BEFORE THE ENERGY FACILITY SITING COUNCIL
OF THE
STATE OF OREGON

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

) ) FINAL ORDER

Issued by

Oregon Energy Facility
Siting Council

September 27, 2005
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MEMORANDUM OF UNDERSTANDING: MONETARY PATH PAYMENT REQUIREMENT
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<td>2</td>
<td>ASC</td>
<td>Application for Site Certificate</td>
</tr>
<tr>
<td>3</td>
<td>Btu</td>
<td>British thermal units</td>
</tr>
<tr>
<td>4</td>
<td>Btu/kWh</td>
<td>British thermal units per kilowatt hour</td>
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<td>Council</td>
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<tr>
<td>6</td>
<td>CT</td>
<td>Combustion Turbine</td>
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<td>EPC</td>
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<tr>
<td>13</td>
<td>gpd</td>
<td>gallons per day</td>
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<td>14</td>
<td>gpm</td>
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<tr>
<td>15</td>
<td>HHV</td>
<td>higher heating value</td>
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<td>MW</td>
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A. INTRODUCTION
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").

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

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

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

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

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

- "Energy facility" means the proposed electric power generating plant. The term "energy facility" does not include any related or supporting facility. If a reference is intended to apply to both the energy facility and its related or supporting facilities, the term "facility" is used.

- "Energy facility site" means all land upon which an energy facility is located or proposed to be located.

- "Facility" means an energy facility, together with any related or supporting facilities.

- "Related or supporting facility" means any structure proposed to be built in connection with the energy facility, including but not limited to pipeline valves, regulators, compressors, vaults, enclosures, switching stations, substations, associated equipment, associated transmission lines, reservoirs, intake structures, road and rail access, pipelines, barge basins, office or public buildings, construction laydown, staging and parking areas, and commercial and industrial structures or other structures proposed by the applicant to be constructed or
substantially modified in connection with the construction or operation of the
energy facility. “Related or supporting facility” does not include any structure
existing prior to construction of the energy facility, unless such structure must be
significantly modified solely to serve the energy facility.

- “Related or supporting facilities site” means all land upon which related or
  supporting facilities for an energy facility are located or proposed to be located,
  including any linear rights-of-way.

- “Site” means all land upon which a facility is located or proposed to be located.

B. PROCEDURAL HISTORY

B.1 COMMENTS ON APPLICATION

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

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

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

B.2 PUBLIC HEARING ON DRAFT PROPOSED ORDER

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

Two members of the public appeared at the hearing and entered comments. The City of Klamath
Falls made comments regarding the city’s ability to collect property taxes on the facility. The
Klamath County Board of Commissioners commented that the money provided to the Oregon
Climate Trust towards carbon dioxide mitigation should be spent on offset projects located in
Klamath County. Neither issue is within the Council’s jurisdiction.
B.3 Council Review of Draft Proposed Order

B.4 Proposed Order and Contested Case
On July 20, 2005, the Department issued its Proposed Order recommending approval of the facility with conditions. Because no agency or member of the public had raised any issues regarding the Draft Proposed Order, the Proposed Order contained no substantive changes.

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

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

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

C. General Findings
C.1.a. Description of the Proposed Facility
C.1.a. The Energy Facility

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

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

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

KE proposes to convert from a single fuel (natural gas) to dual fuel (natural gas and distillate) firing capability. This modification would provide the facility with increased flexibility to meet electricity demand. The modifications associated with the dual fuel conversion include a one-time change-out of each of the CT's combustors, along with installation of a 250,000-gallon
distillate storage tank, containment area, transfer pumps, and piping. The dual fuel capability
modifications would not be initiated until after issuance of a site certificate for the facility.

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

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

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

C.1.b. Related or Supporting Facilities
The facility includes the following related or supporting facilities:

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

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

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

C.1.c. Finding Regarding Beginning and Completion of Construction
The site certificate must contain conditions for the time for completion of construction. ORS
469.401(2). Council rules require that:

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

As noted above, the KGP facility is unique in that it was constructed under a temporary
exemption in 2002, and has operated since May 17, 2002. The application for site certificate
describes a proposed modification to add the capability of operating on distillate fuel. However,
the facility can operate on natural gas alone, and the certificate holder need not add distillate fuel
capability to comply with any applicable regulation or standard. Therefore, the Council finds
that the certificate holder completed construction and commenced commercial operation on May
17, 2004, and has therefore satisfied the mandatory condition of OAR 345-027-0020(4).

C.2. LOCATION OF THE PROPOSED FACILITY
C.2.a. The Energy Facility Site
The energy facility is located on a 5-acre parcel of land located about 4.5 miles southwest of the
City of Klamath Falls, Oregon, in Section 18, Township 39 South, Range 9 East, Klamath
County, Oregon.

C.2.b. Related or Supporting Facility Sites
Natural Gas Pipeline. The natural gas pipeline is located on the energy facility site in Section
18, Township 39 South, Range 9 East, Klamath County, Oregon.

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

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

D. COUNCIL FACILITY SITING STANDARDS: DISCUSSION & CONCLUSIONS
D.1. INTRODUCTION: GENERAL STANDARD OF REVIEW, OAR 345-022-0000
The relevant section of this standard is section (1), which states that:

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

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

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

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

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

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

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

Discussion

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

Involvement with the following energy facilities has provided PPM with a base of experience:
Klamath Cogeneration Project. PPM serves as development manager, construction manager, operator, fuel manager, power purchaser and power broker for this 485-MW natural gas-fired power plant in Klamath Falls, Oregon.

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

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

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

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

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

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

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

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

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

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

To find that KE complies with OAR 345-022-0010(1), the Council adopts the following standard conditions in the site certificate:
Before beginning construction of the distillate fuel modification, the certificate holder shall identify to the Energy Facility Siting Council ("Council") whom it has chosen to act in the role of engineering, procurement and construction ("EPC") contractor.

The certificate holder shall report promptly to ODOE any change in its corporate relationship with PPM Energy, Inc. The certificate holder shall report promptly to ODOE any change in its access to the resources, expertise and personnel of PPM Energy, Inc.

If the certificate holder chooses a third-party contractor to operate the facility, the certificate holder shall submit to the Council the identity of the contractor so the Council may review the qualifications and capability of the contractor to meet the standards of OAR 345-0022-0010. If the Council finds that a new contractor meets these standards, the Council shall not require an amendment to the site certificate for the certificate holder to hire the contractor.

Any matter of non-compliance under the site certificate shall be the responsibility of the certificate holder. Any notice of violation issued under the site certificate shall be issued to the certificate holder. Any civil penalties assessed under the site certificate shall be levied on the certificate holder.

The certificate holder shall contractually require the EPC contractor and all independent contractors and subcontractors involved in the construction and operation of the facility to comply with all applicable laws and regulations and with the terms and conditions of the site certificate. Such contractual provision shall not operate to relieve the certificate holder of responsibility under the site certificate.

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

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

D.2.b. Applicant Qualification and Capability: ISO Programs, OAR 345-022-0010(2)
"The Council may base its findings under section (1) on a rebuttable presumption that an applicant has organizational, managerial and technical expertise, if the
applicant has an ISO 9000 or ISO 14000 certified program and proposes to
design, construct and operate the facility according to that program.”

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

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

D.2.c. Third-Party Services and Permits: Contracts, OAR 345-022-0010(3)
“If the applicant does not itself obtain a state or local government permit or
approval for which the Council would ordinarily determine compliance but
instead relies on a permit or approval issued to a third party, the Council, to issue
a site certificate, must find that the third party has, or has a reasonable likelihood
of obtaining, the necessary permit or approval, and that the applicant has, or has a
reasonable likelihood of entering into, a contractual or other arrangement with the
third party for access to the resource or service secured by that permit or
approval.”

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

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

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

D.2.d. Third-Party Services and Permits: Conditions, OAR 345-022-0010(4)
“If the applicant relies on a permit or approval issued to a third party and the third
party does not have the necessary permit or approval at the time the Council
issues the site certificate, the Council may issue the site certificate subject to the
condition that the certificate holder shall not commence construction or operation
as appropriate until the third party has obtained the necessary permit or approval
and the applicant has a contract or other arrangement for access to the resource or
service secured by that permit or approval."

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

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

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

D.3. Retirement and Financial Assurance, OAR 345-022-0050
To issue a site certificate, the Council must find that:
(1) The site, taking into account mitigation, can be restored adequately to a useful,
non-hazardous condition following permanent cessation of construction or
operation of the facility.
(2) The applicant has a reasonable likelihood of obtaining a bond or letter of credit
in a form and amount satisfactory to the Council to restore the site to a useful,
non-hazardous condition.

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

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

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

Site restoration would consist of removal of equipment, dismantling of buildings, demolition of
foundations to a depth of about three feet, and regrading. Certain related or supporting facilities,
including the electric transmission line, gas pipeline, and water pipeline, could serve some other
industrial purpose and might not be retired at the same time as the energy facility. Without
regard to timing, retirement of these related or supporting facilities has been considered during
the Council’s review of KE’s retirement cost estimate. In accordance with Condition D.3(2),
prior to closure of the facility, KE would develop and submit to the Council a proposed final
retirement plan for the facility and the site for the Council’s approval.

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

(1) The certificate holder shall retire the facility if the certificate holder
permanently ceases construction or operation of the facility. The certificate
holder shall retire the facility according to a final retirement plan approved
by the Council, as described in OAR 345-027-0110, and prepared pursuant to
Condition D.3(2).

(2) Two years before closure of the energy facility, the certificate holder shall
submit to the Council a proposed final retirement plan for the facility and
site, pursuant to OAR 345-027-0110, including:

(a) A plan for retirement that provides for completion of retirement
without significant delay and that protects the public health, safety,
and the environment;

(b) A description of actions the certificate holder proposes to take to
restore the site to a useful, non-hazardous condition, including
information on how impacts to fish, wildlife and the environment
would be minimized during the retirement process; and

(c) A current detailed cost estimate, a comparison of that estimate to
funds the certificate holder has set aside for retirement, and a plan for
ensuring the availability of adequate funds for completion of
retirement.

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

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

Financial Assurance.
The proposed facility differs from other gas-fired energy facilities for which the Council has
granted site certificates in the last several years in that it is a simple-cycle power plant rather than
a combined-cycle plant. The cost of retiring a simple-cycle plant is expected to be less than the
cost of retiring a combined-cycle plant of similar capacity, because a simple-cycle plant does not
require equipment for producing, using, and condensing steam.
Unlike facilities for which the Council has granted site certificates in the last several years, the proposed facility includes the capacity to use and to store a large quantity of fuel oil on site. The estimated cost of retirement should be greater for a plant having this capacity than for a similar facility without liquid fuel storage capacity, because the storage tank must be removed and the risk of site contamination is increased.

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

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

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

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

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

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

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\(^1\) Revised estimate transmitted by email from Peter Mostow to Adam Bless, October 6, 2004

\(^2\) The 20% contingency is consistent with the practice documented in the Council’s Final Order on the COB energy facility, January 28, 2005.
of an effective materials management and monitoring plan, careless practices could result in much higher site remediation costs.

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

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

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

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

(4) Within 60 days of issuance of this site certificate, the certificate holder shall submit to the State of Oregon, through the Council, a bond or letter of credit in the amount of $527,310 (in 2005 dollars) naming the State of Oregon, acting by and through the Council, as beneficiary or payee.

(a) The form of the bond or letter of credit and identity of the issuer shall be subject to approval by the Council.

(b) The certificate holder shall maintain the bond or letter of credit in effect at all times until the energy facility and its related or supporting facilities have been retired, as appropriate.

(c) The calculation of 2005 dollars shall be made using the US Gross Domestic Product Implicit Price Deflator, Chain-Weight, as published
in the Oregon Department of Administrative Services' "Oregon Economic and Revenue Forecast," or by any successor agency ("the Index"). The amount of the letter of credit account shall increase annually by the percentage increase in the Index. If, at any time, the Index is no longer published, the Council shall select a comparable calculation of 2005 dollars.

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

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

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

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

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

(9) The certificate holder shall report any release of hazardous substances, pursuant to DEQ regulations, to ODOE within one working day after the
discovery of such release. This obligation shall be in addition to any other
reporting requirements applicable to such a release.

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

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

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

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

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

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

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

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

(c) If the amount of the bond or letter of credit is insufficient to pay the actual cost of retirement, the certificate holder shall pay any additional cost necessary to restore the site to a useful, non-hazardous condition.

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

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

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

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

D.4.  LAND USE, OAR 345-022-0030

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

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

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

“(2) The Council shall find that a proposed facility complies with section (1) if:
“(a) The applicant elects to obtain local land use approvals under ORS 469.504(1)(a) and the Council finds that the facility has received local land use approval under the acknowledged comprehensive plan and land use regulations of the affected local government.

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

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

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

**Conclusion**

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

**D.5. Structural Standard, OAR 345-022-0020**

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

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

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

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

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3 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.
be aggravated by, the construction and operation of the proposed facility; and

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

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

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

Site Characterization – Seismic Hazard
The site is in the Lower Klamath Basin. The region contains volcanic and sedimentary rocks and unconsolidated deposits that formed in about the last 8 million years. The geological structure of the Klamath basin is dominated by northwest-trending normal faults.

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

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

Because earthquake intervals in the Klamath Basin are long and data is relatively sparse, the ASC does not identify probable seismic events for individual faults. KE did a probabilistic earthquake hazard analysis, and compared the results to previous seismic hazard assessments performed by DOGAMI and USGS. The MPE, or maximum ground motion from a seismic event...
with 10% probability of being exceeded in 50 years, is estimated at .28g. This value is appropriately conservative when compared with quoted estimates by DOGAMI and USGS.

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

Potential effects of ground motion at the facility site and surrounding area include:
- Amplification of ground motions by subsurface materials (site effects)
- Earthquake-induced slope instability
- Earthquake-induced differential soil settlement
- Soil liquefaction and lateral spreading
- Surface fault rupture.

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

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

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

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

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4 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.
Surface Fault Rupture: The literature review conducted by Golder showed that numerous faults capable of future surface rupture are known in the Klamath basin. None of those known faults cross the facility site. The contact between the diatomaceous silt and volcanoclastic sandstone and conglomerate is reported to be steep in site investigations for the KE. A sedimentary contact is assumed, because faulting is reported to have occurred before sedimentation of the two strata. The arrangement of strata of these layers is typical for the deposits in the Klamath Basin.

In its discussion of the larger KGF site, Golder noted that this contact could possibly be faulted, and recommended a site-specific exploration. For the KGP, KE took site-specific core samples before building the foundations for the combustion turbines, and installed custom-designed pilings based on the results. KE states that "**although the site specific work already completed and presented in Appendix H-2 could arguably be used as sufficient geotechnical information for installation of the distillate storage tank and foundation, which impose static loads as opposed to the dynamic loads imposed by the combustion turbines the Applicant has committed to perform the additional geotechnical investigations in the storage tank area.**"

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

Facility Design for Seismic Hazards

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

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

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

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

For earthquake induced soil settlement, KE has identified mitigation measures including over-excavating and replacement with engineered fill, in-situ soil improvements, or supporting structures on deep foundations. For surface fault displacement, mitigation measures would be recommended once more is known about the contact between the diatomaceous silt and the
competent volcano clastic sediments. In installing the combustion turbines in 2002, KE mitigated
for the seismic hazards by using deep pilings and soil replacement. The loads presented by the
distillate fuel tank are static in nature, as opposed to the dynamic loads presented by the
combustion turbines. Therefore hazard mitigation techniques that were used for the combustion
turbines should be more than adequate for the fuel tank.

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

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

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

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

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

Facility Design Criteria for Geologic and Soils Hazards
As noted above, the KGP is already built and operating, with the exception of the distillate fuel
modification. Final design of the proposed facility would require additional site-specific
geotechnical studies, including geophysical surveys, test borings, test pits, and laboratory testing.
The design engineer would determine the exact number and types of tests. Results of the site-
specific studies would be used to assess the stability of existing and proposed slopes and to
determine the thickness and physical properties of subsurface materials so the settlement risk can
be better identified. Study results would be used to develop appropriate slope stabilization and
soil settlement mitigation measures in accordance with requirements of Oregon Structural
Specialty Code 1998 for Seismic Zone 3. 5 KE would reduce erosion by proper control of surface water runoff. Revegetation of post-construction disturbed soil areas would reduce the potential for further wind and water erosion at the site. Suitable offset of foundations from existing slopes would ensure that, if erosion occurs, it would not reduce the support to energy facility foundations.

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

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

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

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

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

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

D.6. Soil Protection, OAR 345-022-0022

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

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5 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.
to, erosion and chemical factors such as salt deposition from cooling towers, land
application of liquid effluent, and chemical spills."

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

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

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

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

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

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

• Ensuring that surface water runoff is directed away from slopes or providing
  vegetation to these slopes.
• Supporting foundations on bedrock or, alternately, over-excavating existing fills
  and replacing with engineered fills to support foundation and pipeline in areas
  susceptible to settlement.
• Offsetting foundations to ensure that erosion of existing slopes near the project
  area does not adversely affect foundation support.
Impacts during operation are not expected to be significant. There are no cooling towers, and therefore no potential for salt deposition. Because of the facility’s small size and simplicity, the potential for chemical spill is proportionately reduced. The one potential source of chemical spill is the distillate fuel system. However, KE expects to run on distillate fuel only a very small percentage of the time, using natural gas as the chief fuel (See ASC, Exhibit Y, and KE August 24, 2004 Second Response to ODOE Request for Additional Information).

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

1. If the distillate fuel modification is installed, the certificate holder shall mitigate potential erosion impacts to soils by restoring temporarily disturbed areas to pre-disturbed conditions.

2. If the distillate fuel modification is installed, the certificate holder shall consider the limitations of Capona Silt Loam in design and construction of the distillate fuel system.

3. If the distillate fuel modification is installed, the certificate holder shall use soil amendments or mechanical improvements as necessary to improve stability.

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

4. If the certificate holder implements the distillate fuel modification, then it shall install and operate the distillate fuel system in accordance with National Fire Protection Association (“NPFA”) 850.

5. The certificate holder shall equip fuel control systems with automatic shutoff valves to stop all fuel flow under shutdown conditions.

6. For non-fuel hazardous substances, the certificate holder shall equip pumping systems and storage tank controls with: (a) dry disconnects at transfer hose and piping connections; (b) automatic pump shutoffs on high level; (c) redundant tank level indicators and high level alarms; (d) inventory tracking; and (e) written unloading and transfer operation instructions.

7. In all chemical storage areas, the certificate holder shall provide a secondary containment storage volume equal to 110 percent of the maximum chemical volume in primary containment.

8. The certificate holder shall ensure that ammonia storage complies with NFPA and local fire department requirements and is designed in accordance with ANSI K61.1.
Summary
The Council finds that the design, construction, operation, and retirement of the facility, taking into account mitigation, are not likely to result in a significant adverse impact to soils including, but not limited to, erosion, salt deposition from cooling towers, land application of liquid effluent, and chemical spills.

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

D.7. PROTECTED AREAS, OAR 345-022-0040
“(1) Except as provided in sections (2) and (3), the Council shall not issue a site certificate for a proposed facility located in the areas listed below. To issue a site certificate for a proposed facility located outside the areas listed below, the Council must find that, taking into account mitigation, the design, construction and operation of the facility are not likely to result in significant adverse impact to the areas listed below. Cross-references in this rule to federal or state statutes or regulations are to the version of the statutes or regulations in effect as of August 28, 2003:

“(a) National parks, including but not limited to Crater Lake National Park and Fort Clatsop National Memorial;
“(b) National monuments, including but not limited to John Day Fossil Bed National Monument, Newberry National Volcanic Monument and Oregon Caves National Monument;
“(c) Wilderness areas established pursuant to The Wilderness Act, 16 U.S.C. 1131 et seq. and areas recommended for designation as wilderness areas pursuant to 43 U.S.C. 1782;
“(d) National and state wildlife refuges, including but not limited to Ankeny, Bandon Marsh, Baskett Slough, Bear Valley, Cape Meares, Cold Springs, Deer Flat, Hart Mountain, Julia Butler Hansen, Klamath Forest, Lewis and Clark, Lower Klamath, Malheur, McKay Creek, Oregon Islands, Sheldon, Three Arch Rocks, Umatilla, Upper Klamath, and William L. Finley;
“(e) National coordination areas, including but not limited to Government Island, Ochoco and Summer Lake;
“(f) National and state fish hatcheries, including but not limited to Eagle Creek and Warm Springs;
“(g) National recreation and scenic areas, including but not limited to Oregon Dunes National Recreation Area, Hell's Canyon National Recreation Area, and the Oregon Cascades Recreation Area, and Columbia River Gorge National Scenic Area;
“(h) State parks and waysides as listed by the Oregon Department of Parks and Recreation and the Willamette River Greenway;
“(i) State natural heritage areas listed in the Oregon Register of Natural Heritage Areas pursuant to ORS 273.581;
“(j) State estuarine sanctuaries, including but not limited to South Slough Estuarine Sanctuary, OAR Chapter 142;
“(k) Scenic waterways designated pursuant to ORS 390.826, wild or scenic rivers designated pursuant to 16 U.S.C. 1271 et seq., and those waterways and rivers listed as potentials for designation;
“(l) Experimental areas established by the Rangeland Resources Program, College of Agriculture, Oregon State University: the Prineville site, the Burns (Squaw Butte) site, the Starkey site and the Union site;
“(m) Agricultural experimental stations established by the College of Agriculture, Oregon State University, including but not limited to: Coastal Oregon Marine Experiment Station, Astoria

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“(n) Research forests established by the College of Forestry, Oregon State University, including but not limited to McDonald Forest, Paul M. Dunn Forest, the Blodgett Tract in Columbia County, the Spaulding Tract in the Mary's Peak area and the Marchel Tract;
“(o) Bureau of Land Management areas of critical environmental concern, outstanding natural areas and research natural areas;
“(p) State wildlife areas and management areas identified in OAR chapter 635, Division 8.

“(2) Notwithstanding section (1), the Council may issue a site certificate for a transmission line or a natural gas pipeline or for a facility located outside a protected area that includes a transmission line or natural gas or water pipeline as a related or supporting facility located in a protected area identified in section (1), if other alternative routes or sites have been studied and determined by the Council to have greater impacts.

Notwithstanding section (1), the Council may issue a site certificate for surface facilities related to an underground gas storage reservoir that have pipelines and injection, withdrawal or monitoring wells and individual wellhead equipment and pumps located in a protected area, if other alternative routes or sites have been studied and determined by the Council to be unsuitable.

“(3) The provisions of section (1) do not apply to transmission lines or natural gas pipelines routed within 500 feet of an existing utility right-of-way containing at least one transmission line with a voltage rating of 115 kilovolts or higher containing at least one natural gas pipeline of 8 inches or greater diameter that is operated at a pressure of 125 psig.”

Discussion
The analysis area for the protected areas standard is the area within the site boundary and 20 miles from the site boundary.
Twelve protected areas are located within the analysis area, as shown in Table D.7-1. No portion of the facility would be located in a protected area. The protected area nearest the facility is the Klamath State Wildlife Refuge that is one-half mile south of the facility site. The Oregon State University Klamath Experiment Station is located about 2 1/2 miles east of the facility site. All other protected areas within the analysis area are at least six miles from the facility site.

Table D.7-1

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

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

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

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

**Traffic.** Most of the construction work force would travel to the proposed facility site from the Klamath Falls area by means of existing traffic routes, including Interstate 5, US Highway 97, and State Highways 66 and 140. Access to the proposed facility site would be by means of an
existing private access road from US Highway 97. During the peak of construction, daily vehicle trips along US Highway 97 in the vicinity of the proposed facility site entrance could increase by about 25 round trips per day.

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

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

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

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

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

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

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

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

**Visual Impacts from Air Emissions.** Air emissions from the facility are controlled by pollution control systems, the use of clean-burning fuel, and effective operating practices, all as required by the Air Contaminant Discharge Permit. Emissions of nitrogen oxides are controlled through the use of water injection in the combustion turbines and a selective catalytic reduction system. Emissions of carbon monoxide are controlled through the use of an oxidation catalyst. The emission of other pollutants, including air toxics, is controlled through the use of effective
combustion techniques and operating practices. Based on DEQ’s review, the facility does not result in any significant impacts to air quality in the analysis area.

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

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

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

D.8 Fish and Wildlife Habitat, OAR 345-022-0060
“To issue a site certificate, the Council must find that the design, construction, operation and retirement of the facility, taking into account mitigation, is consistent with the fish and wildlife habitat mitigation goals and standards of OAR 635-415-0025 in effect as of September 1, 2000.”

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

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

Habitat Categories

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

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

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

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

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

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

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

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

There are no category 1, 2 or 5 habitats at the facility site. There is category 3 and 4 habitat in the vicinity, but none will be affected by the facility. The facility site itself is category 6.
Potential Habitat Impacts – Construction and Operation

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

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

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

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

Mitigation for Habitat Impacts

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

Retirement

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

Consistency with ODFW Goals

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

The habitat mitigation goal for Category 6 is to minimize the impact. Based on the site’s low habitat category, the high level of disturbance by previous development, the low use of water and lack of linear facilities, the project’s impact on habitat is minimized. Therefore, the construction, operation and retirement of the facility are consistent with the ODFW fish and wildlife habitat mitigation.
Summary
The Council finds that, taking into account the mitigation proposed by KE, the facility would result in no net loss of habitat quantity or quality. The Council also finds that the facility is consistent with the fish and wildlife habitat mitigation goals and standards of OAR 635-415-0025 in effect as of September 1, 2000.

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

D.9 THREATENED AND ENDANGERED SPECIES, OAR 345-022-0070
To issue a site certificate, the Council, after consultation with appropriate state agencies, must find that:

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

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

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

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

Threatened and Endangered Plant Species
“Threatened and endangered plant species” means species listed as threatened or endangered by the state under ORS 564.105. The Oregon Department of Agriculture (“ODA”) designates state-
listed threatened or endangered plant species under ORS Chapter 564 and OAR Chapter 603, Division 73.

The site does not provide suitable habitat for any candidate plants. KE listed twelve special status plants that may have potential habitat in the analysis area. These plants are the four-winged milk-vetch (*Astragalus tetrapus*), Bolander’s Sunflower (*Helianthus bolanderi*), flowering quillwort (*Lilea scilloides*), three-colored monkeyflower (*Mimulus tricolor*), Siberian water-milfoil (*Miriophyllum sibiricum*), red-root yampa (*Perideridia erythrorhiza*), Howell’s false-caraway (*Perideridia howelli*), fibrous pondweed (*Potamogeton foliosus var. fibrillosus*), polished willow (*Salix bonplandiana*), fringed campion (*Siliene nuda ssp. Insectivore*), short-podded thelpody (*Thelypodium brachycarpum*), and Howell’s thelpody (*Thelypodium howelli*).

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

Consistency with Oregon Department of Agriculture Goals

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

Threatened and Endangered Fish and Wildlife Species

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

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

- Shortnose sucker
- Lost river sucker
- Bull trout
- Bald eagle and
- Peregrine falcon.

Issues identified by ODFW in connection with the KCP included bald eagles that utilize the Klamath River corridor as winter foraging habitat. Bald eagles occupying the Moore Park nest site about 4 miles from the project utilize Lake Ewauna as year-round foraging habitat. Waterfowl use the Klamath River corridor during flyway migrations in spring and fall. Other water-associated birds also use the Klamath River corridor during spring, summer and fall for
foraging, nesting and resting. ODFW was concerned about noise impacts and about potential for
collisions with transmission lines. The noise analysis includes discussion of noise levels at the
nearby Klamath Wildlife Refuge. The analysis shows that noise from the facility is expected to
be below 50 dBA at the refuge. While the DEQ noise standard was intended to apply to
properties occupied or used by people, KE offered this measurement as evidence that noise from
the project will not significantly affect wildlife using the habitat. KE and ODOE are not aware of
a specific threshold at which noise creates a significant impact on the type of wildlife in the
vicinity of the project. However, KE projects noise levels of 45 dBA at the refuge during
construction, which is below measured ambient noise levels at the refuge. Therefore, noise levels
during construction are not likely to significantly affect sensitive species that may be present in
the Wildlife Area.

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

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

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

D.10. SCENIC AND AESTHETIC VALUES, OAR 345-022-0080

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

Discussion
The analysis area for the scenic and aesthetic values standard is the area within the site boundary
and 30 miles from the site boundary.
The facility is located just south of the existing Klamath Cogeneration Plant ("KCP") and would be adjacent to the proposed Klamath Generation Facility ("KGF") if that facility is granted a site certificate. The facility is located on a 5-acre parcel of land zoned for industrial use.

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

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

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

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

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

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

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

- Moore Park
• Loma Vista Drive
• Mountain View Boulevard
• Carlyle Street
• Lincoln and 6th Streets
• California Avenue
• Front Street

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

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

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

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

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

Two sections of the Winema National Forest are located within the analysis area. One section contains the Mountain Lakes Wilderness Area, a designated Class I Federal area. This area is
located about 15 miles to the northwest of the site. The other section lies about 20 miles to the
north of the site. Due to distance and intervening topography, the facility does not result in a
significant adverse impact on these scenic resources.

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

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

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

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

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

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

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

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

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

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

**Discussion**
The analysis area for the historic, cultural and archaeological resources standard is the area
within the site boundary and all laydown and staging areas.
Potential National Register of Historic Places Sites. All land within the analysis area is within
the boundaries of the Collins’ Products (formerly Weyerhaeuser) property. The site consists of
bulldozed areas, extensive areas of imported fill material, standing structures and other features.
The oldest structures date from 1929. In 1993, the Weyerhaeuser property was recorded as an
archaeological site (OR-KL-40) in conjunction with an archaeological survey along the PG&E
GT Medford Lateral. Consequently, the Collins’ Products property is eligible for listing in the
National Register of Historic Places (“NRHP”).

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

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

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

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

- The facility would affect about 5 acres of about 850 acres encompassed by site
  OR-KL-40.
- The qualities of site OR-KL-40 that render it potentially eligible for inclusion in
  the NRHP derive from the site’s association with individuals and events important
  in local and regional history. With the exception of several designated structures,
  none of which would be affected by the facility, the physical remains at the
  archaeological site are not considered significant for residual information values,
  research potential, or public exhibition and do not contribute to the archaeological
  site’s eligibility for listing in the NRHP.
- The Advisory Council on History Preservation concluded that construction of the
  PG&E GT Medford Lateral through the archaeological site would not constitute
  an adverse effect, since contributing attributes would not be adversely affected.
• The Council previously concluded that construction, operation and retirement of the KCP, which is located in the immediate area of the facility, would not harm any significant archaeological resources.

• KE proposes to affect non-contributing portions of site OR-KL-40 in a manner similar to disturbances approved for the KCP and the PG&E GT Medford Lateral. Specifically, areas within the archaeological site would be used for construction of the distillate fuel system, including burying pipelines and installing a foundation for the distillate fuel storage tank.

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

1. **During construction of the distillate modification, in the event any archaeological or cultural resources are discovered, the certificate holder shall cease all ground-disturbing activities in the immediate area until a qualified archaeologist can evaluate the significance of the find. If the archaeologist determines that the resources are significant, the certificate holder shall make recommendations to the Council for mitigation in consultation with the State Historic Preservation Office ("SHPO"), ODOE, the Klamath Tribe, the Klamath County Planning Department, and other appropriate parties. Mitigation measures shall include avoidance or data recovery. The certificate holder shall not restart work in the affected area until it has demonstrated to ODOE that it has complied with the archaeological permit requirements administered by SHPO or the SHPO concurs that a discovered resource is not significant and no permit is required.**

2. **The certificate holder shall locate facility structures to avoid impact on any existing structures within the boundaries of recorded historic site OR-KL-40.**

**Summary**

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

**Conclusion**

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

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

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

"(a) Any special designation or management of the location;
(b) The degree of demand;
(c) Outstanding or unusual qualities;
(d) Availability or rarity;
(e) Irreplaceability or irretrievability of the opportunity. ***"

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

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

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

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

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

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

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

Other recreational facilities in the analysis area, but not within the City, include the South Suburban athletic fields along Anderson Avenue north of the airport, Wiard Park (tennis,
basketball, and picnic facilities) at Wiard Street and Hilyard Avenue and the Fairground Club
Exchange picnic facilities adjacent to the Klamath County Fairgrounds.

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

Noise. Noise during operation of the facility would comply with the DEQ noise standards at the
point closest to the Klamath State Wildlife Refuge, i.e., across the river from the KGP.
Construction noise, not regulated under the noise standards, may be audible in the wildlife area.
However, the impact of construction noise would be temporary and would not significantly
interfere with recreational use. All other important recreational sites are farther removed from the
facility, and noise from the facility would be inaudible or insignificant.

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

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

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

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

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

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

The Council finds that wastewater disposal during construction of the distillate fuel system and
operation of the facility would not result in a significant adverse impact to any recreational
opportunity.
Visual Impacts from Facility Structures or Air Emissions. The facility site is located on Collins’ Products property in an area zoned and developed for heavy industrial use. The facility is not visible from any of the recreational areas in the analysis area due to distance and intervening topography. For those areas from which the facility may be visible, the KGP would blend with the adjacent industrial uses.

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

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

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

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

D.13. Public Services, OAR 345-022-0110
“(1) Except for facilities described in sections (2) and (3), to issue a site certificate, the Council must find that the construction and operation of the facility, taking into account mitigation, are not likely to result in significant adverse impact to the ability of public and private providers within the analysis area described in the project order to provide: sewers and sewage treatment, water, storm water drainage, solid waste management, housing, traffic safety, police and fire protection, health care and schools. ***“

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

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

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

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

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

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

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

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

**Housing.** Most available housing in Klamath County for temporary workers would be found in the City of Klamath Falls. Typically, the occupancy rate for rental homes, multiplexes, and apartment units is 90 to 95 percent. Rents for two-bedroom units ranges between $450 and $700 per month, and three-bedroom units typically start at $675 per month.
Given the short duration of the construction phase, KE believes it is unlikely that many, if any, construction workers would relocate to the Klamath Falls area. Even if 100 percent of the peak construction work force were to relocate to the Klamath Falls area during the 3-month construction period, a maximum of 22 new households, 18 of which would be single employees, would require some form of housing in the area.

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

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

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

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

Police and Fire Protection. The Klamath County Sheriff’s Department has jurisdiction over the facility site and surrounding areas. The Klamath County Sheriff’s Department is part of a large
cooperative effort with the Oregon State Police and Klamath City Police Department. These
units have formed teams to combat major crime, drug-related activities, and child abuse. The
County has a 911 emergency central dispatch service.

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

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

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

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

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

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

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

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

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

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

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

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

Traffic Safety. During operation of the facility, there would be no increase in traffic due to daily commuting of operations personnel. However, there would be ongoing distillate truck deliveries during operation of the facility. These deliveries, involving semi-trailer size delivery trucks, are dependent on the amount of distillate consumed by the facility. KE expects they would occur up to 14 times per day for brief periods. Other truck traffic during operation of the facility would include delivery of ammonia for NOx emissions control (up to 6 trips per year), wastewater removal (up to 10 trips per year), and miscellaneous deliveries (estimated at 50 trips per year). This additional traffic is not expected to impose a significant burden on existing roads.
**Police and Fire Protection.** The Klamath County Sheriff's Department does not anticipate any problems with operation of the facility. Other similar functioning facilities have caused no major difficulties for the Klamath County Sheriff's Department.

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

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

(1) **The certificate holder shall maintain the on-site fire protection system in conformance with applicable fire codes and National Fire Protection Association standards.** The fire protection system shall include provisions for a firewater loop system with hydrants placed near major equipment, an automatic CO₂-based fire suppression system for each of the facility's four combustion turbine compartments, and portable fire extinguishers.

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

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

**Summary**

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

**Conclusion**

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

D.14. WASTE MINIMIZATION, OAR 345-022-0120

“(1) Except for facilities described in sections (2) and (3), to issue a site

certificate, the Council must find that, to the extent reasonably practicable:

“(a) The applicant’s solid waste and wastewater plans are likely to

minimize generation of solid waste and wastewater in the

construction, operation, and retirement of the facility, and when

solid waste or wastewater is generated, to result in recycling and

reuse of such wastes;

“(b) The applicant’s plans to manage the accumulation, storage,

disposal and transportation of waste generated by the construction

and operation of the facility are likely to result in minimal adverse

impact on surrounding and adjacent areas. *** “

Discussion

Solid Waste

KE proposes to develop and implement a solid waste minimization and recycling program for

both hazardous and non-hazardous solid waste for construction, operation, and retirement of the

proposed facility. The program would address the handling, separation, containerization, and

shipping of the waste streams. The program would include a training program for employees

covering both the rationale and the operation of the waste minimization and recycling program.

KE proposes to focus on reducing the use of non-reusable materials and hazardous materials and

to evaluate programs for salvage of excess and discarded materials and for using alternatives to

non-recyclable and hazardous products.

Construction. Solid waste generated during construction would generally consist of

non-hazardous materials, many of which would be recyclable. Non-recyclable solid wastes

would be transported to a solid waste landfill.

Operation. Solid waste generated during operation would consist of both hazardous and

non-hazardous wastes.

Hazardous solid wastes would include spent selective catalytic reduction (“SCR”) catalyst and

oily rags and other oily materials. The catalyst materials would be shipped to the manufacturer or

to a metals reclaiming facility. KE proposes to operate the plant so as to minimize the potential

for oil material spills. Any oily rags and oil-absorbent materials would be transported to a

suitable licensed landfill for disposal.

Non-hazardous solid wastes would include office and administration area waste (trash and

garbage). Separate containers would be provided for recyclable materials and non-recyclable

materials would be transported to a landfill for disposal.

De-mineralized water would be produced at the adjacent KCP, so spent resins would not be

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

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

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

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

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

Impact on Surrounding and Adjacent Areas
The accumulation, storage, disposal and transportation of waste generated by construction and operation of the KGP would have minimal adverse impact on surrounding and adjacent areas because only small amounts of solid waste and wastewater will be generated and because of KE’s proposed waste minimization and recycling programs.

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

In its ASC, KE describes actions that are designed to address the Council’s waste minimization standard. The Council considers the following actions to be commitments by KE. To find that KE complies with OAR 345-022-0120, the Council adopts the following conditions in the site certificate:
(1) During construction, operation and retirement of the facility, the certificate holder shall separate recyclable materials from the solid waste stream to the extent practicable, store those materials on site until sufficient quantities exist to make recycling economic, and periodically deliver or sell those materials to a recycling facility.

(2) During construction, operation and retirement of the facility, the certificate holder shall segregate all used oily rags and oil-absorbent materials for disposal in a licensed landfill.

(3) During operation and retirement of the facility, the certificate holder shall ship spent selective catalytic reduction ("SCR") catalyst to the manufacturer, a metals reclaiming facility, or another Department approved facility.

(4) During operation of the facility, the certificate holder shall collect combustion turbine wash rinse water and wastewater from plant drains in a holding tank and shall periodically transport the stored wastewater to licensed off-site recycling or disposal facilities.

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

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

D.15. CARBON DIOXIDE STANDARD, OAR 345-024-0590
The applicable carbon dioxide standard is OAR 345-024-0590, which applies to non-base load power plants. With portions of the rule omitted for brevity, the standard requires that:

"To issue a site certificate for a non-base load power plant, the Council must find that the net carbon dioxide emissions rate of the proposed facility does not exceed 0.675 pounds of carbon dioxide per kilowatt-hour of net electric power output, with carbon dioxide emissions and net electric power output measured on a new and clean basis. For a base load gas plant designed with power augmentation technology as defined in OAR 345-001-0010, the Council shall apply this standard to the incremental carbon dioxide emissions from the designed operation of the power augmentation technology. The Council shall determine whether the carbon dioxide emissions standard is met as follows:
“(1) The Council shall determine the gross carbon dioxide emissions that are reasonably likely to result from the operation of the proposed energy facility. The Council shall base such determination on the proposed design of the energy facility, the limitation on the hours of generation for each fuel type and the average temperature, barometric pressure and relative humidity at the site during the times of the year when the facility is intended to operate.*** The Council shall adopt site certificate conditions to ensure that the predicted carbon dioxide emissions are not exceeded on a new and clean basis; however, the Council may modify the parameters of the new and clean basis to accommodate average conditions at the times when the facility is intended to operate and technical limitations, including operational considerations, of a non-base load power plant or power augmentation technology or for other cause;

“(2) For any remaining emissions reduction necessary to meet the applicable standard, the applicant may elect to use any of the means described in OAR 345-024-0600 or any combination thereof. The Council shall determine the amount of carbon dioxide emissions reduction that is reasonably likely to result from the applicant's offsets and whether the resulting net carbon dioxide emissions meet the applicable carbon dioxide emissions standard;

“(3) ***[Relates to offset projects an applicant proposes; none are proposed.]

“(4) Before beginning construction, the certificate holder shall notify the Office in writing of its final selection of an equipment vendor and shall submit a written design information report to the Office sufficient to verify the facility's designed new and clean heat rate and its nominal electric generating capacity at average annual site conditions for each fuel type.*** The certificate holder shall include the proposed total number of hours of operation for all fuels, subject to the limitation that the total annual average number of hours of operation per year is not more than 6,600 hours. In the site certificate, the Council may specify other information to be included in the report. The Office shall use the information the certificate holder provides in the report as the basis for calculating, according to the site certificate, the gross carbon dioxide emissions from the facility and the amount of carbon dioxide emissions reductions the certificate holder must provide under OAR 345-024-0600;

“(5) Every five years after commencing commercial operation, the certificate holder shall report to the Council the facility's actual annual hours of operation by fuel type. If the actual gross carbon dioxide emissions, calculated using the new and clean heat rate and the actual hours of operation on each fuel during the five-year period, exceed the projected gross carbon dioxide emissions for the five-year period calculated under section (4), the certificate holder shall offset any excess emissions for that period and shall offset estimated future excess carbon dioxide emissions using the monetary path as described in OAR 345-024-0600(3) and (4) or as approved by the Council.”
Discussion

KE provided information about compliance with the Council's carbon dioxide emissions standard in Exhibit Y of the Application for a Site Certificate ("ASC"). Under OAR 345-024-0590, the Council must find that the net carbon dioxide (CO₂) emissions rate of the proposed facility does not exceed 0.675 pounds of carbon dioxide per kilowatt-hour (lb. CO₂/kWh) of net electric power output, with carbon dioxide emissions and net electric power output measured on a new and clean basis.

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

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

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

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

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

Because KE proposes to add the capability to run on distillate fuel, it supplied vendor information for the heat rate and net plant output when running on distillate fuel. The estimated annual hours of operation on either natural gas or distillate are based on proprietary models for demand. In developing this information on annual operation for the purposes of estimating carbon dioxide emissions (i.e., 350 hours per year on natural gas firing or 175 hours per year on distillate), KE provided the maximum level of exclusive fuel use in each case as a means of determining the highest level of carbon dioxide emissions. KGP annual operation is expected to range from 350 hours of gas firing with no distillate use to 175 hours of distillate firing with no
natural gas use, i.e., the two estimates are not additive. While in a given year, actual fuel use may be some combination of natural gas and distillate, the total hours of operation are not expected to exceed either 350 hours on natural gas or 175 hours on distillate. Because the anticipated number of hours of operation on natural gas are approximately twice the actual annual hours of operation of the KEP during the period from May 2002 to May 2004 and because the natural gas case governs that of distillate with respect to maximum carbon dioxide emissions, the hours provided by the applicant in Exhibit Y of the ASC (as revised in KE’s August 2004 response to ODOE’s Request for Additional Information #1) are a reasonable estimate.

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

“Gross carbon dioxide emissions” means the predicted carbon dioxide emissions of the proposed energy facility. The Council shall measure the gross carbon dioxide emissions of a fossil-fueled power plant on a new and clean basis.***

**Excess Carbon Dioxide Emissions.** To apply the standard, the Council must determine the excess carbon dioxide emissions rate of the energy facility and the excess carbon dioxide emissions for 30 years. Excess carbon dioxide emissions are those in excess of net carbon dioxide emissions allowed under the standard. Tables D.15-1 and D.15-2 show the required offsets as “Excess Tons CO₂” for natural gas and distillate fuel, respectively. Estimated excess carbon dioxide emissions for the KGP are about 0.279 million tons for natural gas and 0.242 million tons for distillate fuel. KE will provide final data for calculations as required by site certificate conditions.

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

<table>
<thead>
<tr>
<th>Table D.15-1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CO₂ Emissions for Klamath Generation Peakers</strong></td>
</tr>
<tr>
<td>(Natural Gas Fuel)</td>
</tr>
<tr>
<td>Net Power Output (kW)</td>
</tr>
<tr>
<td>Capacity Factor</td>
</tr>
<tr>
<td>Fuel</td>
</tr>
<tr>
<td>Annual Hours of Operation</td>
</tr>
<tr>
<td>Annual Generation (million kWh/yr)</td>
</tr>
<tr>
<td>Deemed Life of Plant (years)</td>
</tr>
</tbody>
</table>
Total Plant Output (million kWh for 30 years) 983
Heat Rate (Btu/kWh) (HHV) 10,615
CO₂ Emissions Rate (lb. CO₂/Btu) 0.000117
Total CO₂ Emissions (million lb.) 1,221
Gross CO₂ Emissions Rate (lb. CO₂/kWh) 1.212
CO₂ Standard (lb. CO₂/kWh) 0.675
Excess CO₂ Emissions (lb. CO₂/kWh) 0.567
Excess Tons CO₂ (million tons over 30 years) 279
Offset Fund Rate ($/ton CO₂) 0.85
Offset Funds Required $237,000
Selection and Contracting Funds $47,400
Monetary Path Payment Requirement $284,400

Table D.15-2
CO₂ Emissions for Klamath Peakers
(Distillate Fuel)

<table>
<thead>
<tr>
<th>Net Power Output (kW)</th>
<th>92,191</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity Factor</td>
<td>2.0%</td>
</tr>
<tr>
<td>Fuel</td>
<td>Distillate</td>
</tr>
<tr>
<td>Annual Hours of Operation</td>
<td>175</td>
</tr>
<tr>
<td>Annual Generation (million kWh/yr)</td>
<td>16</td>
</tr>
<tr>
<td>Deemed Life of Plant (years)</td>
<td>30</td>
</tr>
<tr>
<td>Total Net Output (million kWh for 30 years)</td>
<td>484</td>
</tr>
<tr>
<td>Heat Rate (Btu/kWh) (HHV)</td>
<td>10,414</td>
</tr>
<tr>
<td>CO₂ Emissions Rate (lb. CO₂/Btu)</td>
<td>0.000161</td>
</tr>
<tr>
<td>Total CO₂ Emissions (million lb.)</td>
<td>812</td>
</tr>
<tr>
<td>Gross CO₂ Emissions Rate (lb. CO₂/kWh)</td>
<td>1.677</td>
</tr>
<tr>
<td>CO₂ Standard (lb. CO₂/kWh)</td>
<td>0.675</td>
</tr>
<tr>
<td>Excess CO₂ Emissions (lb. CO₂/kWh)</td>
<td>1.002</td>
</tr>
<tr>
<td>Excess Tons CO₂ (million tons over 30 years)</td>
<td>242</td>
</tr>
<tr>
<td>Offset Fund Rate ($/ton CO₂)</td>
<td>0.85</td>
</tr>
<tr>
<td>Offset Funds Required</td>
<td>$206,000</td>
</tr>
<tr>
<td>Selection and Contracting Funds</td>
<td>$41,200</td>
</tr>
<tr>
<td>Monetary Path Payment Requirement</td>
<td>$247,200</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Season</th>
<th>Winter</th>
<th>Winter</th>
<th>Winter/ Spring</th>
<th>Spring/ Summer</th>
<th>Summer</th>
<th>Summer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of Operation</td>
<td>2%</td>
<td>5%</td>
<td>13%</td>
<td>33%</td>
<td>31%</td>
<td>16%</td>
</tr>
<tr>
<td>Ambient Temperature (°F)</td>
<td>20</td>
<td>30</td>
<td>48.3</td>
<td>60</td>
<td>75</td>
<td>90</td>
</tr>
<tr>
<td>Relative Humidity (%)</td>
<td>60</td>
<td>60</td>
<td>50</td>
<td>40</td>
<td>30</td>
<td>20</td>
</tr>
</tbody>
</table>

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 CO₂ emission rate. For purposes of estimating the CO₂ 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
Year One test is required because historical data are sufficient to determine heat rate and capacity, pursuant to OAR 345-001-0010(34)(e).

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

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

Second, any excess emissions from operation on natural gas due to longer hours than originally estimated are calculated on the historical CO₂ emissions rate certified when the site certificate becomes effective. However, if KE later installs distillate fuel capability, the certificate holder shall re-establish the CO₂ emissions rate for natural gas through a Year One Test. If there is such a Year One Test for operation on natural gas, that will form the basis for calculating excess emissions from longer hours of operation in future five-year periods.

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

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

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

In order to ensure adequate contracting and selection funds for small amounts of offset funds, and in accordance with the discretion reserved to the Council under OAR 345-024-0710(4), the Council finds that contracting and selection funds for the KGP and similar peaking facilities should be calculated at the rate of 20 percent of the first $250,000 in offset funds and 4.286 percent of the value of any offset funds in excess of that amount. The Council has consistently applied this formula to true-up offset funds for base load gas plants and for hours of operation with power augmentation, which are for similar smaller amounts. Prior to consideration of any prorated credit due KE, as discussed below, applying this formula to KE’s estimated offset funds.
obligations of $237,000 (in 2005 dollars) would produce selection and contracting funds
obligations in the amounts of $47,400 (in 2005 dollars).

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

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

- The Climate Trust is exempt from federal taxation under section 501(c)(3) of the
  Internal Revenue Code. By letter dated November 19, 1997, the Internal Revenue
  Service (“IRS”) determined that The Climate Trust (then the “Oregon Climate
  Trust”) is exempt from taxation under section 501(c)(3). By letter dated August 3,
  2002, the IRS affirmed The Climate Trust’s exempt status.

- The Climate Trust is incorporated in the State of Oregon.

- The Articles of Incorporation of The Climate Trust require that offset funds
  received from certificate holders in accordance with ORS 469.503(2) be used for
  offset projects that will result in direct reduction, elimination, sequestration or
  avoidance of CO₂ emissions. The Articles of Incorporation of The Climate Trust
  require that decisions on the use of such funds be made by a body composed of
  seven voting members of which: (1) three are appointed by the Council; (2) three
  are Oregon residents appointed by the Bullitt Foundation or an alternative
  environmental organization named by the board of directors [Northwest Energy
  Coalition]; and (3) one member is appointed by applicants for site certificates that
  are subject to ORS 469.503(2)(d) and the holders of such site certificates.

- The Climate Trust has made available on an annual basis, beginning after the first
  year of operation, a signed opinion of an independent certified public accountant
  stating that the qualified organization’s use of funds pursuant to ORS 469.503
  conforms with generally accepted accounting principles.

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7 See Final Order in the Matter of the Application for Site Certificate for the COB Energy Facility, February 4, 2005
The Climate Trust provided the Council with documentation at the Council meeting on September 24, 2004, showing that The Climate Trust has complied with ORS 469.503(2)(e)(K)(v) by entering into contracts obligating at least 60 percent of the offset funds received.

The Climate Trust provided documentation at the Council meeting on September 24, 2004, that The Climate Trust has entered into, or will enter into, contracts obligating at least 80 percent of the offset funds disbursed for offsets. The Climate Trust complied with the requirement of OAR 345-001-0010(1)(46)(f).

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

**Proration of Funds from Operations Under the Temporary Exemption of ORS 469.320(2)(g).** OAR 345-024-0650 states that “***the Council shall prorate any offset funds remaining in the exemption period on the effective date of the site certificate and apply those funds to compliance with the carbon dioxide standard pursuant to OAR 345-024-0560(3) or OAR 345-024-650(3)***”.

The KGP (then KEP) paid offset funds amounting to $261,478 as a condition of the temporary exemption of ORS 469.320(2)(g). This amount covered offset funds only. Contracting and selection funds are not prorated. Because the KEP operated for fewer hours under the exemption than the applicant originally projected, the offset funds covered more excess CO₂ emissions than KEP actually generated.

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

**Table D.15-4**

**Klamath Expansion Project Hypothetical CO₂ Emissions**
Calculating the projected CO₂ emissions rate for a proposed facility based on the net electric power output and the heat rate incorporates auxiliary uses, which affect the net CO₂ emissions rate. Calculating the historical CO₂ emissions rate must be based on gross kWh and total fuel use to capture the auxiliary uses and provide a comparable CO₂ emissions rate.

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

| Gross Plant Output (million kWh over 3 years) | 50 |
| Natural Gas Consumption (million Btu)(HHV) | 550,000 |
| Heat Rate (Btu/kWh) (HHV) | 11,000 |
| CO₂ Emissions Rate (lb. CO₂/Btu) | 0.000117 |
| Total CO₂ Emissions (million lb.) | 64.35 |
| Gross CO₂ Emissions Rate (lb. CO₂/kWh) | 1.287 |
| CO₂ Standard (lb. CO₂/kWh) | 0.675 |
| Excess CO₂ Emissions (lb. CO₂/kWh) | 0.612 |
| Excess Tons CO₂ (million tons over 3 years) | 0.153 |
| Offset Fund Rate ($/ton CO₂) | $0.57 |
| Offset Funds Required | $8,721 |
| Offset Funds Paid for KEP | $261,478 |
| Offset Funds to be Credited to KGP | $252,757 |

### Table D.15-5

**Hypothetical Calculation of Initial Monetary Path Payment Requirement For Klamath Generation Peakers After Applying Prorated Offset Funds Credit**

<p>| Net Power Output (kW) | 93,600 |
| Capacity Factor | 4.0% |
| Fuel | Natural gas |
| Annual Hours of Operation | 350 |
| Annual Generation (million kWh/yr) | 33 |
| Decmed Life of Plant (years) | 30 |
| Total Plant Output (million kWh for 30 years) | 983 |
| Heat Rate (Btu/kWh) (HHV) | 10,615 |
| CO₂ Emissions Rate (lb. CO₂/Btu) | 0.000117 |
| Total CO₂ Emissions (million lb.) | 1,221 |
| Gross CO₂ Emissions Rate (lb. CO₂/kWh) | 1.212 |
| CO₂ Standard (lb. CO₂/kWh) | 0.675 |
| Excess CO₂ Emissions (lb. CO₂/kWh) | 0.567 |
| Excess Tons CO₂ (million tons over 30 years) | 0.279 |
| Offset Fund Rate ($/ton CO₂) | $0.85 |
| Offset Funds Required | $237,000 |
| Prorated Offset Funds Credit | $252,757 |
| Net Offset Funds Required | $0 |</p>
<table>
<thead>
<tr>
<th>Selection and Contracting Funds</th>
<th>$0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Monetary Path Payment Requirement</td>
<td>$0</td>
</tr>
<tr>
<td>Remaining Prorated Offset Funds Credit</td>
<td>$15,757</td>
</tr>
</tbody>
</table>

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

**FINAL ORDER  KLAMATH GENERATION PEAKERS  SEPTEMBER 27, 2005  PAGE 61**
estimates before beginning construction, KE must submit an affidavit with the written design
information for the use of distillate fuel and the number of hours it will operate on distillate fuel.
The conditions do not bind KE to the estimates used as an example in this Order.

In addition, if KE delays the installation of the distillate fuel capability more than two years from
the date of this order, the site certificate will apply the carbon dioxide emissions rate in OAR
345-024-0590 and the monetary offset rate in OAR 345-024-0580 that are in effect at the time
KE submits its affidavit with written design information for operation on distillate fuel and meets
the monetary path payment requirement for operation on distillate fuel. This condition would be
in lieu of applying a “beginning of construction” requirement within two years for the
installation of distillate fuel option. It would update the application of the CO₂ standard without
otherwise requiring a full amendment if the only issue were the belated exercise of the distillate
fuel option.

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

“(2) Notwithstanding section (1), the Council does not require a site certificate
amendment if the proposed change would not violate any condition of the
site certificate and is a change:
“(a) To an electrical generation facility that would increase the
electrical generating capacity and would not increase the number
of electric generators at the site, change fuel type, increase fuel
consumption by more than 10%, or enlarge the facility site;”

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

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

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

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

(a) The certificate holder shall report to ODOE the gross kWh of electric
energy produced and the total Btu (HHV) of natural gas consumed
during operation of the energy facility under the temporary
exemption of ORS 469.320(2)(g) from the beginning of commercial
operation until the effective date of the site certificate.

(b) The certificate holder shall report to ODOE the annual average
hours, times of year, and average temperature, relative humidity and
barometric pressure when the certificate holder intends to operate the
non-base load power plant. It shall also report the net electric power
output and the heat rate (HHV), based on historical data, at those
conditions.

(c) When reporting historical gross output, natural gas use, net electric
power output, and heat rate for paragraphs (a) and (b), the certificate
holder shall submit to ODOE an affidavit certifying the data.

(d) Upon receiving and verifying the information required by Conditions
D.15(1)(a) and D.15(1)(b), ODOE will calculate the facility’s excess
CO₂ emissions during the facility’s operations under the temporary
exemption from the date of initial operation to the effective date of the
site certificate. The Department will then calculate the nominal
amount of offset funds required to cover the excess CO₂ emissions
during the period of operation under the temporary exemption. The
Department will deduct that amount from the offset funds paid by the
certificate holder’s predecessor to The Climate Trust as a condition of
the Order Granting Exemption, dated May 18, 2001. The Department
will apply the remaining offset funds, if any, in nominal dollars as a
credit towards the certificate holder’s offset funds obligation under
the site certificate. The Department will calculate the selection and
contracting funds based on the net offset funds the certificate holder
owes. The Department will notify the certificate holder of the
applicable prorated credit and the net amount due for offset funds
and selection and contracting funds.

(2) Within 30 days after the effective date of the site certificate, the certificate
holder shall enter into a Memorandum of Understanding ("MOU") with The
Climate Trust that establishes the disbursement mechanism to transfer offset
funds and selection and contracting funds to The Climate Trust.
(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
shall provide The Climate Trust as the revised natural gas/distillate fuel monetary path payment requirement.

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

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

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

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

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

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

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.

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).

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.

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:

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.

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.
(c) After installation of the distillate fuel modification, ODOE will use the Year One Capacities and Year One Heat Rates that the certificate holder reports for the energy facility, pursuant to Condition D.15(6), 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 and distillate fuel. The first reporting period for use of distillate fuel shall be pro-rated to match the five-year reporting cycles already established.

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

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

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

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


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

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

E. OTHER APPLICABLE REGULATORY REQUIREMENTS:
Pursuant to ORS 469.503(1)(b), the Council must determine that the proposed facility complies with all other Oregon statutes and administrative rules identified in the Project Order, as amended, as applicable to the issuance of a site certificate.
The only statutes or regulations of an agency other than EFSC addressed in the Project Order are the Noise regulations of the Department of Environmental Quality (DEQ). As noted in the application for site certificate, construction of the facility is already complete, and installation of the distillate fuel modification will not affect wetlands or require a removal/fill permit from Department of State Lands. Other permits normally required for construction were already obtained at initial construction in 2002. A water right is not needed because the facility purchases water from a third party with an existing water right.

E.1.a Noise

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

"No person owning or controlling a new industrial or commercial noise source located on a previously used industrial or commercial site shall cause or permit..."
the operation of that noise source to exceed the levels specified in Table 8, as measured at an appropriate measurement point.” OAR 340-035-0035(1)(b)(A).

The DEQ noise regulations do not specifically apply at wildlife areas or bird sanctuaries, because the Environmental Quality Commission (EQC) has not identified any wildlife areas or bird sanctuaries within the state that warrant such protection. OAR 340-035-0015(50). However, because the Council seeks to ensure there will be no adverse impacts on wildlife as well as human receivers, the Council considers the noise levels at wildlife areas and bird sanctuaries using the DEQ noise regulation limits specified for human receivers.

Discussion
To comply with the DEQ noise control regulations during operation, the noise generated by the KGP must not exceed the “levels specified in Table 8” of the regulations at the “appropriate measurement point.” Table 8 provides the following limits:

<table>
<thead>
<tr>
<th></th>
<th>7 a.m. - 10 p.m.</th>
<th>10 p.m. - 7 a.m.</th>
</tr>
</thead>
<tbody>
<tr>
<td>$L_{50}$</td>
<td>55 dBA</td>
<td>50 dBA</td>
</tr>
<tr>
<td>$L_{10}$</td>
<td>60 dBA</td>
<td>55 dBA</td>
</tr>
<tr>
<td>$L_{01}$</td>
<td>75 dBA</td>
<td>60 dBA</td>
</tr>
</tbody>
</table>

Where the hourly $L_{50}$, $L_{10}$ and $L_{01}$ noise levels are defined as the noise levels equaled or exceeded 50 percent, 10 percent and 1 percent of the hour, respectively.

The appropriate measurement point, as defined by OAR 340-035-0035(3), is “25 feet (7.6 meters) toward the noise source from that point on the noise sensitive building nearest the noise source” or “that point on the noise sensitive property line nearest the noise source,” whichever is farther from the source. KE identified the nearest noise sensitive property as a residence located within the West Klamath residential neighborhood approximately 950 feet north of the KGP facility. KE also identified the nearest point in the Klamath State Wildlife Refuge to be approximately 2,500 feet south of the facility.

The noise radiating from the proposed energy facility would, generally speaking, be relatively constant during an hour. As a result, the hourly $L_{01}$, the hourly $L_{10}$, and the hourly $L_{50}$ noise level radiating from the facility would be about the same. Because the hourly $L_{50}$ noise level criterion is the lowest criterion of the three applicable criteria, the hourly $L_{50}$ criterion would be the most

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8 OAR 340-035-0015 defines “noise sensitive property” as “real property normally used for sleeping, or normally used as schools, churches, hospitals or public libraries.”
limiting criterion of the three. Because KE could operate the KGP at any time during a 24-hour period, the noise radiating from the proposed energy facility must comply with both nighttime and daytime noise limits. Thus, the noise radiating from the KGP equipment must not exceed an hourly $L_{50}$ noise level of 50 dBA at any noise sensitive receiver.

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

To assess the noise generated by the KGP, KE predicted noise levels that would radiate from the equipment to the nearest residence in West Klamath and to the nearest point in the wildlife refuge south of the facility. In addition, KE conducted sound level measurements on May 25 and 26, 2004, to help quantify the amount of sound radiating from the existing equipment at the facility. Based on the results of KE’s analysis and measurements, the noise radiating from the KGP would meet the DEQ hourly $L_{50}$, $L_{10}$ and $L_{01}$ noise criteria at the nearest residences in West Klamath and within the wildlife refuge, when considered independently and when considered in combination with noise radiating from the proposed Klamath Generating Facility (“KGF”), a proposed energy facility that would be owned by an affiliate of KE and located adjacent to the KGP. Therefore, the Council finds that KE would comply with the hourly $L_{50}$, $L_{10}$ and $L_{01}$ noise limits at all residences in West Klamath. In addition, the Council finds that noise from the KGP would not adversely affect the Klamath State Wildlife Refuge.

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

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

1. During construction of the distillate fuel modifications, the certificate holder shall schedule most construction to occur during daylight hours. Construction work at night shall be limited to work inside buildings and other structures when possible.

2. During construction of the distillate fuel modifications, the certificate holder shall require contractors to equip all combustion engine-powered equipment with working exhaust mufflers.
During construction of the distillate fuel modifications, the certificate holder shall establish a complaint response system at the construction manager’s office to address noise complaints.

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

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

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

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

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

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

Electrical appliances and facilities create electric and magnetic fields. KE used the Corona and Field Effects Program produced by the Bonneville Power Administration to calculate the electric and magnetic field strengths at various distances from the centerline of the interconnection.
The maximum electric field was calculated to be 3.48 kV per meter and to occur within 30 feet of the centerline. This is less than the Council standard of 9 kV per meter.

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

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

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

1. The certificate holder shall operate the transmission line in continued accordance with the requirements of the National Electrical Safety Code.

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

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

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

E.2. REQUIREMENTS THAT ARE NOT UNDER COUNCIL JURISDICTION
E.2.a. Federally-Delegated Programs
The Council does not have jurisdiction for determining compliance with those statutes and rules for which the permitting decision has been delegated by the federal government to a state agency other than the Council. However, pursuant to ORS 469.505(1):

"[a]ny permit application for which the permitting decision has been delegated by the federal government to a state agency other than the Energy Facility Siting
Council shall be reviewed, whenever feasible, simultaneously with the Council's review of the site certificate application. Any hearings required on such permit applications shall be consolidated, whenever feasible, with hearings under ORS 469.300 to 469.563 and 469.590 to 469.619."

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

(1) The Air Contaminant Discharge Permit ("ACDP") program administered by DEQ, which includes the federally delegated new source review requirements of the Clean Air Act and the Prevention of Significant Deterioration program. This authority is in ORS Chapter 468A; OAR Chapter 340, Divisions 20, 21, 22, 25, and 31.

(2) The National Pollutant Discharge Elimination System permit program administered by DEQ - Water Quality Division, which regulates and permits storm water runoff and discharges to public waters; and

(3) The program regulating the design, operation, monitoring and removal of underground storage tanks that contain certain toxic and hazardous materials, including petroleum products, administered by DEQ, under ORS Chapter 466; OAR 340, Division 150.

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

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

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

(1) The Oil Spill Contingency and Prevention Plan program, administered by DEQ Water Quality Division under ORS 468B and OAR Chapter 340, Division 47, which regulates the transport, storage, handling, and spill control and prevention of petroleum products;

(2) Regulations of building, structure design and construction practices by the Oregon Building Codes Division under ORS Chapters 447, 455, 460, 476, 479, and 480; OAR Chapter 918, Divisions 225, 290, 301, 302, 400, 440, 460, 750, 770, and 780;
(3) Various programs addressing fire protection and fire safety and the storage, use, handling, and emergency response for hazardous materials and community right to know laws for hazardous materials, administered by the Oregon State Fire Marshal's Office, under ORS Chapters 453, 476, and 480; OAR Chapter 837, Divisions 40 and 90;

(4) The program addressing design and safety standards for natural gas pipelines and electric transmission lines administered by the Oregon Public Utilities Commission, Safety Section under ORS Chapter 757; OAR Chapter 860, Division 24;

(5) Regulations on the size and weight of truck loads on state and federal highways administered by the Oregon Department of Transportation under ORS Chapter 818; OAR Chapter 743, Division 82;

(6) The program regulating the possession, use and transfer of radioactive materials administered by the Oregon State Health Division (OSHD) under ORS Chapter 453; OAR Chapter 333, Divisions 100-119;

(7) Regulations of domestic water supply systems regarding potability administered by OSHD under ORS Chapter 448;

(8) Permits required from ODOT to place a structure within, or to cross a state highway right-of-way.

(9) Building permits required and administered by Klamath County.

(10) Federal Aviation Administration Form 7460-1, Notice of Proposed Construction or Alteration, concerning the impact of the height of the structure on navigable airspace.

F. CONDITIONS REQUIRED OR RECOMMENDED BY COUNCIL RULES
The following conditions are specifically required or recommended by OAR 345, Divisions 24, 26 and 27, to address project and site-specific conditions and requirements. These conditions shall apply and should be read together with the additional specific conditions recommended in Sections D and E of this Order to ensure compliance with the siting standards of OAR 345, Divisions 22, 23 and 24, and to protect the public health and safety.

In addition to all other conditions stated in this order, the certificate holder is subject to all conditions and requirements contained in the rules of the Council and local ordinances and state law in effect on the date the site certificate is executed, except: (1) that upon a clear showing of a significant threat to the public health, safety or the environment that requires application of later-adopted laws or rules, the Council may require compliance with such later-adopted laws or rules; and, (2) that the site certificate shall provide for facility compliance with applicable state
and federal laws adopted in the future to the extent that such compliance is required under the respective state agency statutes and rules. ORS 469.401(2).

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

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

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

1. **The Council shall not change the conditions of the site certificate except in accordance with the applicable provisions of OAR 345, Division 27, in effect on the date of the Council action.**

2. **Within 30 days after the effective date of the site certificate, the certificate holder shall submit to ODOE a legal description of the site, except as provided in OAR 345-027-0023(6).**

3. **The certificate holder shall design, construct, operate, and retire the facility:**
   
   (a) **Substantially as described in the site certificate;**
   
   (b) **In compliance with the requirements of ORS Chapter 469, applicable Council rules, and applicable state and local laws, rules and ordinances in effect on the effective date of the site certificate; and**
   
   (c) **In compliance with all applicable permit requirements of other state agencies.**

4. **If the certificate holder elects to install the distillate fuel modification, it shall report promptly to ODOE the date on which it began construction of the modification, as defined in OAR 345-001-0010(11). In reporting the beginning of construction, the certificate holder shall describe all work performed on the site before beginning construction, including work performed before the Council issued the site certificate, and shall state the cost of that work, all as set forth under OAR 345-026-0048.**

5. **The certificate holder shall not begin construction, as defined in OAR 345-001-0010, or create a clearing on any part of the site until the certificate holder has construction rights on all parts of the site. For the purpose of this**
condition, “construction rights” means the legal right to engage in
collection activities.

F.2 OTHER CONDITIONS BY RULE
This section contains recommended conditions based on the Council’s rules. In some cases, the
rules propose conditions; in other cases the conditions make explicit certain obligations of the
certificate holder.

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

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

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

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

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

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

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

(4) The certificate holder shall, within 120 days after the end of each calendar
year after the effective date of the site certificate, submit an annual report to
the Council that addresses the subjects listed in OAR 345-026-0080(2). The
Council secretary and the certificate holder may, by mutual agreement,
change the reporting date.

(5) To the extent that information required by OAR 345-026-0080(2) is
contained in reports the certificate holder submits to other state, federal or
local agencies, the certificate holder may submit excerpts from such other
reports. The Council reserves the right to request full copies of such excerpted reports.

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

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

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

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

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

(8) The certificate holder shall notify ODOE within 72 hours of any occurrence involving the facility if:

(a) There is an attempt by anyone to interfere with its safe operation;

(b) A natural event such as an earthquake, flood, tsunami or tornado, or a human-caused event such as a fire or explosion, affects or threatens to affect the public health and safety or the environment; or,

(c) There is any fatal injury at the facility.

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

(1) The general arrangement of the Klamath Generation Peakers shall be substantially as shown in the ASC.
Successors and Assigns. Ownership of the site certificate or facility may change over time. The Council adopts the following condition:

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

Severability and Construction. The Council adopts the following condition:

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

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

(4) The laws of the State of Oregon shall govern this site certificate.

(5) Any litigation or arbitration arising out of this agreement shall be conducted in an appropriate forum in Oregon.

H. GENERAL CONCLUSION

The Council finds:

(a) The facility complies with the standards adopted by the Council pursuant to ORS 469.501;

(b) The energy facility is a non-base load gas plant that complies with the applicable carbon dioxide emissions standard, OAR 345-024-0550;

(c) Except for those statutes and rules for which the decision on compliance has been delegated by the federal government to a state agency other than the Council, the facility complies with all other Oregon statutes and administrative rules identified in the Project Order, as amended, as applicable to the issuance of a site certificate for the proposed facility adopted by the Council or enacted by statute; and,

(d) The facility complies with the statewide planning goals adopted by the Land Conservation and Development Commission, pursuant to ORS 469.503(4).

The Council concludes that KE meets these requirements and will a site certificate for the Klamath Generation Peakers.
I. ORDER

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

Issued on 27 September, 2005

By: [Signature]
Hans Neukomm, Chair
Energy Facility Siting Council

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ATTACHMENT A

MEMORANDUM OF UNDERSTANDING
MONETARY PATH PAYMENT REQUIREMENT
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
The Trust as specified in the Site Certificate, and (2) by The Trust as specified in OAR 345-024-0710.

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

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

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

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

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

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

1.5 Before beginning construction of any element of the distillate fuel modification, the Project Owner shall pay to The Trust Offset Funds and Selection and
Contracting Funds in the amounts calculated by the Department (in 2005 dollars) in accordance with Condition D.15(4) of the Site Certificate or as the calculation may be modified by Condition D.15(11).

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

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

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

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

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

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

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

3. Periodic Five-Year Monetary Path Payments

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

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

3.3 For any Periodic Five-Year Monetary Path Payment, the amount of Selection and Contracting Funds shall equal 20 percent of the value of any Offset Funds up to
the first $250,000 (in 2005 dollars) and 4.286 percent of the value of any Offset Funds in excess of $250,000 (in 2005 dollars).

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

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

4. **Undertaking by The Trust**

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

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

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

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

5. **Limited Obligation of Project Owner.**
The Trust acknowledges, pursuant to OAR 345-024-0710(3), that the Project Owner and the Project shall have no obligation with regard to offsets for the Project other than to make available to The Trust the total amount of the monetary path payments.
6. **Limited Participation by Project Owner in The Trust Decision Making.**

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

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

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

8. **General Provisions.**

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

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

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

8.4 **Entire Agreement:** This Agreement constitutes the entire agreement between the parties hereto as to the matters set forth herein, and all prior proposals,
commitments, understandings and agreements, whether oral or in writing, as to such matters are superseded by this Agreement.

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

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

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

**KLAMATH ENERGY, LLC**

By: ____________________________

Name: __________________________

Title: __________________________

Date: __________________________

**THE CLIMATE TRUST**

By: ____________________________

Name: __________________________

Title: __________________________

Date: __________________________

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

**NOTICE OF THE RIGHT TO APPEAL**

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