burn victims and air-transport them to regional medical centers in Medford, Portland, Eugene, or  
27 San Francisco. The Center has a 16-bed emergency room and a 3-bed urgent care center.

28  
29 The Klamath Urgent Care Center, Chiloquin Clinic, Sprague Valley Clinic, and several  
30 ambulance/rescue services and private medical clinics also serve the area. Because of the  
31 preparedness and capabilities of the Merle West Medical Center, together with the relatively  
32 small increase in population resulting from construction of the distillate fuel system, the facility  
33 is not expected to have adverse impacts on health care services in the analysis area.

34  
35 **Schools.** Currently, the City of Klamath Falls has nine public schools with about 4,000 students  
36 in attendance. Klamath County has 20 public schools with about 6,810 students in attendance.  
37 With the exception of Roosevelt Elementary School, the schools in the City and County are not  
38 at capacity. Students in the Roosevelt Elementary School district could transfer to other schools  
39 within the City, if necessary.

40  
41 Assuming all children were of school age, the combination of direct and indirect in-migrant  
42 children at the peak of construction would temporarily add 6 to 7 students to the public school  
43 system. Given the current declining enrollment, an increase of this magnitude would not impose  
44 a hardship on the school system, and, KE states, there would be no adverse impact to the City or  
45 County school districts.

1  
2 **Impacts During Operation**

3 **Sewers and Sewage Treatment.** During operation of the facility, the relatively small amount of  
4 wastewater generated by the facility (about 10,000 gallons per year) is collected in a temporary  
5 holding tank and periodically trucked off-site for recycling or disposal. Operation of the facility  
6 would impose no adverse impact on local sewers and sewage treatment systems.  
7

8 **Water.** During operation of the facility, KE would obtain its total water requirements from the  
9 City of Klamath Falls. Water requirements for the facility range from 104 to 123 gallons per  
10 minute [or a maximum of 0.16 million gallons per day (“gpd”)]. The City of Klamath Falls has  
11 indicated its municipal potable water production and distribution system has a capacity of 25  
12 million gpd and that the peak (summer) demand on the system is about 12 million gpd. The  
13 facility’s use of up to 0.16 million gpd is less than one percent of the system’s capacity and does  
14 not impose a significant burden on the City’s ability to provide municipal potable water service.  
15

16 **Storm Water Drainage.** KE claims it would not require any governmental services with respect  
17 to storm water discharge during operation of the facility.  
18

19 **Solid Waste Management.** Non-hazardous solid waste generated during operation of the facility  
20 includes packing materials, paper, and other refuse. KE has implemented a recycling program to  
21 minimize the amount of waste materials requiring disposal in a solid waste landfill.  
22

23 Hazardous waste generated during operation of the facility includes spent selective catalytic  
24 reduction (“SCR”) catalyst, oily rags, waste oils, and solvents. KE estimates the amount of these  
25 materials generated during operation of the facility is about 40 gallons per month. KE would ship  
26 spent SCR catalysts to the manufacturer or to a facility specializing in metals reclamation. To the  
27 extent practical, KE would reprocess or recycle other materials. To the extent the materials  
28 require landfill disposal, there is sufficient capacity at the Chemicals Waste Systems of the N.W.  
29 hazardous landfill located about ten miles south of Arlington, Oregon. Operation of the facility  
30 would be unlikely to have any significant adverse impact on the ability of local providers to  
31 provide solid waste management services.  
32

33 **Housing.** Continued operation of the facility is not expected to result in any increase in the  
34 demand for local housing.  
35

36 **Traffic Safety.** During operation of the facility, there would be no increase in traffic due to daily  
37 commuting of operations personnel. However, there would be ongoing distillate truck deliveries  
38 during operation of the facility. These deliveries, involving semi-trailer size delivery trucks, are  
39 dependent on the amount of distillate consumed by the facility. KE expects they would occur up  
40 to 14 times per day for brief periods. Other truck traffic during operation of the facility would  
41 include delivery of ammonia for NO<sub>x</sub> emissions control (up to 6 trips per year), wastewater  
42 removal (up to 10 trips per year), and miscellaneous deliveries (estimated at 50 trips per year).  
43 This additional traffic is not expected to impose a significant burden on existing roads.  
44

1 **Police and Fire Protection.** The Klamath County Sheriff’s Department does not anticipate any  
2 problems with operation of the facility. Other similar functioning facilities have caused no major  
3 difficulties for the Klamath County Sheriff’s Department.  
4

5 Klamath County Fire District #1 is experienced in and capable of combating industrial fires. In  
6 conjunction with the other fire departments that are party to the mutual aid agreement, Fire  
7 District #1 would be capable of handling any fire emergency that could occur at the facility site.  
8 KE’s demands on local fire protection services would be mitigated by installation of its own fire  
9 protection systems designed in conformance with applicable fire codes and National Fire  
10 Protection Association (“NFPA”) standards. The application states that the KGP facility includes  
11 a firewater loop with hydrants near major equipment as well as fire extinguishers and a CO2-  
12 based fire suppression systems on each of the CTs. The KGP facility will use water storage and  
13 motor driven fire pumps at the adjacent Klamath Cogeneration Plant.<sup>6</sup>  
14

15 In its ASC, KE describes actions designed to address the Council’s public services standard. The  
16 Council considers the following actions to be commitments by KE. To find that KE complies  
17 with OAR 345-022-0110, the Council adopts the following condition in the site certificate:  
18

- 19 (1) **The certificate holder shall maintain the on-site fire protection system in**  
20 **conformance with applicable fire codes and National Fire Protection**  
21 **Association standards. The fire protection system shall include provisions for**  
22 **a firewater loop system with hydrants placed near major equipment, an**  
23 **automatic CO<sub>2</sub>-based fire suppression system for each of the facility’s four**  
24 **combustion turbine compartments, and portable fire extinguishers.**  
25

26 **Health Care.** Continued operation of the facility is not expected to place any additional demands  
27 on health care services in the analysis area.  
28

29 **Schools.** Continued operation of the facility is not expected to place any additional demands on  
30 schools in the analysis area.  
31

### 32 **Summary**

33 The Council finds that the addition of temporary residents to the analysis area during  
34 construction of the distillate fuel system may result in a modest increase in the demand for water,  
35 sewers and sewage treatment, storm water drainage, solid waste management, housing, police  
36 and fire protection, health care, and schools. Further, there should be no change in the demand  
37 for local services as a result of continued operation of the facility. The Council finds that the  
38 construction of the distillate fuel system and operation of the facility would have a minimal  
39 impact on the demand for local services.  
40

### 41 **Conclusion**

42 The Council finds that, subject to the conditions stated in this order, KE meets the public services  
43 standard, OAR 345-022-0110.

---

<sup>6</sup> Letter from Thor Hibbeler, Navigant Consultants, to Adam Bless, ODOE, March 23, 2005.

1  
2 **D.14. WASTE MINIMIZATION, OAR 345-022-0120**

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

5 “(a) The applicant’s solid waste and wastewater plans are likely to  
6 minimize generation of solid waste and wastewater in the  
7 construction, operation, and retirement of the facility, and when  
8 solid waste or wastewater is generated, to result in recycling and  
9 reuse of such wastes;

10 “(b) The applicant’s plans to manage the accumulation, storage,  
11 disposal and transportation of waste generated by the construction  
12 and operation of the facility are likely to result in minimal adverse  
13 impact on surrounding and adjacent areas. \*\*\* “  
14

15 **Discussion**

16 **Solid Waste**

17 KE proposes to develop and implement a solid waste minimization and recycling program for  
18 both hazardous and non-hazardous solid waste for construction, operation, and retirement of the  
19 proposed facility. The program would address the handling, separation, containerization, and  
20 shipping of the waste streams. The program would include a training program for employees  
21 covering both the rationale and the operation of the waste minimization and recycling program.  
22 KE proposes to focus on reducing the use of non-reusable materials and hazardous materials and  
23 to evaluate programs for salvage of excess and discarded materials and for using alternatives to  
24 non-recyclable and hazardous products.  
25

26 Construction. Solid waste generated during construction would generally consist of  
27 non-hazardous materials, many of which would be recyclable. Non-recyclable solid wastes  
28 would be transported to a solid waste landfill.  
29

30 Operation. Solid waste generated during operation would consist of both hazardous and  
31 non-hazardous wastes.  
32

33 Hazardous solid wastes would include spent selective catalytic reduction (“SCR”) catalyst and  
34 oily rags and other oily materials. The catalyst materials would be shipped to the manufacturer or  
35 to a metals reclaiming facility. KE proposes to operate the plant so as to minimize the potential  
36 for oil material spills. Any oily rags and oil-absorbent materials would be transported to a  
37 suitable licensed landfill for disposal.  
38

39 Non-hazardous solid wastes would include office and administration area waste (trash and  
40 garbage). Separate containers would be provided for recyclable materials and non-recyclable  
41 materials would be transported to a landfill for disposal.  
42

43 De-mineralized water would be produced at the adjacent KCP, so spent resins would not be  
44 produced by the KGP.  
45

1 Retirement. KE proposes to recycle materials that can be recycled and to provide for the  
2 transportation of the remainder of the waste to a solid waste landfill.

3  
4 In addition, the potential for reducing, reusing and recycling solid waste upon retirement would  
5 be addressed as part of the applicant's retirement plan that must be approved by the Council prior  
6 to retirement. [See Condition D.3(2)]

7  
8 **Wastewater**

9 Construction. KE proposes to develop and implement a wastewater minimization and reuse  
10 program for construction. Chemical cleaning solutions and the cleaning rinse and flush waters  
11 associated with distillate fuel piping startup would be trucked off-site, as required, by a licensed  
12 contractor for proper disposal.

13  
14 Operation. As a simple-cycle facility, operation of the KGP produces substantially less  
15 wastewater than a combined cycle facility. Blowdown from a steam power cycle and blowdown  
16 from a cooling tower would not be present. De-mineralized water would be delivered from the  
17 KCP, so wastewater resulting from the purification of the water would be handled by the KCP.  
18 Much of the de-mineralized water delivered to the KGP would be evaporated to cool the turbine  
19 inlet air or injected into the turbines. The major sources of wastewater would be combustion  
20 turbine wash rinse water and plant drains. This wastewater would be collected in a holding tank  
21 and trucked off-site for recycling or disposal. Sanitary facilities are not present at the KGP. Staff  
22 uses the facilities at the KCP.

23  
24 Retirement. Retirement of a simple cycle project, such as the KGP, would result in minimal if  
25 any wastewater generation. The potential for reducing, recycling and reusing wastewater upon  
26 retirement would be addressed as part of the applicant's retirement plan which must be approved  
27 by the Council prior to retirement. [See Condition D.3(2)]

28  
29 **Impact on Surrounding and Adjacent Areas**

30 The accumulation, storage, disposal and transportation of waste generated by construction and  
31 operation of the KGP would have minimal adverse impact on surrounding and adjacent areas  
32 because only small amounts of solid waste and wastewater will be generated and because of  
33 KE's proposed waste minimization and recycling programs.

34  
35 The energy facility site is on, and surrounded by, land owned by Collins' Products and is zoned  
36 for heavy industrial uses. The proposed KGP would not accumulate, store or dispose on-site  
37 significant quantities of waste materials. Transportation of solid wastes off-site would be via an  
38 existing access road on Collins' Products property to U. S. Highway 97 and would have no  
39 adverse impact on local residential areas or local streets.

40  
41 In its ASC, KE describes actions that are designed to address the Council's waste minimization  
42 standard. The Council considers the following actions to be commitments by KE. To find that  
43 KE complies with OAR 345-022-0120, the Council adopts the following conditions in the site  
44 certificate:

- 1           (1)     **During construction, operation and retirement of the facility, the certificate**  
2                   **holder shall separate recyclable materials from the solid waste stream to the**  
3                   **extent practicable, store those materials on site until sufficient quantities**  
4                   **exist to make recycling economic, and periodically deliver or sell those**  
5                   **materials to a recycling facility.**  
6  
7           (2)     **During construction, operation and retirement of the facility, the certificate**  
8                   **holder shall segregate all used oily rags and oil-absorbent materials for**  
9                   **disposal in a licensed landfill.**  
10  
11          (3)     **During operation and retirement of the facility, the certificate holder shall**  
12                   **ship spent selective catalytic reduction (“SCR”) catalyst to the manufacturer,**  
13                   **a metals reclaiming facility, or another Department approved facility.**  
14  
15          (4)     **During operation of the facility, the certificate holder shall collect**  
16                   **combustion turbine wash rinse water and wastewater from plant drains in a**  
17                   **holding tank and shall periodically transport the stored wastewater to**  
18                   **licensed off-site recycling or disposal facilities.**  
19

#### 20 **Summary**

21 The Council finds that KE’s solid waste and wastewater plans are likely to minimize generation  
22 of solid waste and wastewater in the construction, operation and retirement of the facility, and  
23 when solid waste or wastewater is generated, to result in recycling and reuse of such wastes.  
24 Further, the Council finds that KE’s plans to manage the accumulation, storage, disposal and  
25 transportation of waste generated by the construction and operation of the facility are likely to  
26 result in minimal adverse impact on surrounding and adjacent areas.  
27

#### 28 **Conclusion**

29 The Council finds that, subject to the conditions stated in this order, KE meets the waste  
30 minimization standard, OAR 345-022-0120.  
31

#### 32 **D.15. CARBON DIOXIDE STANDARD, OAR 345-024-0590**

33 The applicable carbon dioxide standard is OAR 345-024-0590, which applies to non-base load  
34 power plants. With portions of the rule omitted for brevity, the standard requires that:  
35  
36

37           “To issue a site certificate for a non-base load power plant, the Council must find that the  
38 net carbon dioxide emissions rate of the proposed facility does not exceed 0.675 pounds  
39 of carbon dioxide per kilowatt-hour of net electric power output, with carbon dioxide  
40 emissions and net electric power output measured on a new and clean basis. For a base  
41 load gas plant designed with power augmentation technology as defined in OAR 345-  
42 001-0010, the Council shall apply this standard to the incremental carbon dioxide  
43 emissions from the designed operation of the power augmentation technology. The  
44 Council shall determine whether the carbon dioxide emissions standard is met as follows:  
45

- 1           “(1) The Council shall determine the gross carbon dioxide emissions that are  
2 reasonably likely to result from the operation of the proposed energy facility. The  
3 Council shall base such determination on the proposed design of the energy  
4 facility, the limitation on the hours of generation for each fuel type and the  
5 average temperature, barometric pressure and relative humidity at the site during  
6 the times of the year when the facility is intended to operate \*\*\* The Council  
7 shall adopt site certificate conditions to ensure that the predicted carbon dioxide  
8 emissions are not exceeded on a new and clean basis; however, the Council may  
9 modify the parameters of the new and clean basis to accommodate average  
10 conditions at the times when the facility is intended to operate and technical  
11 limitations, including operational considerations, of a non-base load power plant  
12 or power augmentation technology or for other cause;  
13
- 14           “(2) For any remaining emissions reduction necessary to meet the applicable standard,  
15 the applicant may elect to use any of the means described in OAR 345-024-0600  
16 or any combination thereof. The Council shall determine the amount of carbon  
17 dioxide emissions reduction that is reasonably likely to result from the applicant's  
18 offsets and whether the resulting net carbon dioxide emissions meet the applicable  
19 carbon dioxide emissions standard;  
20
- 21           “(3) \*\*\**[Relates to offset projects an applicant proposes; none are proposed.]*  
22
- 23           “(4) Before beginning construction, the certificate holder shall notify the Office in  
24 writing of its final selection of an equipment vendor and shall submit a written  
25 design information report to the Office sufficient to verify the facility's designed  
26 new and clean heat rate and its nominal electric generating capacity at average  
27 annual site conditions for each fuel type. \*\*\* The certificate holder shall include  
28 the proposed total number of hours of operation for all fuels, subject to the  
29 limitation that the total annual average number of hours of operation per year is  
30 not more than 6,600 hours. In the site certificate, the Council may specify other  
31 information to be included in the report. The Office shall use the information the  
32 certificate holder provides in the report as the basis for calculating, according to  
33 the site certificate, the gross carbon dioxide emissions from the facility and the  
34 amount of carbon dioxide emissions reductions the certificate holder must provide  
35 under OAR 345-024-0600;  
36
- 37           “(5) Every five years after commencing commercial operation, the certificate holder  
38 shall report to the Council the facility's actual annual hours of operation by fuel  
39 type. If the actual gross carbon dioxide emissions, calculated using the new and  
40 clean heat rate and the actual hours of operation on each fuel during the five-year  
41 period, exceed the projected gross carbon dioxide emissions for the five-year  
42 period calculated under section (4), the certificate holder shall offset any excess  
43 emissions for that period and shall offset estimated future excess carbon dioxide  
44 emissions using the monetary path as described in OAR 345-024-0600(3) and (4)  
45 or as approved by the Council.”

1  
2 **Discussion**

3 KE provided information about compliance with the Council’s carbon dioxide emissions  
4 standard in Exhibit Y of the Application for a Site Certificate (“ASC”). Under OAR 345-024-  
5 0590, the Council must find that the net carbon dioxide (CO<sub>2</sub>) emissions rate of the proposed  
6 facility does not exceed 0.675 pounds of carbon dioxide per kilowatt-hour (lb. CO<sub>2</sub>/kWh) of net  
7 electric power output, with carbon dioxide emissions and net electric power output measured on  
8 a new and clean basis.  
9

10 The facility was originally constructed to use natural gas fuel, but KE proposes to modify the  
11 facility to use distillate fuel as an option. The heat rate and net power output of the facility would  
12 differ under the two fuels. KE estimated the number of hours it expects to operate on each fuel,  
13 and provided expected heat rates, net electrical output, and average temperature, barometric  
14 pressure and relative humidity for the times of year when it intends to operate on each fuel.  
15

16 Because KE may elect not to install the distillate fuel modification, the Council adopts a two-step  
17 approach for the payment of offset funds and selection and contracting funds, with one step to  
18 apply to the natural gas-fuel plant within 30 days after the effective date of the site certificate and  
19 the second step to apply before beginning construction of any element of the distillate fuel  
20 modification.  
21

22 **Compliance.** KE proposes to comply with the carbon dioxide emissions standard of OAR 345-  
23 024-0590 by making payments in compliance with the monetary path payment requirement of  
24 OAR 345-024-0600(3). It proposes to provide offset funds and selection and contracting funds to  
25 a qualified organization, The Climate Trust, as set forth in OAR 345-024-0710.  
26

27 **Calculations.** The following discussion and Table D.15-1 show the carbon dioxide emissions  
28 calculations for estimated operation of the KGP with natural gas fuel. Table D.15-2 shows the  
29 analogous calculations for estimated operation of the KGP with distillate fuel.  
30

31 The KGP is unique in that it was constructed and operated as the Klamath Expansion Project  
32 (“KEP”) under the temporary exemption provided by ORS 469.320(2)(g). The KEP fired only  
33 natural gas. Therefore, KE used historical data to determine heat rate and net plant output, as  
34 indicated by OAR 345-001-0010(34)(e), for the KGP’s carbon dioxide emissions when firing  
35 natural gas. KE also considered the operating history to date in projecting annual hours of  
36 operation.  
37

38 Because KE proposes to add the capability to run on distillate fuel, it supplied vendor  
39 information for the heat rate and net plant output when running on distillate fuel. The estimated  
40 annual hours of operation on either natural gas or distillate are based on proprietary models for  
41 demand. In developing this information on annual operation for the purposes of estimating  
42 carbon dioxide emissions (i.e., 350 hours per year on natural gas firing or 175 hours per year on  
43 distillate), KE provided the maximum level of exclusive fuel use in each case as a means of  
44 determining the highest level of carbon dioxide emissions. KGP annual operation is expected to  
45 range from 350 hours of gas firing with no distillate use to 175 hours of distillate firing with no

1 natural gas use, i.e., the two estimates are not additive. While in a given year, actual fuel use may  
 2 be some combination of natural gas and distillate, the total hours of operation are not expected to  
 3 exceed either 350 hours on natural gas or 175 hours on distillate. Because the anticipated number  
 4 of hours of operation on natural gas are approximately twice the actual annual hours of operation  
 5 of the KEP during the period from May 2002 to May 2004 and because the natural gas case  
 6 governs that of distillate with respect to maximum carbon dioxide emissions, the hours provided  
 7 by the applicant in Exhibit Y of the ASC (as revised in KE's August 2004 response to ODOE's  
 8 Request for Additional Information #1) are a reasonable estimate.

9  
 10 **Gross Carbon Dioxide Emissions.** The Council must determine the carbon dioxide emissions  
 11 that are reasonably likely to result from the operation of the proposed energy facility. For a non-  
 12 base load plant, OAR 345-001-0010(36) requires calculations of the annual gross carbon dioxide  
 13 emissions of the facility and total carbon dioxide emissions over 30 years. "Gross carbon dioxide  
 14 emissions" is defined in OAR 345-001-0010(25) as follows:

15  
 16 "Gross carbon dioxide emissions" means the predicted carbon dioxide  
 17 emissions of the proposed energy facility. The Council shall measure the  
 18 gross carbon dioxide emissions of a fossil-fueled power plant on a new  
 19 and clean basis.\*\*\*

20  
 21 **Excess Carbon Dioxide Emissions.** To apply the standard, the Council must determine the  
 22 excess carbon dioxide emissions rate of the energy facility and the excess carbon dioxide  
 23 emissions for 30 years. Excess carbon dioxide emissions are those in excess of net carbon  
 24 dioxide emissions allowed under the standard. Tables D.15-1 and D.15-2 show the required  
 25 offsets as "Excess Tons CO<sub>2</sub>" for natural gas and distillate fuel, respectively. Estimated excess  
 26 carbon dioxide emissions for the KGP are about 0.279 million tons for natural gas and 0.242  
 27 million tons for distillate fuel. KE will provide final data for calculations as required by site  
 28 certificate conditions.

29  
 30 Note that the excess tons for distillate fuel are nearly as great as the excess tons for natural gas,  
 31 even though the facility is expected to run principally on natural gas. This condition exists  
 32 because the rate of carbon dioxide emissions for distillate fuel is higher than the corresponding  
 33 rate for natural gas. The total projected maximum excess emissions of carbon dioxide that result  
 34 from the 350 hours of operation per year on natural gas rather than from the 175 hours of  
 35 operation per year on distillate fuel are about 279,000 tons over a 30-year period.

36  
 37 **Table D.15-1**  
**CO<sub>2</sub> Emissions for Klamath Generation Peakers**  
 (Natural Gas Fuel)

Net Power Output (kW)	93,600
Capacity Factor	4.0%
Fuel	Natural gas
Annual Hours of Operation	350
Annual Generation (million kWh/yr)	33
Deemed Life of Plant (years)	30

Total Plant Output (million kWh for 30 years)	983
Heat Rate (Btu/kWh) (HHV)	10,615
CO <sub>2</sub> Emissions Rate (lb. CO <sub>2</sub> /Btu)	0.000117
Total CO <sub>2</sub> Emissions (million lb.)	1,221
Gross CO <sub>2</sub> Emissions Rate (lb. CO <sub>2</sub> /kWh)	1.212
CO <sub>2</sub> Standard (lb. CO <sub>2</sub> /kWh)	0.675
Excess CO <sub>2</sub> Emissions (lb. CO <sub>2</sub> /kWh)	0.567
Excess Tons CO <sub>2</sub> (million tons over 30 years)	.279
Offset Fund Rate (\$/ton CO <sub>2</sub> )	\$0.85
Offset Funds Required	\$237,000
Selection and Contracting Funds	\$47,400
<b>Monetary Path Payment Requirement</b>	<b>\$284,400</b>

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**Table D.15-2**  
**CO<sub>2</sub> Emissions for Klamath Peakers**  
(Distillate Fuel)

Net Power Output (kW)	92,191
Capacity Factor	2.0%
Fuel	Distillate
Annual Hours of Operation	175
Annual Generation (million kWh/yr)	16
Deemed Life of Plant (years)	30
Total Net Output (million kWh for 30 years)	484
Heat Rate (Btu/kWh) (HHV)	10,414
CO <sub>2</sub> Emissions Rate (lb. CO <sub>2</sub> /Btu)	0.000161
Total CO <sub>2</sub> Emissions (million lb.)	812
Gross CO <sub>2</sub> Emissions Rate (lb. CO <sub>2</sub> /kWh)	1.677
CO <sub>2</sub> Standard (lb. CO <sub>2</sub> /kWh)	0.675
Excess CO <sub>2</sub> Emissions (lb. CO <sub>2</sub> /kWh)	1.002
Excess Tons CO <sub>2</sub> (million tons over 30 years)	.242
Offset Fund Rate (\$/ton CO <sub>2</sub> )	\$0.85
Offset Funds Required	\$206,000
Selection and Contracting Funds	\$41,200
<b>Monetary Path Payment Requirement</b>	<b>\$247,200</b>

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**Average Annual Site Conditions.** OAR 345-024-0590 requires that the carbon dioxide emissions and net power output be measured on a “new and clean basis.” The Council’s definition of “new and clean basis” for a non-base load facility specifies average annual site conditions, including temperature, barometric pressure, and relative humidity during the times of year when the facility is intended to operate. OAR 345-001-0010(34).

With its Request for Expedited Review, KE submitted information describing the average annual site conditions during the times of year when it intends to operate the facility. That information is depicted in Table D.15-3.

**Table D.15-3**  
**Ambient Temperature and Relative Humidity**  
**During Times of Year When the Facility is Intended to Operate**

Season	Winter	Winter	Winter/ Spring	Spring/ Summer	Summer	Summer
Percent of Operation	2%	5%	13%	33%	31%	16%
Ambient Temperature (°F)	20	30	48.3	60	75	90
Relative Humidity (%)	60	60	50	40	30	20

By interpretation of that information in its Second Response to Request for Additional Information #1, dated August 24, 2004, KE described the average annual site conditions during the times of year when it intends to operate the facility as follows:

- Temperature – 62.4 (degrees F)
- Pressure – 12.62 (psia)
- Relative Humidity – 39 (%)

**Estimated Heat Rate and Capacity.** The calculation of emissions is based on a “new and clean” heat rate and capacity, as that term is defined at OAR 345-001-0010(34). For previously used equipment, OAR 345-001-0010(34)(e) specifies the use of historical data for the new and clean basis. For operations on natural gas, KE supplied a heat rate of 10,615 Btu/kWh (higher heating value (HHV)) and capacity of 93,600 kW, based on such data. These data do not include the entire two-year time period since the facility began operating, because, in 2004, KE was required to retrofit additional air emission controls in order to meet DEQ requirements for the Air Contaminant Discharge Permit. KE supplied the heat rate and capacity based on operating data since the air emissions modification, adjusted for average meteorological conditions during the times of year it intends to operate the plant.

**Year One Test.** Because there are no historical data for operation with distillate fuel, KE will have to provide data from a Year One Test to verify its CO<sub>2</sub> emission rate. For purposes of estimating the CO<sub>2</sub> emissions for this Order, KE supplied vendor data for operation on distillate fuel. KE projects a capacity and heat rate of 92,191 kW and 10,414 Btu/kWhr (HHV) for the hours and conditions when it expects to operate the facility on distillate fuel. OAR 345-001-0010(34)(a) states that the Council can specify a testing period other than the standard 100-hour test for non-base load plants. The site certificate shall require a shorter Year One Test than the 100-hour test that certificate holders must perform for base load gas plants. The shorter test is consistent with tests that the Council, or ODOE when authorized, has specified for power augmentation, which is another form of a non-base load facility.

The Council also requires a Year One Test on natural gas fuel if the distillate fuel modification is installed. ODOE’s experience at base load gas-fired power plants indicates that the installation of equipment for operation on distillate can affect the combustion turbine’s heat rate, even while running on natural gas. For this reason, the Council will require testing the facility for heat rate and net electric generating capacity while running on natural gas after the distillate modification is installed. If the certificate holder elects not to install the distillate fuel modification, then no

1 Year One test is required because historical data are sufficient to determine heat rate and  
2 capacity, pursuant to OAR 345-001-0010(34)(e).

3  
4 **Five Year Operating True-Ups.** OAR 345-024-0600(4) provides for a five-year true-up of the  
5 hours of operation for a non-base load plant. This facility presents two unique situations for  
6 calculating the true-up.

7  
8 First, if KE elects to add the capability to operate on distillate fuel, the beginning of operation on  
9 distillate fuel will not likely coincide with the five-year true-up period of the natural gas  
10 operational mode. Therefore, the Council adds a condition that aligns the five-year true-up  
11 period for both modes by allowing for a pro-rated, shorter first true-up period for operation on  
12 distillate fuel to match the already established five-year period for operation on natural gas.

13  
14 Second, any excess emissions from operation on natural gas due to longer hours than originally  
15 estimated are calculated on the historical CO<sub>2</sub> emissions rate certified when the site certificate  
16 becomes effective. However, if KE later installs distillate fuel capability, the certificate holder  
17 shall re-establish the CO<sub>2</sub> emissions rate for natural gas through a Year One Test. If there is such  
18 a Year One Test for operation on natural gas, that will form the basis for calculating excess  
19 emissions from longer hours of operation in future five-year periods.

20  
21 **Monetary Path.** KE has elected to meet the carbon dioxide emissions standard by providing  
22 offset funds to The Climate Trust as allowed by OAR 345-024-0600(3) and in compliance with  
23 the monetary path payment requirement of OAR 345-024-0710. Determination of the actual  
24 monetary path payment requirement will be in accordance with site certificate conditions.

25  
26 Using the parameters that KE provided in Exhibit Y of the ASC, Tables D.15-1 and D.15-2 show  
27 the excess tons of carbon dioxide for the KGP multiplied by the offset fund rate of \$0.85 per ton  
28 of carbon dioxide. Based on estimates that KE supplied in its ASC, ODOE calculates that initial  
29 offset funds required for the monetary path payment requirement would amount to \$237,000,  
30 based on the information in Table D.15-1 for operation on natural gas.

31  
32 The amount of the required offset funds is significantly less than the amount for the standard  
33 base-load energy facility, and the corresponding contracting and selection funds would be less  
34 than the amount normally required for selecting offsets and contracting for the implementation of  
35 offsets. Therefore, the Council will not apply the minimum of \$50,000 in selection and  
36 contracting funds that it would apply to a base load gas plant.

37  
38 In order to ensure adequate contracting and selection funds for small amounts of offset funds,  
39 and in accordance with the discretion reserved to the Council under OAR 345-024-0710(4), the  
40 Council finds that contracting and selection funds for the KGP and similar peaking facilities  
41 should be calculated at the rate of 20 percent of the first \$250,000 in offset funds and 4.286  
42 percent of the value of any offset funds in excess of that amount. The Council has consistently  
43 applied this formula to true-up offset funds for base load gas plants and for hours of operation  
44 with power augmentation, which are for similar smaller amounts. Prior to consideration of any  
45 prorated credit due KE, as discussed below, applying this formula to KE's estimated offset funds

1 obligations of \$237,000 (in 2005 dollars) would produce selection and contracting funds  
2 obligations in the amounts of \$47,400 (in 2005 dollars).

3  
4 The combination of offset funds and contracting and selection funds constitutes the monetary  
5 path payment requirement. Prior to consideration of any prorated credit due KE, as discussed  
6 below, the initial monetary path payment requirement for the existing facility is estimated to be  
7 \$284,400 (in 2005 dollars). The initial monetary path calculations in this order are based on  
8 natural gas operations because KE may elect to delay or even cancel the distillate fuel  
9 modification. If KE begins construction on the modification, then the conditions require them to  
10 submit updated information on expected hours of operation on each fuel, so that the monetary  
11 path payment can be adjusted accordingly.

12  
13 **Qualified Organization.** KE proposes to provide offset funds and selection and contracting  
14 funds to The Climate Trust. The Council has previously found that The Climate Trust is a  
15 “qualified organization” in matters relating to ten other energy facilities, most recently in  
16 November 2004<sup>7</sup>. The Council finds that The Climate Trust continues to meet the requirements  
17 of a “qualified organization,” as defined by OAR 345-001-0010(46), for the following reasons:

- 18  
19 • The Climate Trust is exempt from federal taxation under section 501(c)(3) of the  
20 Internal Revenue Code. By letter dated November 19, 1997, the Internal Revenue  
21 Service (“IRS”) determined that The Climate Trust (then the “Oregon Climate  
22 Trust”) is exempt from taxation under section 501(c)(3). By letter dated August 3,  
23 2002, the IRS affirmed The Climate Trust’s exempt status.
- 24  
25 • The Climate Trust is incorporated in the State of Oregon.
- 26  
27 • The Articles of Incorporation of The Climate Trust require that offset funds  
28 received from certificate holders in accordance with ORS 469.503(2) be used for  
29 offset projects that will result in direct reduction, elimination, sequestration or  
30 avoidance of CO<sub>2</sub> emissions. The Articles of Incorporation of The Climate Trust  
31 require that decisions on the use of such funds be made by a body composed of  
32 seven voting members of which: (1) three are appointed by the Council; (2) three  
33 are Oregon residents appointed by the Bullitt Foundation or an alternative  
34 environmental organization named by the board of directors [Northwest Energy  
35 Coalition]; and (3) one member is appointed by applicants for site certificates that  
36 are subject to ORS 469.503(2)(d) and the holders of such site certificates.
- 37  
38 • The Climate Trust has made available on an annual basis, beginning after the first  
39 year of operation, a signed opinion of an independent certified public accountant  
40 stating that the qualified organization’s use of funds pursuant to ORS 469.503  
41 conforms with generally accepted accounting principles.
- 42

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<sup>7</sup> See Final Order in the Matter of the Application for Site Certificate for the COB Energy Facility, February 4, 2005

- 1 • The Climate Trust provided the Council with documentation at the Council  
2 meeting on September 24, 2004, showing that The Climate Trust has complied  
3 with ORS 469.503(2)(e)(K)(v) by entering into contracts obligating at least 60  
4 percent of the offset funds received.  
5
- 6 • The Climate Trust provided documentation at the Council meeting on September  
7 24, 2004, that The Climate Trust has entered into, or will enter into, contracts  
8 obligating at least 80 percent of the offset funds disbursed for offsets. The Climate  
9 Trust complied with the requirement of OAR 345-001-0010(1)(46)(f).

10  
11 **Financial Instrument.** OAR 345-024-0710(1) requires that the applicant supply a “bond or  
12 letter of credit in a form reasonably acceptable to the Council to ensure the payment of the offset  
13 funds\*\*\*.” KE has stated it intends to satisfy its offset funds and contracting and selection funds  
14 obligations by making full payments to The Climate Trust immediately upon notification by  
15 ODOE of the amount owed. Conditions will require such payment, so there is no time for which  
16 the certificate holder needs to provide security that the funds are available. Attachment A to the  
17 site certificate is the form of a memorandum of understanding between the certificate holder and  
18 The Climate Trust for disbursement of funds.  
19

#### 20 **Proration of Funds from Operations Under the Temporary Exemption of ORS**

21 **469.320(2)(g).** OAR 345-024-0650 states that “\*\*\*the Council shall prorate any offset funds  
22 remaining in the exemption period on the effective date of the site certificate and apply those  
23 funds to compliance with the carbon dioxide standard pursuant to OAR 345-024-0560(3) or  
24 OAR 345-024-650(3)”.

25  
26 The KGP (then KEP) paid offset funds amounting to \$261,478 as a condition of the temporary  
27 exemption of ORS 469.320(2)(g). This amount covered offset funds only. Contracting and  
28 selection funds are not prorated. Because the KEP operated for fewer hours under the exemption  
29 than the applicant originally projected, the offset funds covered more excess CO<sub>2</sub> emissions than  
30 KEP actually generated.  
31

32 The site certificate shall require KE to report, as of the effective date of the site certificate, the  
33 total kWh of electric energy produced and total Btu of natural gas fuel consumed during the time  
34 the facility operated as a temporary energy facility. ODOE will calculate the excess carbon  
35 dioxide emissions that occurred prior to site certification and deduct from the nominal offset  
36 funds already paid the amount necessary to cover those emissions. The remaining nominal offset  
37 funds will be credited to the offset funds requirement for the site certificate. Selection and  
38 contracting funds are calculated on the net offset funds, using the formula recommended above.  
39 Table D.15-4 provides a hypothetical illustration of this calculation by assuming that during its  
40 operation as a temporary energy facility the KEP produced 50,000,000 kWh gross output using  
41 natural gas fuel with a heat content of 550,000 MMBtu (HHV).  
42  
43

**Table D.15-4**  
**Klamath Expansion Project Hypothetical CO<sub>2</sub> Emissions**

Gross Plant Output (million kWh over 3 years)	50
Natural Gas Consumption (million Btu)(HHV)	550,000
Heat Rate (Btu/kWh) (HHV)	11,000
CO <sub>2</sub> Emissions Rate (lb. CO <sub>2</sub> /Btu)	0.000117
Total CO <sub>2</sub> Emissions (million lb.)	64.35
Gross CO <sub>2</sub> Emissions Rate (lb. CO <sub>2</sub> /kWh)	1.287
CO <sub>2</sub> Standard (lb. CO <sub>2</sub> /kWh)	0.675
Excess CO <sub>2</sub> Emissions (lb. CO <sub>2</sub> /kWh)	0.612
Excess Tons CO <sub>2</sub> (million tons over 3 years)	.0153
Offset Fund Rate (\$/ton CO <sub>2</sub> )	\$0.57
Offset Funds Required	\$8,721
Offset Funds Paid for KEP	\$261,478
Offset Funds to be Credited to KGP	\$252,757

1  
2 Calculating the projected CO<sub>2</sub> emissions rate for a proposed facility based on the net electric  
3 power output and the heat rate incorporates auxiliary uses, which affect the net CO<sub>2</sub> emissions  
4 rate. Calculating the historical CO<sub>2</sub> emissions rate must be based on gross kWh and total fuel use  
5 to capture the auxiliary uses and provide a comparable CO<sub>2</sub> emissions rate.  
6

7 Table D.15-5 provides a hypothetical calculation of KE's initial monetary path payment  
8 requirement after applying the credit that would result from prorating the amount of offset funds  
9 paid as a condition of the temporary exemption, based on the assumptions in Table D.15-4.  
10

11  
**Table D.15-5**  
**Hypothetical Calculation of Initial Monetary Path Payment**  
**Requirement For Klamath Generation Peakers**  
**After Applying Prorated Offset Funds Credit**  
(Natural Gas Fuel)

Net Power Output (kW)	93,600
Capacity Factor	4.0%
Fuel	Natural gas
Annual Hours of Operation	350
Annual Generation (million kWh/yr)	33
Deemed Life of Plant (years)	30
Total Plant Output (million kWh for 30 years)	983
Heat Rate (Btu/kWh) (HHV)	10,615
CO <sub>2</sub> Emissions Rate (lb. CO <sub>2</sub> /Btu)	0.000117
Total CO <sub>2</sub> Emissions (million lb.)	1,221
Gross CO <sub>2</sub> Emissions Rate (lb. CO <sub>2</sub> /kWh)	1.212
CO <sub>2</sub> Standard (lb. CO <sub>2</sub> /kWh)	0.675
Excess CO <sub>2</sub> Emissions (lb. CO <sub>2</sub> /kWh)	0.567
Excess Tons CO <sub>2</sub> (million tons over 30 years)	.279
Offset Fund Rate (\$/ton CO <sub>2</sub> )	\$0.85
Offset Funds Required	\$237,000
Prorated Offset Funds Credit	\$252,757
Net Offset Funds Required	\$0

Selection and Contracting Funds	\$0
<b>Net Monetary Path Payment Requirement</b>	<b>\$0</b>
Remaining Prorated Offset Funds Credit	\$15,757

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Selection and contracting funds are calculated on the offset funds that the certificate holder must provide the qualified organization. Therefore, they are calculated on the net offset fund amount. In this case, since no additional offset funds are required, no selection and contracting funds would be required either. If there is a remaining prorated offset funds credit, it would be carried over as credit against future monetary path payments that may become due.

**Proposed Conditions.** The following proposed conditions implement OAR 345-024-0590 through OAR 345-024-0710. Many conditions address the mechanics of calculating the excess carbon dioxide emissions and the monetary path payment requirement. They address the information that the certificate holder must provide the Council or ODOE at various times. They also address the milestones for providing any increased or supplemental monetary path payments, if necessary. The conditions are designed to address continued operation of the energy facility with natural gas and, if and when the distillate fuel modification is installed, operation of the energy facility with both natural gas and distillate fuel.

To retain the value of the monetary path payment, the proposed conditions index the payment in 2005 dollars from the effective date of the site certificate to the time funds are disbursed to The Climate Trust. A condition provides that the index is the U.S. Gross Domestic Product Implicit Price Deflator, Chain-Weight, as published by the Oregon Department of Administrative Services in its series, "Oregon Economic and Revenue Forecast." That series provides a forecast of the Implicit Price Deflator for several quarters in advance. The Council adopts this index as the most generally applicable.

The rules require the certificate holder to provide a bond or third-party letter of credit as financial assurance that it will make available the monetary path payments. For the temporary exemption in 2002, KEP simply made a full payment to The Climate Trust immediately in lieu of a surety. KE has stated it intends to satisfy its offset funds and contracting and selection funds obligations by making full payment to The Climate Trust upon ODOE's notification of how much it owes. The proposed conditions reflect that intention.

Site certificates for new energy facilities have specified that surety for the offset payment be provided before start of construction. However, the facility is already operating, and the applicant is not obligated to install the distillate fuel modification. Therefore, the proposed conditions tie the monetary path payment for natural gas operation to the effective date of the site certificate rather than start of construction. Since the installation of distillate fuel capability is not expected to increase carbon dioxide emissions because it will operate for fewer hours, no adjustment to the monetary path payment may be required. However, the conditions below allow for a new calculation of estimated emissions and the monetary path payment prior to the start of construction of any element of the distillate fuel supply or combustion system. As with all

1 estimates before beginning construction, KE must submit an affidavit with the written design  
2 information for the use of distillate fuel and the number of hours it will operate on distillate fuel.  
3 The conditions do not bind KE to the estimates used as an example in this Order.  
4

5 In addition, if KE delays the installation of the distillate fuel capability more than two years from  
6 the date of this order, the site certificate will apply the carbon dioxide emissions rate in OAR  
7 345-024-0590 and the monetary offset rate in OAR 345-024-0580 that are in effect at the time  
8 KE submits its affidavit with written design information for operation on distillate fuel and meets  
9 the monetary path payment requirement for operation on distillate fuel. This condition would be  
10 in lieu of applying a “beginning of construction” requirement within two years for the  
11 installation of distillate fuel option. It would update the application of the CO<sub>2</sub> standard without  
12 otherwise requiring a full amendment if the only issue were the belated exercise of the distillate  
13 fuel option.  
14

15 Likewise, the Council adopts a condition that allows the certificate holder to exercise the  
16 flexibility that is built into the rules for minor changes. Specifically, OAR 345-027-0050  
17 provides:  
18

19 “(2) Notwithstanding section (1), the Council does not require a site certificate  
20 amendment if the proposed change would not violate any condition of the  
21 site certificate and is a change:

22 “(a) To an electrical generation facility that would increase the  
23 electrical generating capacity and would not increase the number  
24 of electric generators at the site, change fuel type, increase fuel  
25 consumption by more than 10%, or enlarge the facility site;”  
26

27 OAR 345-027-0050 also requires information from the certificate holder about how the proposed  
28 changes would comply with applicable standards and a determination by ODOE or the Council  
29 that an amendment is not required.  
30

31 If a certificate holder had not yet made monetary path payment requirement funds available to a  
32 qualified organization, it might take advantage of the flexibility that OAR 345-027-0050(2)(a)  
33 offers when it certifies the capacity and heat rate of the facility. However, an increase in capacity  
34 and heat rate after a certificate holder had already complied with the conditions relating to the  
35 carbon dioxide standard might necessarily require an amendment.  
36

37 In lieu of requiring an amendment for incremental increases that otherwise fall within the limits  
38 specified in OAR 345-027-0050(2)(a) after a certificate holder has already complied with the  
39 conditions relating to the carbon dioxide standard, the Council adopts a condition that applies the  
40 site certificate’s carbon dioxide standard condition, along with the applicable carbon dioxide  
41 standard and monetary offset rate at the time that the Council makes a determination that an  
42 amendment is not otherwise required. This approach would achieve the same result as an  
43 amendment allowing a later increase in capacity and heat rate, but it uses the structure provided  
44 by the site certificate conditions and updates it to current standards without requiring an  
45 amendment process.

1  
2 The Council adopts the following conditions in the site certificate for compliance with the carbon  
3 dioxide standard, along with Attachment A:  
4

5 **(1) Within 30 days after the effective date of the site certificate:**  
6

- 7 **(a) The certificate holder shall report to ODOE the gross kWh of electric**  
8 **energy produced and the total Btu (HHV) of natural gas consumed**  
9 **during operation of the energy facility under the temporary**  
10 **exemption of ORS 469.320(2)(g) from the beginning of commercial**  
11 **operation until the effective date of the site certificate.**  
12  
13 **(b) The certificate holder shall report to ODOE the annual average**  
14 **hours, times of year, and average temperature, relative humidity and**  
15 **barometric pressure when the certificate holder intends to operate the**  
16 **non-base load power plant. It shall also report the net electric power**  
17 **output and the heat rate (HHV), based on historical data, at those**  
18 **conditions.**  
19  
20 **(c) When reporting historical gross output, natural gas use, net electric**  
21 **power output, and heat rate for paragraphs (a) and (b), the certificate**  
22 **holder shall submit to ODOE an affidavit certifying the data.**  
23  
24 **(d) Upon receiving and verifying the information required by Conditions**  
25 **D.15(1)(a) and D.15(1)(b), ODOE will calculate the facility's excess**  
26 **CO<sub>2</sub> emissions during the facility's operations under the temporary**  
27 **exemption from the date of initial operation to the effective date of the**  
28 **site certificate. The Department will then calculate the nominal**  
29 **amount of offset funds required to cover the excess CO<sub>2</sub> emissions**  
30 **during the period of operation under the temporary exemption. The**  
31 **Department will deduct that amount from the offset funds paid by the**  
32 **certificate holder's predecessor to The Climate Trust as a condition of**  
33 **the Order Granting Exemption, dated May 18, 2001. The Department**  
34 **will apply the remaining offset funds, if any, in nominal dollars as a**  
35 **credit towards the certificate holder's offset funds obligation under**  
36 **the site certificate. The Department will calculate the selection and**  
37 **contracting funds based on the net offset funds the certificate holder**  
38 **owes. The Department will notify the certificate holder of the**  
39 **applicable prorated credit and the net amount due for offset funds**  
40 **and selection and contracting funds.**

41  
42 **(2) Within 30 days after the effective date of the site certificate, the certificate**  
43 **holder shall enter into a Memorandum of Understanding ("MOU") with The**  
44 **Climate Trust that establishes the disbursement mechanism to transfer offset**  
45 **funds and selection and contracting funds to The Climate Trust.**

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- (a) The MOU shall be substantially in the form of Attachment A to this site certificate.
- (b) Either the certificate holder or The Climate Trust may submit to the Council for the Council’s resolution any dispute between the certificate holder and The Climate Trust concerning the terms of the MOU or any other issues related to the monetary path payment requirement. The Council’s decision shall be binding on all parties.
- (3) Within 60 days after the effective date of the site certificate, the certificate holder shall disburse to The Climate Trust the full amount of the initial monetary path payment requirement (in 2005 dollars), if any, as calculated by ODOE under Condition D.15(1)(d). The Department may extend this deadline if it fails to provide the certificate holder with timely notice of the monetary path payment requirement or the amount of the prorated credit in accordance with Condition D.15(1)(d).
- (4) Before beginning construction of any element of the distillate fuel modification:

  - (a) The certificate holder shall submit to ODOE written design information sufficient to verify the energy facility’s designed new and clean heat rate (HHV) and its net power output at the average annual site condition during the times of year when the certificate holder intends to operate the facility using distillate fuel. The certificate holder shall submit to ODOE an affidavit certifying the heat rate (HHV) and net electric power output using distillate fuel.
  - (b) The certificate holder shall report to ODOE the annual average hours and times of year when the certificate holder intends to operate the facility using a) natural gas and b) distillate fuel.
  - (c) Upon receiving and verifying the information required by Conditions D.15(4)(a) and D.15(4)(b), ODOE will in combination with the information received per Condition D.15(1), as applicable, calculate the revised monetary path payment requirement using the designed new and clean heat rate (HHV) and its net power output at the average annual site condition during the times of year when the certificate holder intends to operate the facility with distillate fuel, along with the annual average hours of operation with natural gas and distillate fuel. The Department will notify the certificate holder of the net amount of offset funds, adjusted for the remainder of any prorated credit, and the amount of selection and contracting funds, based on the net offset funds due, if any, that the certificate holder

1 shall provide The Climate Trust as the revised natural gas/distillate  
2 fuel monetary path payment requirement.

3  
4 (d) The certificate holder shall disburse to The Climate Trust the full  
5 amount of the monetary path payment requirement (in 2005 dollars)  
6 calculated by ODOE under Condition D.15(4)(c) pursuant to the  
7 MOU and site certificate conditions, within 30 days of notification by  
8 ODOE of the amount owed.

9  
10 (5) Within the first 12 months after completing installation of the distillate fuel  
11 modification, the certificate holder shall conduct a 3-hour test at full power  
12 when firing the energy facility with natural gas fuel (“Year One Test-1”) and  
13 a 3-hour test at full power when firing the energy facility with distillate fuel  
14 (“Year One Test-2”).

15  
16 (a) The certificate holder shall conduct the Year One Test-1 to determine  
17 the actual heat rate (“Year One Heat Rate-1”) and the net electric  
18 power output (“Year One Capacity-1”) on a new and clean basis,  
19 without degradation, with the results adjusted for the average annual  
20 site condition for temperature, barometric pressure, and relative  
21 humidity during the times of year when the certificate holder intends  
22 to operate the facility using natural gas fuel. The certificate holder  
23 shall calculate carbon dioxide emissions using a rate of 117 pounds of  
24 carbon dioxide per million Btu of natural gas fuel.

25  
26 (b) The certificate holder shall conduct the Year One Test-2 to determine  
27 the actual heat rate (“Year One Heat Rate-2”) and the net electric  
28 power output (“Year One Capacity-2”) on a new and clean basis,  
29 without degradation, with the results adjusted for the average annual  
30 site condition for temperature, barometric pressure, and relative  
31 humidity during the times of year when the certificate holder intends  
32 to operate the facility using distillate fuel. The certificate holder shall  
33 calculate carbon dioxide emissions using a rate of 161 pounds of  
34 carbon dioxide per million Btu of distillate fuel.

35  
36 (c) The certificate holder shall notify ODOE at least 60 days before  
37 conducting the tests required under Conditions D.15(5)(a) and  
38 D.15(5)(b) unless the certificate holder and ODOE have mutually  
39 agreed that less notice will suffice.

40  
41 (d) Before conducting the tests required under Conditions D.15(5)(a) and  
42 D.15(5)(b), the certificate holder shall, in a timely manner, provide to  
43 ODOE for its approval a copy of the protocol for conducting the tests.  
44 The certificate holder shall not conduct the tests until the Office has  
45 approved the testing protocols.

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(e) Within two months after completing the Year One Tests, the certificate holder shall provide to the Council reports of the results of the Year One Tests.

(6) Based on the data from the Year One Heat Rate and Year One Capacity Tests conducted under Conditions D.15(5)(a) and D.15(5)(b), ODOE will recalculate the revised monetary path payment requirement for operation of the facility with both natural gas and distillate fuel. If the recalculated amount exceeds the net sum of monetary path payment requirements calculated by ODOE in accordance with Conditions D.15(1)(d) and D.15(4)(c), the certificate holder shall fully disburse the excess amount (in 2005 dollars) directly to The Climate Trust within 30 days after notification by ODOE of the recalculated amounts.

(a) For recalculating the monetary path payment requirement, ODOE will use an offset fund rate of \$0.85 per ton of carbon dioxide (in 2005 dollars) and will calculate selection and contracting funds based on 20 percent of the first \$250,000 in offset funds and 4.286 percent of any offset funds in excess of \$250,000 (in 2005 dollars).

(b) In no event shall the certificate holder receive a refund from The Climate Trust of any amount it paid to The Climate Trust under Conditions D.15(3) and D.15(4)(d) based on the calculations made using the Year One Heat Rate and the Year One Capacity Tests.

(7) The Department will calculate whether the certificate holder owes supplemental monetary path payments due to increased hours the certificate holder operates the non-base load energy facility as follows:

(a) Each five years after the effective date of the site certificate (“five-year reporting period”), the certificate holder shall report to ODOE the annual average hours the energy facility operated with natural gas fuel and the annual average hours the energy facility operated with distillate fuel during that five-year reporting period, pursuant to OAR 345-024-0590. The certificate holder shall submit five-year reports to ODOE within 30 days of the anniversary date of the site certificate.

(b) Prior to installation of the distillate fuel modification, ODOE will use the net power output and heat rate reported under Condition D.15(1)(b) to calculate whether the certificate holder owes supplemental monetary path payments due to increased hours that it operates the non-base load energy facility with natural gas fuel only.

1 (c) After installation of the distillate fuel modification, ODOE will use the  
2 Year One Capacities and Year One Heat Rates that the certificate  
3 holder reports for the energy facility, pursuant to Condition D.15(6),  
4 to calculate whether the certificate holder owes supplemental  
5 monetary path payments due to increased hours that it operates the  
6 non-base load energy facility with natural gas and distillate fuel. The  
7 first reporting period for use of distillate fuel shall be pro-rated to  
8 match the five-year reporting cycles already established.  
9

10 (d) If ODOE determines that the facility exceeded the projected total  
11 excess carbon dioxide emissions for natural gas or distillate fuel,  
12 prorated for five years, during any five-year reporting period  
13 described in Condition D.15(7)(a), the certificate holder shall offset  
14 excess emissions for the specific reporting period according to  
15 Condition D.15(7)(d)(A) and shall offset the estimated future excess  
16 emissions according to Condition D.15(7)(d)(B), as follows:  
17

18 (A) In determining whether there have been excess carbon dioxide  
19 emissions that the certificate holder must offset for a five-year  
20 reporting period, ODOE shall apply OAR 345-024-0600(4)(a).  
21 Any remaining offset funds after all credits from operation as a  
22 temporary energy facility have been applied for initial  
23 monetary path payments may be credited pursuant to OAR  
24 345-024-0600(4)(a). The certificate holder shall pay for the  
25 excess emissions at \$0.85 per ton of carbon dioxide emissions  
26 (in 2005 dollars). The Department will notify the certificate  
27 holder and The Climate Trust of the amount of supplemental  
28 payment required to offset excess emissions.  
29

30 (B) The Department shall calculate estimated future excess  
31 emissions for the remaining period of the deemed 30-year life  
32 of the facility using the parameters specified in OAR 345-024-  
33 0600(4)(b). The certificate holder shall pay for the estimated  
34 excess emissions at \$ 0.85 per ton of carbon dioxide (in 2005  
35 dollars). The Department will notify the certificate holder of  
36 the amount of supplemental payment required to offset future  
37 excess emissions.  
38

39 (C) The certificate holder shall offset excess emissions identified in  
40 Conditions D.15(7)(d)(A) and D.15(7)(d)(B) using the monetary  
41 path as described in OAR 345-024-0710, provided that  
42 selection and contracting funds shall equal twenty (20) percent  
43 of the amount of any offset funds up to the first \$250,000 (in  
44 2005 dollars) and 4.286 percent of the amount of any offset  
45 funds in excess of \$250,000 (in 2005 dollars).

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- (e) The certificate holder shall disburse the supplemental offset funds and supplemental selection and contracting funds to The Climate Trust within 30 days after notification by ODOE of the amount that the certificate holder owes.
  
- (8) For any transfer of the site certificate that the Council approves pursuant to OAR 345-027-0100:

  - (a) The new certificate holder shall enter into a MOU with The Climate Trust, as described in Condition D.15(2) unless the new certificate holder demonstrates to the satisfaction of ODOE that there has been a valid assignment of the current certificate holder's MOU to the new certificate holder. The Council may approve a new MOU without a site certificate amendment.
  - (b) Either the new certificate holder or The Climate Trust may submit to the Council for the Council's resolution any dispute between the new certificate holder and The Climate Trust concerning the terms of the MOU or any other issues related to the monetary path payment requirement. The Council's decision shall be binding on all parties.
  
- (9) The combustion turbines for the non-base load energy facility shall be fueled with pipeline-quality natural gas or distillate fuel.
  
- (10) The certificate holder shall calculate 2005 dollars using the Index set forth in Condition D.3(4)(c) (Retirement and Financial Assurance).
  
- (11) Notwithstanding any references to the carbon dioxide emissions standard and the monetary offset rate in Conditions D.15(4) through D.15(7), if the certificate holder does not begin installation of the distillate fuel modification within two years of the effective date of this site certificate pursuant to Condition D.15(4), then the appropriate carbon dioxide emissions standard and monetary offset rate in effect at the time it subsequently begins construction shall apply to the distillate fuel modification.
  
- (12) With respect to incremental capacity and fuel consumption increases for which the certificate holder has not previously complied with the carbon dioxide standard, the certificate holder shall comply substantially with Conditions D.15(1) through D.15(11) in lieu of the Council's requiring an amendment, provided that:

  - (a) The Council determines, pursuant to OAR 345-027-0050, that the certificate holder does not otherwise require an amendment, and further provided that:

1  
2 (b) The certificate holder shall meet the appropriate carbon dioxide  
3 emissions standard and monetary offset rate in effect at the time the  
4 Council makes its determination pursuant to OAR 345-027-0050.  
5

6 **Conclusion**

7 The Council finds that, subject to the foregoing conditions, the KGP meets the carbon dioxide  
8 standard for non-base load gas plants, OAR 345-024-0590.  
9

10 **E. OTHER APPLICABLE REGULATORY REQUIREMENTS:**

11 Pursuant to ORS 469.503(1)(b), the Council must determine that the proposed facility complies  
12 with all other Oregon statutes and administrative rules identified in the Project Order, as  
13 amended, as applicable to the issuance of a site certificate.  
14

15 The only statutes or regulations of an agency other than EFSC addressed in the Project Order are  
16 the Noise regulations of the Department of Environmental Quality (DEQ). As noted in the  
17 application for site certificate, construction of the facility is already complete, and installation of  
18 the distillate fuel modification will not affect wetlands or require a removal/fill permit from  
19 Department of State Lands. Other permits normally required for construction were already  
20 obtained at initial construction in 2002. A water right is not needed because the facility purchases  
21 water from a third party with an existing water right.  
22

23 **E.1.a Noise**

24 **The Requirement.**

25 The DEQ Noise Control Regulations for Industry and Commerce apply to the noise generated by  
26 the KGP. Under the DEQ noise control regulations, the KGP would be considered a “new  
27 industrial or commercial noise source” because construction and operation of the energy facility  
28 began after January 1, 1975. OAR 340-035-0015(33). The energy facility is located on a part of a  
29 site that is currently owned by Collins Products, LLC (“Collins”), a wood processing company.  
30 In the past 20 years, the Collins site has been used as a storage area for logs, wood products and  
31 wood processing machinery. Under the DEQ noise control regulations, a site is considered a  
32 “previously used industrial or commercial site” if it has been in industrial or commercial use at  
33 some time during the 20 years preceding the construction of a new noise source on the site. OAR  
34 340-035-0015(47). The noise generated by a new noise source on a previously used commercial  
35 or industrial site is regulated by OAR 340-035-0035 (1)(b)(A), commonly known as the  
36 “maximum allowable noise level rule.” Because the KGP site has been in industrial use during  
37 the past 20 years, the noise generated by the facility will be subject to the maximum allowable  
38 noise level rule.  
39

40  
41 The DEQ noise control regulation for a new industrial or commercial noise source located on a  
42 “previously used industrial or commercial site” states:  
43

44 *“No person owning or controlling a new industrial or commercial noise source*  
45 *located on a previously used industrial or commercial site shall cause or permit*



1 limiting criterion of the three. Because KE could operate the KGP at any time during a 24-hour  
2 period, the noise radiating from the proposed energy facility must comply with both nighttime  
3 and daytime noise limits. Thus, the noise radiating from the KGP equipment must not exceed an  
4 hourly L<sub>50</sub> noise level of 50 dBA at any noise sensitive receiver.

5  
6 Noise sources located at the energy facility include four combustion turbines and two generators.  
7 The equipment is configured at the site in such a manner that two combustion turbines and one  
8 generator are linked together to make up one Twin Pac with a total of two Twin Pacs for power  
9 generation at the site. Additional equipment at the site includes water injection pumps, selective  
10 catalytic reduction, and an oxidation catalyst for emissions control.

11  
12 To assess the noise generated by the KGP, KE predicted noise levels that would radiate from the  
13 equipment to the nearest residence in West Klamath and to the nearest point in the wildlife  
14 refuge south of the facility. In addition, KE conducted sound level measurements on May 25 and  
15 26, 2004, to help quantify the amount of sound radiating from the existing equipment at the  
16 facility. Based on the results of KE's analysis and measurements, the noise radiating from the  
17 KGP would meet the DEQ hourly L<sub>50</sub>, L<sub>10</sub> and L<sub>01</sub> noise criteria at the nearest residences in West  
18 Klamath and within the wildlife refuge, when considered independently and when considered in  
19 combination with noise radiating from the proposed Klamath Generating Facility ("KGF"), a  
20 proposed energy facility that would be owned by an affiliate of KE and located adjacent to the  
21 KGP. Therefore, the Council finds that KE would comply with the hourly L<sub>50</sub>, L<sub>10</sub> and L<sub>01</sub> noise  
22 limits at all residences in West Klamath. In addition, the Council finds that noise from the KGP  
23 would not adversely affect the Klamath State Wildlife Refuge.

24  
25 The KGP is already constructed and the application calls for the installation of a distillate fuel  
26 modification. However, this activity should not generate significant construction noise. The DEQ  
27 noise standard exempts noise that originates from construction activities. However, to reduce the  
28 potential for noise impacts on nearby residences during the equipment upgrades at the energy  
29 facility, KE should schedule most construction work for daylight hours when people are  
30 generally less sensitive to noise.

31  
32 To support its finding that KE complies with the DEQ noise regulations, the Council adopts the  
33 following conditions in the site certificate:

- 34  
35 (1) **During construction of the distillate fuel modifications, the certificate holder**  
36 **shall schedule most construction to occur during daylight hours.**  
37 **Construction work at night shall be limited to work inside buildings and**  
38 **other structures when possible.**  
39  
40 (2) **During construction of the distillate fuel modifications, the certificate holder**  
41 **shall require contractors to equip all combustion engine-powered equipment**  
42 **with working exhaust mufflers.**  
43

- 1           **(3) During construction of the distillate fuel modifications, the certificate holder**  
2           **shall establish a complaint response system at the construction manager’s**  
3           **office to address noise complaints.**  
4

5           **Conclusion**

6           The Council finds that, subject to the conditions stated in this order, the KGP meets the DEQ  
7           noise standard, OAR 340-035-0035(1)(b)(B)(i).  
8  
9

10          **E.1.b. Public Health and Safety**

11          **The Requirement.** Under ORS 469.310, the Council is charged with ensuring that the “siting,  
12          construction and operation of energy facilities shall be accomplished in a manner consistent with  
13          protection of the public health and safety\*\*\*.” State law further provides that “the site certificate  
14          shall contain conditions for the protection of the public health and safety\*\*\*.” ORS 469.401(2).  
15

16          **Discussion**

17          Aspects of public health and safety are addressed throughout this Order in respect to Council  
18          standards and other state and local requirements. Issues specifically addressed in this section of  
19          the Order typically include: (1) the potential for cooling tower fogging and/or icing to affect  
20          driving conditions on public roads; (2) the potential for public health hazards from the use of  
21          wastewater for project cooling; (3) the potential health concerns regarding electric and magnetic  
22          fields (EMF); and (4) the certificate holder’s coordination with the Oregon Public Utility  
23          Commission (“PUC”) to ensure that the certificate holder designs and builds electrical  
24          transmission lines and natural gas pipelines in accordance with the appropriate codes and  
25          standards.  
26

27          The KGP does not include a cooling tower and does not use wastewater for project cooling.  
28          Therefore, the issues of cooling tower fogging and icing and hazards from use of wastewater are  
29          not relevant to this Order.  
30

31          The KGP includes interconnections with existing pipelines and transmission facilities that are  
32          immediately adjacent to the facility site. Because KE would not build any new electric  
33          transmission lines or natural gas pipelines, the issue of coordination with the PUC is not relevant  
34          to this Order.  
35

36          Electric and Magnetic Fields.

37          The KGP connects to PacifiCorp’s 500-kV Captain Jack to Meridian transmission line at the  
38          KCP switchyard. The KCP switchyard is located adjacent to the facility site. The minimum  
39          distance from the centerline of the interconnection to an area outside of the KCP and KGP  
40          boundaries is 30 feet. There are no occupied structures within 200 feet of centerline of the  
41          interconnection.  
42

43          Electrical appliances and facilities create electric and magnetic fields. KE used the Corona and  
44          Field Effects Program produced by the Bonneville Power Administration to calculate the electric  
45          and magnetic field strengths at various distances from the centerline of the interconnection.

1 The maximum electric field was calculated to be 3.48 kV per meter and to occur within 30 feet  
2 of the centerline. This is less than the Council standard of 9 kV per meter.

3  
4 The maximum magnetic field was calculated to be 10.42 milligauss (mG) and to occur at the  
5 centerline. The Council does not have a standard for magnetic field strength, but has adopted a  
6 policy of “prudent avoidance” under which low cost measures are to be employed to minimize  
7 exposure of the public to magnetic fields. Confining the interconnection to the KCP and KGP  
8 sites is consistent with that policy.

9  
10 Because the maximum electric field strength is less than the limit set by the Council and because  
11 the electrical interconnection is confined to the KCP and KGP sites, the proposed  
12 interconnection is consistent with protecting public health and safety.

13  
14 To find that KE complies with ORS 469.310, the Council adopts the following standard  
15 conditions in the site certificate:

16  
17  
18 **(1) The certificate holder shall operate the transmission line in continued**  
19 **accordance with the requirements of the National Electrical Safety Code.**

20  
21 **(2) The certificate holder shall take reasonable steps to reduce or manage**  
22 **exposure to electromagnetic fields (EMF), consistent with Council findings**  
23 **presented in the “Report of EMF Committee to the Energy Facility Siting**  
24 **Council,” March 30, 1993, and any subsequent Council findings. Effective**  
25 **on the date of this site certificate, the certificate holder shall provide**  
26 **information to the public, upon request, about EMF levels associated with**  
27 **the energy facility and related transmission lines.**

## 28 29 **Summary**

30 The Council finds that the proposed electric transmission line is consistent with protecting public  
31 health and safety with regard to electric and magnetic fields.

## 32 33 **Conclusion**

34 The Council finds, subject to the conditions set forth in this Order, that the siting, construction  
35 and operation of the facility is consistent with protection of the public health and safety and that  
36 KE complies with ORS 469.310.

## 37 38 **E.2. REQUIREMENTS THAT ARE NOT UNDER COUNCIL JURISDICTION**

### 39 **E.2.a. Federally-Delegated Programs**

40 The Council does not have jurisdiction for determining compliance with those statutes and rules  
41 for which the permitting decision has been delegated by the federal government to a state agency  
42 other than the Council. However, pursuant to ORS 469.505(1):

43  
44 “[a]ny permit application for which the permitting decision has been delegated by  
45 the federal government to a state agency other than the Energy Facility Siting

1 Council shall be reviewed, whenever feasible, simultaneously with the Council's  
2 review of the site certificate application. Any hearings required on such permit  
3 applications shall be consolidated, whenever feasible, with hearings under ORS  
4 469.300 to 469.563 and 469.590 to 469.619.”  
5

6 The Council concludes that the following programs are not within the its jurisdiction because  
7 they are federally delegated programs:  
8

- 9 (1) The Air Contaminant Discharge Permit (“ACDP”) program administered by  
10 DEQ, which includes the federally delegated new source review requirements of  
11 the Clean Air Act and the Prevention of Significant Deterioration program. This  
12 authority is in ORS Chapter 468A; OAR Chapter 340, Divisions 20, 21, 22, 25,  
13 and 31.  
14
- 15 (2) The National Pollutant Discharge Elimination System permit program  
16 administered by DEQ - Water Quality Division, which regulates and permits  
17 storm water runoff and discharges to public waters; and  
18
- 19 (3) The program regulating the design, operation, monitoring and removal of  
20 underground storage tanks that contain certain toxic and hazardous materials,  
21 including petroleum products, administered by DEQ, under ORS Chapter 466;  
22 OAR 340, Division 150.  
23

24 **E.2.b. Requirements That Do Not Relate to Siting**

25 Under ORS 469.401(4), the Council does not have jurisdiction for determining compliance with  
26 state and local government programs that address design-specific construction or operating  
27 standards and practices that do not relate to siting. However, the Council may rely on the  
28 determinations of compliance and the conditions in the permits issued by these state agencies and  
29 local governments in making its determinations as to whether the standards and requirements  
30 under the Council's jurisdiction are met.  
31

32 The Council concludes that, for the proposed facility, the following state and local government  
33 programs are not within the Council’s jurisdiction because the programs address design-specific  
34 construction or operating standards and practices not related to siting:  
35

- 36 (1) The Oil Spill Contingency and Prevention Plan program, administered by DEQ  
37 Water Quality Division under ORS 468B and OAR Chapter 340, Division 47,  
38 which regulates the transport, storage, handling, and spill control and prevention  
39 of petroleum products;  
40
- 41 (2) Regulations of building, structure design and construction practices by the Oregon  
42 Building Codes Division under ORS Chapters 447, 455, 460, 476, 479, and 480;  
43 OAR Chapter 918, Divisions 225, 290, 301, 302, 400, 440, 460, 750, 770, and  
44 780;  
45

- 1 (3) Various programs addressing fire protection and fire safety and the storage, use,  
2 handling, and emergency response for hazardous materials and community right  
3 to know laws for hazardous materials, administered by the Oregon State Fire  
4 Marshal's Office, under ORS Chapters 453, 476, and 480; OAR Chapter 837,  
5 Divisions 40 and 90;  
6
- 7 (4) The program addressing design and safety standards for natural gas pipelines and  
8 electric transmission lines administered by the Oregon Public Utilities  
9 Commission, Safety Section under ORS Chapter 757; OAR Chapter 860, Division  
10 24;  
11
- 12 (5) Regulations on the size and weight of truck loads on state and federal highways  
13 administered by the Oregon Department of Transportation under ORS Chapter  
14 818; OAR Chapter 743, Division 82;  
15
- 16 (6) The program regulating the possession, use and transfer of radioactive materials  
17 administered by the Oregon State Health Division (OSHD) under ORS Chapter  
18 453; OAR Chapter 333, Divisions 100-119;  
19
- 20 (7) Regulations of domestic water supply systems regarding potability administered  
21 by OSHD under ORS Chapter 448;  
22
- 23 (8) Permits required from ODOT to place a structure within, or to cross a state  
24 highway right-of-way.  
25
- 26 (9) Building permits required and administered by Klamath County.  
27
- 28 (10) Federal Aviation Administration Form 7460-1, Notice of Proposed Construction  
29 or Alternation, concerning the impact of the height of the structure on navigable  
30 airspace.  
31

32 **F. CONDITIONS REQUIRED OR RECOMMENDED BY COUNCIL RULES**

33 The following conditions are specifically required or recommended by OAR 345, Divisions 24,  
34 26 and 27, to address project and site-specific conditions and requirements. These conditions  
35 shall apply and should be read together with the additional specific conditions recommended in  
36 Sections D and E of this Order to ensure compliance with the siting standards of OAR 345,  
37 Divisions 22, 23 and 24, and to protect the public health and safety.  
38

39 In addition to all other conditions stated in this order, the certificate holder is subject to all  
40 conditions and requirements contained in the rules of the Council and local ordinances and state  
41 law in effect on the date the site certificate is executed, except: (1) that upon a clear showing of a  
42 significant threat to the public health, safety or the environment that requires application of  
43 later-adopted laws or rules, the Council may require compliance with such later-adopted laws or  
44 rules; and, (2) that the site certificate shall provide for facility compliance with applicable state

1 and federal laws adopted in the future to the extent that such compliance is required under the  
2 respective state agency statutes and rules. ORS 469.401(2).

3  
4 The Council recognizes that many specific tasks related to the design, construction, operation  
5 and retirement of the facility would be undertaken by the certificate holder's agents or  
6 contractors. However, the certificate holder shall be responsible for compliance with all  
7 provisions of the site certificate.

8  
9 **F.1. MANDATORY CONDITIONS IN SITE CERTIFICATES**

10 OAR 345-027-0020 details mandatory conditions that the Council must impose in every site  
11 certificate. This order imposes several of the mandatory conditions within the discussion of  
12 specific conditions to which they relate. However, some mandatory conditions are not otherwise  
13 addressed in this order. Therefore, the Council adopts the following conditions in the site  
14 certificate.

- 15  
16 (1) **The Council shall not change the conditions of the site certificate except in**  
17 **accordance with the applicable provisions of OAR 345, Division 27, in effect**  
18 **on the date of the Council action.**
- 19  
20 (2) **Within 30 days after the effective date of the site certificate, the certificate**  
21 **holder shall submit to ODOE a legal description of the site, except as**  
22 **provided in OAR 345-027-0023(6).**
- 23  
24 (3) **The certificate holder shall design, construct, operate, and retire the facility:**
- 25  
26 (a) **Substantially as described in the site certificate;**
- 27  
28 (b) **In compliance with the requirements of ORS Chapter 469, applicable**  
29 **Council rules, and applicable state and local laws, rules and**  
30 **ordinances in effect on the effective date of the site certificate; and**
- 31  
32 (c) **In compliance with all applicable permit requirements of other state**  
33 **agencies.**
- 34  
35 (4) **If the certificate holder elects to install the distillate fuel modification, it shall**  
36 **report promptly to ODOE the date on which it began construction of the**  
37 **modification, as defined in OAR 345-001-0010(11). In reporting the**  
38 **beginning of construction, the certificate holder shall describe all work**  
39 **performed on the site before beginning construction, including work**  
40 **performed before the Council issued the site certificate, and shall state the**  
41 **cost of that work, all as set forth under OAR 345-026-0048.**
- 42  
43 (5) **The certificate holder shall not begin construction, as defined in OAR 345-**  
44 **001-0010, or create a clearing on any part of the site until the certificate**  
45 **holder has construction rights on all parts of the site. For the purpose of this**

1                    **condition, “construction rights” means the legal right to engage in**  
2                    **construction activities.**

3  
4    **F.2    OTHER CONDITIONS BY RULE**

5    This section contains recommended conditions based on the Council’s rules. In some cases, the  
6    rules propose conditions; in other cases the conditions make explicit certain obligations of the  
7    certificate holder.

8  
9    **Incident Reports.** Pursuant to OAR 345-027-0023(2), the Councils adopt the following  
10   condition in the site certificate:

- 11  
12            (1)    **With respect to the related or supporting natural gas pipeline, the certificate**  
13            **holder shall submit to ODOE copies of all incident reports as required under**  
14            **49 CFR §191.15 that involve the pipeline.**

15  
16   **Monitoring Programs.** Pursuant to OAR 345-027-0028, the Council includes the following  
17   condition for the site certificate:

- 18  
19            (2)    **If the certificate holder becomes aware of a significant environmental change**  
20            **or impact attributable to the facility, the certificate holder shall, as soon as**  
21            **possible, submit a written report to ODOE describing the impact on the**  
22            **facility and its ability to comply with any affected site certificate conditions.**

23  
24   **Compliance Plans.** Pursuant to OAR 345-026-0048, the Council adopts the following condition  
25   in the site certificate:

- 26  
27            (3)    **Within 30 days of the effective date of the site certificate, the certificate**  
28            **holder shall implement a plan that verifies compliance with all site certificate**  
29            **terms and conditions and applicable statutes and rules and shall submit a**  
30            **copy of the plan to ODOE. The certificate holder shall document the**  
31            **compliance plan and maintain it for inspection by ODOE or the Council.**

32  
33   **Reporting.** Pursuant to OAR 345-026-0080, the Council adopts the following conditions in the  
34   site certificate:

- 35  
36            (4)    **The certificate holder shall, within 120 days after the end of each calendar**  
37            **year after the effective date of the site certificate, submit an annual report to**  
38            **the Council that addresses the subjects listed in OAR 345-026-0080(2). The**  
39            **Council secretary and the certificate holder may, by mutual agreement,**  
40            **change the reporting date.**  
41  
42            (5)    **To the extent that information required by OAR 345-026-0080(2) is**  
43            **contained in reports the certificate holder submits to other state, federal or**  
44            **local agencies, the certificate holder may submit excerpts from such other**

1 reports. The Council reserves the right to request full copies of such  
2 excerpted reports.

3  
4 **Schedule Modification.** Pursuant to OAR 345-026-0100 the Council adopts the following  
5 condition in the site certificate:

- 6  
7 (6) The certificate holder shall promptly notify ODOE of any changes in major  
8 milestones for construction, decommissioning, operation, or retirement  
9 schedules. Major milestones are those identified by the certificate holder in  
10 its construction, retirement or decommissioning plans.

11  
12 **Correspondence with Other State or Federal Agencies.** Pursuant to OAR 345-026-0105, the  
13 Council adopts the following condition in the site certificate:

- 14  
15 (7) The certificate holder and ODOE shall exchange copies of all correspondence  
16 or summaries of correspondence related to compliance with statutes, rules  
17 and local ordinances on which the Council determined compliance, except  
18 for material withheld from public disclosure under state or federal law or  
19 under Council rules. The certificate holder may submit abstracts of reports  
20 in place of full reports; however, the certificate holder shall provide full  
21 copies of abstracted reports and any summarized correspondence at the  
22 request of ODOE.

23  
24 **Notification of Incidents.** Pursuant to OAR 345-026-0170, the Council adopts the following  
25 condition in the site certificate:

- 26  
27 (8) The certificate holder shall notify ODOE within 72 hours of any occurrence  
28 involving the facility if:  
29  
30 (a) There is an attempt by anyone to interfere with its safe operation;  
31  
32 (b) A natural event such as an earthquake, flood, tsunami or tornado, or  
33 a human-caused event such as a fire or explosion, affects or threatens  
34 to affect the public health and safety or the environment; or,  
35  
36 (c) There is any fatal injury at the facility.

37  
38 **G. GENERAL CONDITIONS**

39 The following general conditions are based on the representations by KE in the ASC that are not  
40 otherwise addressed or relate to procedural matters not otherwise addressed in proposed  
41 conditions. The Council adopts the following conditions in the site certificate:

- 42  
43 (1) The general arrangement of the Klamath Generation Peakers shall be  
44 substantially as shown in the ASC.

1 **Successors and Assigns.** Ownership of the site certificate or facility may change over time. The  
2 Council adopts the following condition:

- 3  
4 (2) **Before any transfer of ownership of the facility or ownership of the**  
5 **certificate holder, the certificate holder shall inform ODOE of the proposed**  
6 **new owners. The requirements of OAR 345-027-0100 shall apply to any**  
7 **transfer of ownership that requires a transfer of the site certificate.**  
8

9 **Severability and Construction.** The Council adopts the following condition:

- 10  
11 (3) **If any provision of this site certificate is declared by a court to be illegal or in**  
12 **conflict with any law, the validity of the remaining terms and conditions shall**  
13 **not be affected, and the rights and obligations of the parties shall be**  
14 **construed and enforced as if the site certificate did not contain the particular**  
15 **provision held to be invalid. In the event of a conflict between the conditions**  
16 **contained in the site certificate and the Council's Order, the conditions**  
17 **contained in this site certificate shall control.**  
18

19 **Governing Law and Forum.** The Council adopt the following conditions:

- 20  
21 (4) **The laws of the State of Oregon shall govern this site certificate.**  
22  
23 (5) **Any litigation or arbitration arising out of this agreement shall be conducted**  
24 **in an appropriate forum in Oregon.**  
25

26 **H. GENERAL CONCLUSION**

27 The Council finds:

- 28  
29 (a) The facility complies with the standards adopted by the Council pursuant to ORS  
30 469.501;  
31 (b) The energy facility is a non-base load gas plant that complies with the applicable  
32 carbon dioxide emissions standard, OAR 345-024-0550;  
33 (c) Except for those statutes and rules for which the decision on compliance has been  
34 delegated by the federal government to a state agency other than the Council, the  
35 facility complies with all other Oregon statutes and administrative rules identified  
36 in the Project Order, as amended, as applicable to the issuance of a site certificate  
37 for the proposed facility adopted by the Council or enacted by statute; and,  
38 (d) The facility complies with the statewide planning goals adopted by the Land  
39 Conservation and Development Commission, pursuant to ORS 469.503(4).  
40

41 The Council concludes that KE meets these requirements and will a site certificate for the  
42 Klamath Generation Peakers.  
43

1 **I. ORDER**

2 Based on the above findings of fact, discussions and conclusions of law, the Council has  
3 determined that it shall approve the Application for a Site Certificate for the Klamath Generation  
4 Peakers and that the chairperson of the Council shall execute the site certificate in the form of the  
5 “Site Certificate for the Klamath Generation Peakers.”  
6  
7  
8

9 Issued on \_\_\_\_\_, 2005  
10  
11  
12  
13

14 By: \_\_\_\_\_.  
15 Hans Neukomm, Chair  
16 Energy Facility Siting Council  
17  
18

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**ATTACHMENT A**  
**MEMORANDUM OF UNDERSTANDING**  
**MONETARY PATH PAYMENT REQUIREMENT**

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**FINAL ORDER  
ATTACHMENT A**

**KLAMATH GENERATION PEAKERS**

**MEMORANDUM OF UNDERSTANDING  
THE CLIMATE TRUST AND KLAMATH ENERGY, LLC  
CARBON DIOXIDE STANDARD IMPLEMENTATION  
MONETARY PATH PAYMENT REQUIREMENT**

THIS MEMORANDUM OF UNDERSTANDING (this “Agreement”) is entered into as of the \_\_\_ day of \_\_\_\_\_, 2005, by and between Klamath Energy, LLC, (the “Project Owner”) in its capacity as owner of the Klamath Generation Peakers, and The Climate Trust (“The Trust”).

RECITALS

1. The Project Owner operates a natural gas-fired, simple cycle, combustion turbine, non-base load, energy generating facility located on Collins’ Products property about 4.5 miles southwest of the City of Klamath Falls, Oregon. The Oregon Energy Facility Siting Council (the “Council”) granted the Site Certificate for the Klamath Generation Peakers (the “Site Certificate”), effective \_\_\_\_\_, 2005. The Project Owner has an option to modify the facility to burn both natural gas and distillate fuel. The modified, dual fuel-fired facility would have a net electric power output of about 93.6 MW when fired with natural gas and a net electric power output of about 92.2 MW when fired with distillate fuel. The facility, together with its ancillary systems, shall be referred to herein as the “Project.” The Project Owner previously operated the facility under and exemption as a temporary energy facility pursuant to ORS 469.320(2)(g) and provided a monetary path payment under a separate Agreement.
2. The State of Oregon requires energy facilities to meet a carbon dioxide emissions standard as described in OAR 345-024-0550 through -0710. This is a non-base load power plant, as described in OAR 345-024-0590.
3. As a condition to the siting of the Project, the Project Owner is required to provide offset funds (“Offset Funds”) and selection and contracting funds (“Selection and Contracting Funds”) to The Trust. In accordance with Section D.15 of the Site Certificate, the Project Owner shall pay to The Trust one Monetary Path Payment within 30 days after the effective date of the Site Certificate. Further, provided the Project Owner proceeds with installation of a distillate fuel modification, it shall pay a second Monetary Path Payment before beginning construction of any element of the distillate fuel modification. As described in Section D.15 of the Site Certificate, the Project Owner may also be required to make a Year One True-Up Non-Base Load Monetary Path Payment based on Year One Tests and Periodic Five-Year Monetary Path Payments based on actual hours of operation. Under this agreement, the monetary path payments shall be disbursed: (1) to

1 The Trust as specified in the Site Certificate, and (2) by The Trust as specified in OAR  
2 345-024-0710.

3  
4 4. The Trust is a qualified organization within the meaning of OAR 345-001-0010.

5  
6 NOW, THEREFORE, in consideration of the premises and mutual promises herein contained,  
7 the parties hereto agree as follows:

8  
9 **1. Initial Non-Base Load Monetary Path Payments**

10 1.1 The Site Certificate requires that all Monetary Path Payments be paid to The Trust in  
11 2005 dollars that are adjusted for inflation to the date of disbursement using the U.S.  
12 Gross Domestic Product Implicit Price Deflator, Chain-Weight, published in the then  
13 current "Oregon Economic and Revenue Forecast" (the "Index").

14  
15 1.2 The Oregon Department of Energy (the "Department") has used the monetary path  
16 payment requirement calculations described in the Site Certificate to calculate the Initial  
17 Non-Base Load Monetary Path Payment amount applicable to the Project when it is  
18 using natural gas fuel. The Trust acknowledges that the calculation of the Initial Non-  
19 Base Load Monetary Path Payment amount in 2005 dollars presented in Appendix A  
20 when the facility is using natural gas fuel is correct and consistent with the Site  
21 Certificate. The Project Owner and The Trust acknowledge that the Monetary Path  
22 Payments may be adjusted to the date of disbursement to maintain their value in 2005  
23 dollars, adjusted for inflation, as provided by the Site Certificate.

24  
25 1.3 Based on the calculations of the Initial Non-Base Load Monetary Path Payment  
26 amount set forth in Appendix A when the facility is using natural gas fuel, the  
27 Project Owner shall pay to The Trust \$\_\_\_\_\_ in Offset Funds in 2005  
28 dollars within 30 days of execution of this Agreement upon timely notification by  
29 the Department of the amount it owes. The Site Certificate requires that the  
30 amount of the Offset Funds portion of the Initial Non-Base Load Monetary Path  
31 Payment be adjusted for inflation to the date of disbursement to The Trust using  
32 the Index. Pursuant to conditions in the Site Certificate, this amount may be zero.

33  
34 1.4 Based on the calculations of the Initial Non-Base Load Monetary Path Payment  
35 amount when the facility is using natural gas fuel, the Project Owner shall pay to  
36 The Trust Inflation-Adjusted Selection and Contracting Funds in the amount of  
37 \$\_\_\_\_\_ within 30 days of the execution of this Agreement upon timely  
38 notification by the Department of the amount it owes. The Site Certificate  
39 requires that the amount of the Selection and Contracting Funds portion of the  
40 Initial Non-Base Load Monetary Path Payment be adjusted for inflation to the  
41 date of disbursement to The Trust using the Index. Pursuant to conditions in the  
42 Site Certificate, this amount may be zero.

43  
44 1.5 Before beginning construction of any element of the distillate fuel modification,  
45 the Project Owner shall pay to The Trust Offset Funds and Selection and

1 Contracting Funds in the amounts calculated by the Department (in 2005 dollars)  
2 in accordance with Condition D.15(4) of the Site Certificate or as the calculation  
3 may be modified by Condition D.15(11).  
4

5 **2. Year One True-Up Non-Base Load Monetary Path Payment**

6 2.1 Within the first 12 months after installation of the distillate fuel modification, the  
7 Project Owner shall conduct Year One Tests as outlined under Condition D.15(5)  
8 of the Site Certificate. Within two months after completing the Year One Tests,  
9 the Project Owner must provide to the Council reports of the results of the Year  
10 One Tests.  
11

12 2.2 Within 30 days after filing its Year One Test reports with the Council pursuant to  
13 Condition D.15(5) of the Site Certificate, the Department shall recalculate the  
14 initial Monetary Path Payment Requirement (the “Year One True-Up Non-Base  
15 Load Monetary Path Payment”).  
16

17 2.3 The amount of Year One True-Up Non-Base Load Monetary Path Payment shall  
18 be adjusted for 2005 dollars to the Disbursement Date using the Index.  
19

20 2.4 If the Year One True-Up Non-Base Load Monetary Path Payment exceeds the  
21 sum of monetary path payment requirements calculated by the Department in  
22 accordance with Conditions D.15(1)(d) and D.15(4)(c) of the Site Certificate, the  
23 Project Owner shall pay the excess amount (in 2005 dollars) directly to The Trust  
24 within 30 days after its notification by the Department of the amount that the  
25 Project Owner owes.  
26

27 2.5 In no case shall the calculations of this Section 2 result in a refund to the Project  
28 Owner of any amount already paid to The Trust.  
29

30 2.6 Calculations in Section 2 may be modified by Condition D.15(11).  
31

32 **3. Periodic Five-Year Monetary Path Payments**

33 3.1 Each five years after the effective date of the Site Certificate, the Project Owner  
34 shall report to the Department the annual average hours of operation with natural  
35 gas and the annual average hours of operation with distillate fuel during that five-  
36 year period, as required by the Site Certificate.  
37

38 3.2 If the Department determines that there are excess emissions for the five-year  
39 report period, the Department will specify the amount of Offset Funds and  
40 Selection and Contracting Funds that the Project Owner shall pay to The Trust.  
41 Each Periodic Five-Year Monetary Path Payment, if any, shall be paid in 2005  
42 dollars, adjusted for inflation to the Disbursement Date using the Index.  
43

44 3.3 For any Periodic Five-Year Monetary Path Payment, the amount of Selection and  
45 Contracting Funds shall equal 20 percent of the value of any Offset Funds up to

1 the first \$250,000 (in 2005 dollars) and 4.286 percent of the value of any Offset  
2 Funds in excess of \$250,000 (in 2005 dollars).

3  
4 3.4 The Project Owner shall disburse to The Trust the specified amount of any  
5 Periodic Five-Year Monetary Path Payment within 30 days after its notification  
6 by the Department of the amount that the Project Owner owes.

7  
8 3.5 Calculation of the Index year in Section 3 may be modified by Condition  
9 D.15(11).

10  
11 **4. Undertaking by The Trust**

12 4.1 The Trust shall use the Initial Non-Base Load Monetary Path Payments as well as  
13 any Year One True-Up Non-Base Load Monetary Path Payment and/or Periodic  
14 Five-Year Monetary Path Payments in accordance with OAR 345-024-0710.

15  
16 4.2 With respect to the Offset Funds portions of any Initial Non-Base Load Monetary  
17 Path Payment, Year One Non-Base Load Monetary Path Payment, and/or Periodic  
18 Five-Year Monetary Path Payments, The Trust shall spend at least 80 percent of  
19 the Offset Funds for contracts to implement offsets, and may use up to 20 percent  
20 of the Offset Funds for monitoring, evaluation, administration, and enforcement  
21 of contracts to implement offsets. The Trust shall spend Offset Funds solely for  
22 contracts to implement offsets or for monitoring, evaluation, administration, and  
23 enforcement of contracts to implement offsets.

24  
25 4.3 The Selection and Contracting Funds portions of any Initial Non-Base Load  
26 Monetary Path Payment, Year One Non-Base Load Monetary Path Payment,  
27 and/or Periodic Five-Year Monetary Path Payments shall compensate The Trust  
28 for its costs of selecting offsets and contracting for the implementation of offsets  
29 and administrative costs related to operating The Trust as a qualified organization.

30  
31 4.4 The Trust shall use its best efforts to remain a qualified organization, as defined in  
32 OAR 345-001-0010, until The Trust has used all funds received from the Project  
33 Owner.

34  
35 **5. Limited Obligation of Project Owner.**

36 The Trust acknowledges, pursuant to OAR 345-024-0710(3), that the Project Owner and the  
37 Project shall have no obligation with regard to offsets for the Project other than to make available  
38 to The Trust the total amount of the monetary path payments.  
39

1 **6. Limited Participation by Project Owner in The Trust Decision Making.**

2 The Project Owner shall appoint one nonvoting member to the Board of Directors of The Trust  
3 for a term lasting until The Trust has completed the contracting for the offset funds provided by  
4 the Project Owner if the Project Owner provides offset funds to The Trust. The Project Owner  
5 shall have no approval rights over The Trust's offset contracts, disbursement of Offset Funds, or  
6 other operations of The Trust.  
7

8 **7. Project Owner Agreement to Indemnify and Hold The Trust Harmless.**

9 The Project Owner agrees to defend, hold harmless and indemnify The Trust from and against  
10 any and all claims, costs, liabilities, and expenses of any nature whatsoever, including reasonable  
11 attorneys' fees, resulting from or arising out of any failure by the Project Owner to make any  
12 payments required by this Agreement; PROVIDED, that the maximum amount of the Project  
13 Owner's liability to The Trust for claims, costs, liabilities and expenses, including attorneys' fees,  
14 arising out of the failure to make a payment required by this Agreement in a timely manner shall  
15 not exceed twice the differential between the amount payable to The Trust on a particular date  
16 and the amount actually paid or made available to The Trust on or before that date. FURTHER  
17 PROVIDED, The Trust must make reasonable efforts to mitigate any losses, liabilities or  
18 expenses for which it seeks indemnification from the Project Owner.  
19

20 **8. General Provisions.**

21 8.1 Disputes. Either the Project Owner or The Trust may submit to the Council for the  
22 Council's resolution any dispute between the Project Owner and The Trust  
23 concerning the terms of this Agreement or any other issues related to the  
24 monetary path payment requirement. The Council's decision shall be binding on  
25 all parties.  
26

27 8.2 Governing Law: This Agreement shall be governed by and construed in  
28 accordance with the laws of the State of Oregon. Any ambiguity that may arise  
29 under this Agreement shall be given a fair and reasonable construction in  
30 accordance with the intention of the parties and without regard to which party  
31 caused or is deemed to have caused such ambiguity to exist.  
32

33 8.3 Amendments and Waivers: This Agreement may not be modified, supplemented,  
34 altered or amended, nor any provision hereof or rights hereunder be waived,  
35 except by an instrument in writing designated as an amendment of or waiver  
36 under this Agreement and signed by both parties. The waiver of any particular  
37 breach or default hereunder shall not constitute a waiver of any other breach or  
38 default. Failure or delay by any party to enforce any provision of this Agreement  
39 shall not in any way be construed as a waiver of such provision, nor shall it  
40 prevent such party from thereafter enforcing each and every provision of this  
41 Agreement.  
42

43 8.4 Entire Agreement: This Agreement constitutes the entire agreement between the  
44 parties hereto as to the matters set forth herein, and all prior proposals,

1 commitments, understandings and agreements, whether oral or in writing, as to  
2 such matters are superseded by this Agreement.

3  
4 8.5 Assignment: The rights of the Project Owner under this Agreement may be  
5 assumed by any entity that acquires an ownership interest in the Project. Upon  
6 such assumption and upon written acknowledgment by the entity of its  
7 responsibilities under this Agreement, such entity shall be deemed to be a party to  
8 this Agreement. The Trust may not assign this Agreement without the prior  
9 consent of the Project Owner and Council; provided that, if the proposed assignee  
10 is a “qualified organization” as defined in OAR 345-001-0010, the Project Owner  
11 shall not unreasonably withhold such consent.

12  
13 8.6 Third-Party Beneficiaries: Nothing in this Agreement, whether express or  
14 implied, is intended to confer any rights or remedies on any persons other than the  
15 parties hereto and their respective authorized successors and permitted assigns.

16  
17 IN WITNESS WHEREOF, the parties have caused this Memorandum of Understanding to be  
18 executed by their respective duly authorized representatives, as of the day and year first above  
19 written.

20  
21 KLAMATH ENERGY, LLC

THE CLIMATE TRUST

22  
23 By: \_\_\_\_\_

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

24  
25 Name: \_\_\_\_\_

Name: \_\_\_\_\_

26  
27 Title: \_\_\_\_\_

Title: \_\_\_\_\_

28  
29 Date: \_\_\_\_\_

Date: \_\_\_\_\_

30  
31  
32 APPENDIX A: CALCULATION OF INITIAL NON-BASE LOAD MONETARY PATH PAYMENT REQUIRED  
33 [NOT INCLUDED IN SITE CERTIFICATE]

34  
35 **NOTICE OF THE RIGHT TO APPEAL**

36  
37 You have the right to appeal this order to the Oregon Supreme Court pursuant to ORS 469.403.  
38 To appeal you must file a petition for judicial review with the Supreme Court within 60 days  
39 from the day this order was served on you. If this order was personally delivered to you, the date  
40 of service is the date you received this order. If this order was mailed to you, the date of service  
41 is the date it was mailed, not the day you received it. If you do not file a petition for judicial  
42 review within the 60-day time period, you lose your right to appeal.