
Request for Amendment No. 3 to the Site Certificate for the Klamath Generation Facility

Prepared for
Oregon Energy Facility Siting Council

May 16, 2011

Prepared by
Klamath Generation, LLC
Anderson Engineering and Surveying, Inc.
Jacobs Engineering Group, Inc.
CH2MHILL
Ecology and Environment, Inc.



**Printed on
Recycled and
Recyclable
Paper**

Contents

Section	Page
Acronyms and Abbreviations	vii
1 Introduction.....	1-1
1.1 Purpose of Proposed Amendment.....	1-1
1.2 Definition of Terminology.....	1-2
1.3 Summary of Modifications.....	1-2
1.3.1 Authorize Construction of a Biomass-Fueled Power Plant.....	1-2
1.3.2 Reduce Peak Generating Capacity to Approximately 35 Megawatts	1-2
1.3.3 Modify Previously-Authorized Site Boundary	1-3
1.3.4 Extend the Deadlines for Plant Construction.....	1-4
1.4 Regulatory Framework for This Request.....	1-4
2 Information Required Pursuant to OAR 345-027-0030	2-1
3 Information Required Pursuant to OAR 345-027-0050(1)	3-1
4 Information Required Pursuant to OAR 345-027-0060(1)(a) through (d).....	4-1
4.1 OAR 345-027-0060(1)(a) Name and Mailing Address	4-1
4.2 OAR 345-027-0060(1)(b) Description of Facility	4-1
4.3 OAR 345-027-0060(1)(c) Proposed Modifications to the Permitted Facility...	4-2
4.3.1 Proposed Modifications to Major Facilities	4-2
4.3.2 Proposed Modifications to Related or Supporting Facilities	4-6
4.3.3 Legal Description for Proposed Expanded Site Boundary.....	4-9
5 Information Required Pursuant to OAR 345-027-0060(1)(e) – Relevant Council Standards	5-1
5.1 OAR 345-022 General Standards for Siting Facilities	5-1
5.1.1 OAR 345-022-0010 Organizational Expertise	5-1
5.1.2 OAR 345-022-0020 Structural Standard.....	5-3
5.1.3 OAR 345-022-0022 Soil Protection.....	5-5
5.1.4 OAR 345-022-0030 Land Use	5-7
5.1.5 OAR 345-022-0040 Protected Areas	5-10
5.1.6 OAR 345-022-0050 Retirement and Financial Assurance	5-16
5.1.7 OAR 345-022-0060 Fish and Wildlife Habitat.....	5-17
5.1.8 OAR 345-022-0070 Threatened and Endangered Species	5-20
5.1.9 OAR 345-022-0080 Scenic Resources.....	5-23
5.1.10 OAR 345-022-0090 Historic, Cultural and Archaeological Resources	5-26
5.1.11 OAR 345-022-0100 Recreation.....	5-27
5.1.12 OAR 345-022-0110 Public Services.....	5-29
5.1.13 OAR 345-022-0120 Waste Minimization	5-33
5.2 OAR 345-024 Specific Standards for Siting Facilities	5-35

5.2.1	OAR 345-024-0090 Transmission Lines	5-35
5.2.2	OAR 345-024-0550 Carbon Dioxide Standard for Base Load Gas Plants.....	5-37
6	Information Required Pursuant to OAR 345-027-0060(1)(f) and (g) – Other Applicable Requirements	6-1
6.1	OAR 345-027-0060(1)(f) Compliance with ORS Chapter 469 and Other Applicable Requirements	6-1
6.1.1	DEQ Noise Control Regulations – OAR 340-035-0035	6-1
6.1.2	Department of State Lands (DSL) Removal/Fill Regulations – ORS 196.795 to .990, OAR 141-085-0500 to -0785, and Section 404 of the Clean Water Act.....	6-3
6.1.3	State Highway Access and Crossings – OAR Chapter 734, Divisions 51 and 55	6-4
6.1.4	Public Health and Safety – ORS 469.310	6-4
6.2	Compliance with Federally Delegated Programs That Are Not Under Council Jurisdiction.....	6-6
6.2.1	Air Quality.....	6-6
6.2.2	Federal Aviation Administration Permit Requirements	6-6
6.3	OAR 345-027-0060(1)(g) Landowners Within or Adjacent to the Facility	6-7
7	Information Described in Applicable Exhibits and Incorporation of Previous Information by Reference, Pursuant to OARs 345-027-0060(2), (3), and (4).....	7-1
8	Information Required Pursuant to OAR 345-027-0070 (2) and (10): Review of a Request for Amendment	8-1
9	Works Cited.....	9-1

Attachments

1	Figures Referenced in the Amendment Request
2	Redline Site Certificate
3	Species List
4	Cultural Resources Survey [<i>confidential; provided under separate cover</i>]
5	Traffic Impact Analysis
6	Wetland Assessment
7	Landowners within 250 feet of Proposed Modified Site Boundary

Tables

1-1	Permanent and Temporary Impacts.....	1-3
5-1	Soil Series/Complexes in the Vicinity of the Proposed Modified Site Boundary	5-5
5-2	Protected Areas within 20-Mile Analysis Area.....	5-13
5-3	Habitat Types within 0.5-Mile Analysis Area.....	5-18
5-4	Permanent and Temporary Impacts by Habitat Type and Category	5-19
5-5	Applicable Local Land Use Plans and Federal Management Plans that Pertain to Lands Within 10 Miles of the Proposed Modified Site Boundary.....	5-24
5-6	Historical Population of Klamath County and Klamath Falls.....	5-32

Figures (*located in Attachment 1*)

- 1 Location Map
- 2 Site Layout
- 3 Site Plan Detail
- 4 Permanent Footprint and Temporary Impact Areas
- 5 Process Flow Diagram
- 6 Heat Balance Diagram
- 7 Water Balance Diagram
- 8 Plant Elevations
- 9 Soils Map
- 10 Aerial Photograph of Existing Land Use within Proposed Modified Site Boundary
- 11 Zoning Map
- 12 Protected Areas within 20 Miles of Proposed Modified Site Boundary
- 13 Natural Resource Field Survey Area
- 14 Preliminary Habitat Types and Categories
- 15 Permanent and Temporary Impacts by Habitat Type and Category
- 16 Substation Interconnection

Acronyms and Abbreviations

ACDP	Air Contaminant Discharge Permit
bdt	bone dry tons
BLM	U.S. Bureau of Land Management
BOP	Balance of Plant
certificate holder	Klamath Generation, LLC [<i>see also</i> KG]
CO ₂	carbon dioxide
Council	Energy Facility Siting Council
CUP	conditional use permit
dBA	decibels at an A-weighted scale
DCS	distributed control system
DEQ	Oregon Department of Environmental Quality
DOGAMI	Oregon Department of Geology and Mineral Industries
DSL	Oregon Department of State Lands
E&E	Ecology and Environment Inc.
EPA	U.S. Environmental Protection Agency
ESP	electrostatic precipitator
FAA	Federal Aviation Administration
Facility	Klamath Generation Facility
gpd	gallons per day
gpm	gallons per minute
IRI	Iberdrola Renewables, Inc. (formerly IBR)
KCCP	Klamath County Comprehensive Plan
KCLDC	Klamath County Land Development Code
KCP	Klamath Cogeneration Project
KG	Klamath Generation, LLC [<i>see also</i> certificate holder]
KGF	Klamath Generation Facility
KGP	Klamath Generation Peakers

kV	kilovolt
KWA	Klamath Wildlife Area
mgd	million gallons per day
MMBtu	Million British thermal units per hour
MW	megawatt
NO _x	nitrogen oxide
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NWR	National Wildlife Refuge
OAR	Oregon Administrative Rule
ODFW	Oregon Department of Fish and Wildlife
ODOE	Oregon Department of Energy
ODOT	Oregon Department of Transportation
OPRD	Oregon Department of Parks and Recreation
ORBIC	Oregon Biodiversity Information Center
ORS	Oregon Revised Statute
OSSC	Oregon Structural Specialty Code
OSU	Oregon State University
PG&E GT	Pacific Gas and Electric Gas Transmission
PSD	Prevention of Significant Deterioration
psig	pounds per square inch gauge
PUC	Public Utility Commission
SAG	special advisory group
SCR	selective catalytic reduction
SHPO	(Oregon) State Historic Preservation Office
SNCR	selective noncatalytic reduction
SSSD	South Suburban Sanitary District
SSWTP	Spring Street Wastewater Treatment Plant
STG	steam turbine generator
SWA	State Wildlife Area

UGB	urban growth boundary
US 97	U.S. Route 97
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
WSR	Wild and Scenic River

SECTION 1

Introduction

Klamath Generation, LLC (KG; certificate holder) obtained a Site Certificate on September 27, 2005, to construct the Klamath Generation Facility (KGF; Facility; power plant) in Klamath County, Oregon. The Site Certificate, as amended in 2007 and 2009, authorizes construction, operation, and retirement of a combined-cycle natural gas-fired power plant with a nominal generating capacity of up to 500 megawatts (MW). Figure 1 (Attachment 1) shows the location of the KGF.

1.1 Purpose of Proposed Amendment

The purpose of this proposed amendment to the KGF Site Certificate is as follows:

1. Authorize construction of a biomass-fueled power plant.
2. Reduce the peak generating capacity approved under the Site Certificate from approximately 500 MW to approximately 35 MW net, or approximately 39 MW gross generating capacity.
3. Modify the previously-authorized site boundary to allow for a layout that will accommodate related and supporting facilities required for plant operation.
4. Extend the deadlines for plant construction.

KG is requesting this amendment to reflect an ongoing change in the marketplace. The demand from load serving utilities for gas generation on the West Coast is not expected to increase in the foreseeable future. Meanwhile, many states have implemented renewable portfolio standards. These standards will significantly increase reliance on renewable energy sources over a relatively short time period. As such, the new standards are driving a new demand for base load renewable resources, such as the proposed modified Facility.

Iberdrola Renewables, Inc. (IRI), which wholly owns KG, is also developing an approximately 5-MW photovoltaic solar facility on approximately 20 acres adjacent to the proposed modified KGF. The solar facility will be authorized under a conditional use permit (CUP) issued by Klamath County. As such, and given the solar facility's size and independent operational status, it is not subject to the Energy Facility Siting Council's (Council) jurisdiction. A legal entity, wholly owned by IRI but wholly separate from KG, will hold the CUP. The solar facility will maintain separate operating personnel, and the KGF and the solar facility will be designed to operate independently. The KGF and the solar facility will not share any facilities except for use of the access road and common interconnection to the existing, 13.8-kilovolt (kV) to 500-kV transformer (Step-up Transformer) that is currently in use by the Klamath Generation Peakers (KGP). The transformer currently has capacity to handle the additional energy and will not require any upgrades, and the impacts associated with the transformer have been addressed by the Site

Certificate issued to the KGP in 2005 (*Site Certificate for the Klamath Generation Peakers, September 27, 2005*).

This amendment request includes a small area (approximately 26 acres) within the proposed modified site boundary for the KGF as potential temporary laydown area during construction. This same area is included within the boundary of the solar facility. Detailed construction layout and construction schedules for both projects will determine whether the area can be temporarily used during construction of the modified KGF before installation of the solar facility. In the event this area is not used for KGF laydown because of the timing of the solar facility construction, KG will notify the Council accordingly, and this area should be excluded from the site boundary of the proposed modified KGF.

1.2 Definition of Terminology

This amendment request uses the terms defined in Oregon Revised Statute (ORS) 469.300 and Oregon Administrative Rule (OAR) 345-001-0010. In addition, the following terms unique to this request are used often:

- KGF refers to the facility authorized under the September 27, 2005, Site Certificate, as amended. The term “previously-authorized KGF” is used for additional clarity.
- “Proposed modified KGF” and “proposed Facility” refer to the modified facility components for which this amendment request is being made.
- Site Certificate refers to the September 27, 2005, Site Certificate, as amended in 2007 and 2009.
- Final Order refers to the September 27, 2005, Final Order, as amended in 2007 and 2009.

1.3 Summary of Modifications

Sections 1.3.1 through 1.3.4 summarize the proposed modifications enumerated in Section 1.1.

1.3.1 Authorize Construction of a Biomass-Fueled Power Plant

This amendment request seeks to authorize construction of a biomass-fueled power generation facility in lieu of the previously-authorized combined-cycle natural gas-fired power plant.

1.3.2 Reduce Peak Generating Capacity to Approximately 35 Megawatts

This amendment request seeks to reduce the peak (maximum) generating capacity from 500 MW as originally authorized for KGF in the Site Certificate. The Site Certificate authorized construction of a combined-cycle combustion turbine system fueled by natural gas, with a nominal electric generating capacity of approximately 500 MW. The proposed modified KGF will consist of a boiler fired by woody biomass generating steam for a steam turbine generator (STG) with approximately 35 MW net, or approximately 39 MW gross generating capacity.

1.3.3 Modify Previously-Authorized Site Boundary

This amendment request proposes to modify the previously-authorized site boundary to allow for a layout that would accommodate the related and supporting facilities required for operation of the modified KGF (see Section 4.3.2). Related or supporting facilities not described in this amendment request remain unchanged from those facilities authorized in the Site Certificate.

The existing Site Certificate authorizes construction of the KGF on approximately 25 acres of land (site boundary). In addition to the permanent structures located within the site boundary, the Site Certificate authorizes use of temporary laydown and parking areas during construction, located outside the site boundary on approximately 52 acres of nearby land. The total disturbance (temporary and permanent) authorized under the Site Certificate is 77 acres.

Under this amendment, the certificate holder seeks to modify the site boundary consistent with current definitions to include both the permanent and temporary impact areas. Table 1-1 shows the impacts.

TABLE 1-1
Permanent and Temporary Impacts

Permanent Impacts	
Total Acres of Permanent Impact within Proposed Modified Site Boundary	34.9
Total Acres of Permanent Impact for U.S. 97 Modifications	0.2
Total	35.1
Temporary Impacts	
Total Acres of Temporary Impact within Proposed Modified Site Boundary	78.9
Total Acres of Temporary Impact for U.S. 97 Modifications	5.0
Total	83.9*
Grand Total	119.0

*Maximum total acres of temporary impacts.

All numbers have been rounded to the nearest tenth.

The modification proposed in this amendment request will increase the total number of acres within the proposed modified KGF site boundary to approximately 142.5 acres. The site boundary includes areas where permanent and temporary disturbance could occur. As shown in Table 1-1, the total permanent disturbance will be approximately 35.1 acres, and the total temporary disturbance will be 83.9 acres, which is less than the remaining 107.4 acres within the site boundary. Please refer to Figures 2, 3, and 4 (Attachment 1) for maps of the proposed modified KGF site layout, components of the proposed modification, and areas of permanent and temporary impact. Although temporary impacts are shown within the approximately 23.5 acres of the existing Klamath Cogeneration Project (KCP) and KGP sites, the modifications proposed in this amendment request do not seek to modify existing facilities authorized under separate site certificates. Temporary impacts within the boundaries of the existing KCP and KPF will occur as a result of installation of utility lines

and electrical connection to the KCP transformer. Current conditions will be restored following construction. No further authority to construct in these areas would be authorized under the proposed modification.

1.3.4 Extend the Deadlines for Plant Construction

KG seeks to extend the deadline for beginning construction from November 16, 2011, to November 16, 2013. KG seeks to extend the deadline for completing construction from November 16, 2014, to November 16, 2016. The request for extension is to allow sufficient time to complete detailed design needed for the proposed modified Facility.

1.4 Regulatory Framework for This Request

This request is organized in accordance with OAR 345-027-0030, -0050, -0060, and -0070, which set forth the required contents of a request to amend a site certificate, as well as additional considerations for the Council in deciding whether to grant an amended site certificate. The following sections of this request provide the information required by OAR 345-027-0030, 345-027-0050(1), OAR 345-027-0060, and OAR 345-027-0070(2) and (10).

SECTION 2

Information Required Pursuant to OAR 345-027-0030

(1) The certificate holder may request an amendment to extend the deadlines for beginning or completing construction of the facility that the Council has specified in a site certificate or an amended site certificate. The certificate holder shall submit a request that conforms to the requirements of 345-027-0060 no later than six months before the date of the applicable deadline, or, if the certificate holder demonstrates good cause for the delay in submitting the request, no later than the applicable deadline.

Response: The Site Certificate, as amended, specifies that KG shall begin construction of the KGF by November 16, 2011, and shall complete construction of the KGF by November 16, 2014. KG seeks to extend the deadline for beginning construction from November 16, 2011, to November 16, 2013. KG seeks to extend the deadline for completing construction from November 16, 2014, to November 16, 2016. The purpose of the request for extension is to allow sufficient time to complete detailed design needed for the proposed modified Facility.

KG has prepared this Third Amendment Request in conformance with OAR 345-027-0060, as set forth below, and will file it on or before May 16, 2011, which is no later than 6 months before the current authorized construction start date of November 16, 2011.

(2) A request within the time allowed in section (1) to extend the deadlines for beginning or completing construction suspends those deadlines until the Council acts on the request.

Response: With the submission of this Third Amendment Request, the construction start and completion deadlines are suspended until the Council acts on the request.

(3) The Council shall review the request for amendment as described in OAR 345-027-0070.

Response: KG has provided this Third Amendment Request in accordance with the applicable requirements to facilitate the Council's review under OAR 345-027-0070. KG is requesting extended review pursuant to OAR 345-027-0070(2)(a), as set forth in Section 8 below. Moreover, if the Oregon Department of Energy (ODOE) and the public wish to hold an optional public meeting on this request, then KG would participate.

Under OAR 345-027-0070(10), the Council must take into account certain considerations when making a decision to grant or deny issuance of an amended site certificate. The information required by OAR 345-027-0070(10) is set forth in Section 8 of this amendment request.

(4) If the Council grants an amendment under this rule, the Council shall specify new deadlines for beginning or completing construction that are not more than two years from the deadlines in effect before the Council grants the amendment.

Response: Should the Council grant KG's Third Amendment Request, it is understood that the construction start and completion deadlines will be extended by 2 years from the

deadlines in effect in the Site Certificate, i.e., the revised start date for construction will be November 16, 2013, and the revised completion date for construction will be November 16, 2016. The Third Amendment Request is consistent with OAR 345-027-0030(4).

(5) To grant an amendment extending the deadline for beginning or completing construction of an energy facility subject to OAR 345-024-0550, OAR 345-024-0590, or OAR 345-024-0620, the Council must find that the facility complies with the carbon dioxide standard in effect at the time of the Council's order on the amendment.

Response: The revised Facility, a base load biomass-fired power plant, is not subject to OAR 345-024-0550, OAR 345-024-0590, or OAR 345-024-0620, because it will not be a base load gas plant, a non-base load power plant, or a nongenerating energy facility. Therefore, this rule is not applicable to the proposed modified KGF.

SECTION 3

Information Required Pursuant to OAR 345-027-0050(1)

(1) Except as allowed under sections (2) and (6), the certificate holder must submit a request to amend the site certificate to design, construct or operate a facility in a manner different from the description in the site certificate if the proposed change:

(a) Could result in a significant adverse impact that the Council has not addressed in an earlier order and the impact affects a resource protected by Council standards;

Response: As originally authorized under the Site Certificate, the KGF would consist of a combined-cycle combustion turbine system fueled by natural gas, with a generating capacity of approximately 500 MW. This amendment request seeks to change the fuel supply to woody biomass, reduce the peak generating capacity to approximately 35 MW net, or approximately 39 MW gross generating capacity, modify the previously-authorized site boundary, and extend the deadlines for plant construction. Therefore, an amendment to the Site Certificate is required.

(b) Could impair the certificate holder's ability to comply with a site certificate condition; or

Response: The certificate holder is able to comply with all existing site certificate conditions (except as identified in Sections 4, 5, and 6 of this amendment request and Attachment 2, Redline Site Certificate).

(c) Could require a new condition or change to a condition in the site certificate.

Response: Modifications to several site certificate conditions will be required to allow construction in the proposed modified site boundary. These conditions are detailed in Sections 4, 5, and 6 and Attachment 2 (Redline Site Certificate).

SECTION 4

Information Required Pursuant to OAR 345-027-0060(1)(a) through (d)

4.1 OAR 345-027-0060(1)(a) Name and Mailing Address

(1) To request an amendment of a site certificate, the certificate holder shall submit a written request to the Department of Energy that includes the information described in section (2) and the following:

(a) The name and mailing address of the certificate holder and the name, mailing address and phone number of the individual responsible for submitting the request.

Name and Address of Certificate Holder:

Klamath Generation, LLC
1125 NW Couch Street, Suite 700
Portland, OR 97209

Name, Mailing Address, and Phone Number of Individual Responsible for Submitting the Request:

Anders Bisgard
Iberdrola Renewables, Inc.
1125 NW Couch Street, Suite 700
Portland, OR 97209
(503) 796-6927

4.2 OAR 345-027-0060(1)(b) Description of Facility

(b) A description of the facility including its location and other information relevant to the proposed change.

Response: The previously-authorized KGF is described in Exhibits B and C of the Application for Site Certificate (December 2001) and Section IV of the Final Order (September 2005). The certificate holder is proposing to modify the KGF in the manner described in this amendment request. As originally authorized under the Site Certificate, the KGF would consist of a combined-cycle combustion turbine system fueled by natural gas, with a generating capacity of approximately 500 MW. This amendment request seeks to change the fuel supply to woody biomass, reduce the peak generating capacity to approximately 35 MW net, or approximately 39 MW gross generating capacity, modify the previously-authorized site boundary, and extend the deadlines for plant construction.

The proposed modified KGF components will be located on private land for which the certificate holder has negotiated long-term leases or lease options, and will amend an existing lease option.

4.3 OAR 345-027-0060(1)(c) Proposed Modifications to the Permitted Facility

(c) A detailed description of the proposed change and the certificate holder's analysis of the proposed change under the criteria of OAR 345-027-0050(1).

4.3.1 Proposed Modifications to Major Facilities

This amendment request seeks to change the fuel supply and reduce the peak generating capacity from what was previously authorized in the Site Certificate. The fuel supply will change from natural gas to woody biomass and the peak generating capacity will decrease from approximately 500 MW to approximately 35 MW net.

As modified, the proposed KGF will consist of a boiler fired by woody biomass generating steam for a STG. Most of the steam will be passed through the STG (generating electricity for offsite distribution) and then through an air-cooled condenser before completing the steam cycle loop and returning to the boiler as feed water. KGF's net electrical output at annual average operating conditions will be approximately 35 MW, with a total of approximately 39 MW gross generating capacity. In addition to the steam/power generation operating system, major facilities are categorized under the cycle cooling system; the fuel delivery and handling system; and the water treatment system. Each system is discussed below. Figure 3 provides a detailed plan of the Facility site layout. Figure 5 provides a process flow diagram for the Facility. The Balance of Plant (BOP) system and the electric and transmission system are discussed under Section 4.3.2, Proposed Modifications to Related or Supporting Facilities.

Existing structures (unused maintenance facilities dating to approximately 1967) belonging to Collins Products may be demolished in order to site facilities for the proposed modified KGF. If these structures need to be demolished based on the final design, KG will provide documentation of Collins Products' willingness to allow these structures to be removed.

Steam/Power Generation System

Two primary components comprise the steam/power generation system: (1) the biomass-fired boiler, and (2) the STG. Figure 6 provides a heat balance for the Facility.

Biomass-fired Boiler. The boiler will consume up to 210,000 bone dry tons (bdt) of biomass fuel annually fed via the fuel handling system. The boiler will be covered by a roof and walls to facilitate operations and maintenance and to reduce noise levels. The boiler will be enclosed in a covered structure approximately 110 feet in height with a footprint of approximately 84 feet by 94 feet. This structure is smaller than the corresponding structure authorized under the existing site certificate. Potable water will be supplied to the Facility from the City of Klamath Falls. An average of 18 gallons per minute (gpm) of water will be used by the boiler.

Steam Turbine Generator. Heat from the combustion process inside the boiler furnace will heat tubes of water to generate steam at an operating pressure of up to 1,900 pounds per square inch-gauge (psig) and an operating temperature of up to 1,050 degrees Fahrenheit (°F). The boiler uses condensate from the condenser to begin the four-stage heating process

through the preheater, economizer, boiler, and super heater. The steam generated from the boiler will be used to supply steam to the steam turbine. The STG and accessory equipment will be housed in a covered structure approximately 45 feet in height with a footprint of approximately 60 feet by 100 feet. This structure is smaller than the corresponding structure authorized under the existing Site Certificate.

After passing through the boiler, the exhaust gas flow will be passed through a multiclone and electrostatic precipitator (ESP) or baghouse unit to reduce emissions of particulate matter. Emissions of nitrogen oxides (NO_x) will be reduced through the use of selective noncatalytic reduction (SNCR). Ammonia will be used as part of the SNCR emissions treatment process. It is estimated that approximately 25 gallons per hour of ammonia will be used. The ammonia will be stored outdoors in an approximately 10,000-gallon pressure vessel with secondary containment. From the ESP unit, the boiler exhaust gas will vent to atmosphere via the biomass boiler stack, which will have a height of 150 to 199 feet. The final stack height, which will be chosen to reduce the potential for aerodynamic downwash of stack emissions while minimizing visual impacts, will be no greater than the corresponding stack height authorized under the existing Site Certificate (up to 199 feet).

The ESP and combustion fan/economizer structure (approximately 40 feet wide by 186 feet long by 70 feet in height) will be connected at one end to the main boiler and at the other end to the boiler exhaust stack. This structure is smaller than the corresponding structure authorized under the existing site certificate.

Cycle Cooling System

The existing Site Certificate allows construction of either an evaporative (wet) cooled or dry-cooled, natural gas-fired combined-cycle combustion turbine base load power project. As stated in the Final Order (page 7), the evaporative cooling system would use reclaimed water from the Spring Street Wastewater Treatment Plant (SSWTP) and the South Suburban Sanitary District (SSSD) as the primary source of cooling tower makeup water. An estimated average of 3.0 million gallons per day (mgd) would be required on an average annual basis, and 4.0 mgd would be required under maximum conditions.

In contrast, the proposed modified KGF will use an air-cooled condenser, i.e., dry cooling, to remove 100 percent of the waste heat from the Facility's main steam cycle. The modified KGF will also include a small hybrid (i.e., wet/dry) auxiliary cooler to cool the main electrical generator. The hybrid auxiliary cooler uses the dry cooling configuration as the primary system and has the added capability for partial evaporative cooling.

The evaporative cooling section of the modified KGF auxiliary cooler will operate when its dry cooling mode is insufficient to maintain thermal efficiency. These periods will occur when the ambient temperature is greater than the auxiliary cooler's dry cooling design point, e.g., 75 to 80 °F. Therefore, the modified KGF auxiliary cooler will only operate in hybrid (i.e., dry plus evaporative cooling) mode for up to approximately 750 hours per year, generally on hot afternoons when the relative humidity is low. During evaporative operation, the auxiliary cooler's water demand is estimated at 10 to 20 gpm. This water will consist of potable water, supplied by the City of Klamath Falls. Unlike the previously-authorized KGF described in the Final Order, because of the reduced water demand

resulting from modifications proposed in this amendment request, the proposed modified KGF will not rely on reclaimed water.

Conditions 73 through 76 of the Site Certificate address operational requirements of the evaporative cooling system approved for the KGF. Because the proposed modified KGF will not use this system, it will not use or return reclaimed water to the SSWTP and SSSD and therefore these conditions no longer apply.

Fuel Delivery and Handling System

Biomass fuel for the modified KGF will consist of forest thinnings from the surrounding area. Some nonmerchantable timber storage will be provided onsite as a backup fuel supply. Fuel will be delivered onsite by truck. Fuel deliveries are estimated to average approximately 64 truckloads per day for 5 to 6 days per week and 50 weeks each year.

Upon entry onto the proposed modified KGF site at the designated truck entrance from U.S. Route 97 (US 97), the fuel loads will be weighed on a platform electronic scale and will be dumped by up to three above-grade hydraulic dumpers with close-coupled, live-bottom receivers. The fuel will be discharged from the dump hoppers to an out-feed belt conveyor and on to a hog/screen structure. From there, the fuel will be discharged to a screening-hogging line, which will size the fuel with oversized fuel diverted to the hog for size reduction, with the fuel then being subsequently reintroduced to the fuel feed system via front-end loaders. Fuel will be discharged to a stacking conveyor and will be sent to the fuel storage piles.

One gravel area is proposed for fuel storage, as shown on Figure 3. The stored fuel will occupy an area approximately 400 feet in diameter and up to 80 feet high, and will contain approximately 8.3 million cubic feet of fuel, which is approximately 3 months of operating fuel supply. In addition, whole wood log fuel storage of nonmerchantable logs will be stored within a dedicated graveled area (approximately 3 acres) within the fenceline, separate from the fuel pile.

Fuel will be reclaimed via an overhead reclaimer of up to approximately 125 feet in height on a first-in, first-out basis from the outdoor pile and routed to the fuel delivery system at the boiler. Fuel fired in the boiler will consist of forest management residuals (such as wood, bark, and wood residue). Small amounts of auxiliary fuel (natural gas) will also be used during startups for boiler warm-up and stabilization.

Water Treatment Systems

As described in the Cycle Cooling System section, the proposed modified KGF will use a dry rather than evaporative cooling system for its main steam cycle. Because the proposed modified KGF will rely primarily on a dry cooling system, KGF water demand will be significantly lower than that authorized under the Site Certificate, an approximate 98 percent reduction in water use versus what is currently authorized under the Site Certificate. Figure 7 provides a water balance diagram for the Facility.

Water used by the proposed modified KGF will be potable quality water. The use of reclaimed water, authorized in the Site Certificate, will no longer be required under the modifications proposed in this amendment. The quantity of potable water required from the City for the proposed modified KGF will be reduced from the 0.36 mgd identified in the Site

Certificate, to an average of approximately 0.05 mgd. Therefore, although all of the Facility's operational needs will now be supplied by the City of Klamath Falls, the total potable water needs have been reduced by more than 85 percent below the amount described in the Final Order.

Makeup Water Treatment. A complete water treatment system will be designed to treat makeup water required for the proposed modified KGF steam cycle. A demineralizer or reverse osmosis system with green sand or activated carbon filters will be designed to provide makeup water to the boiler. This system will be regenerated offsite, as applicable, and require some chemical additions to manage the water chemistry within the steam cycle. Potential chemicals include sulfuric acid and caustic soda. Chemicals stored onsite will be placed in a dedicated area with sufficient secondary containment. The volume of chemicals stored onsite will vary between 50- and 200-gallon totes. The water treatment system will be located inside the water treatment structure. A demineralized water storage tank will be installed to provide at least 24 hours of storage.

The water treatment system equipment as well as a diesel fire pump and emergency generator will be housed in a covered structure approximately 23 feet in height with a footprint of approximately 60 feet by 70 feet. This structure is smaller than the corresponding structure authorized under the existing Site Certificate.

Wastewater Treatment. As described in the Final Order (page 9), wastewater from the KGF would be piped to an interconnection point at the Facility boundary. The wastewater pipeline would connect to an existing 8-inch wastewater return pipeline to the SSWTP. Under the proposed modified KGF, wastewater will continue to be handled in the same way as previously described, and will include the same types of wastewater described in the Final Order (sanitary wastewater from plant domestic services; neutralized demineralizer wastewater; and blowdown from the boiler and hybrid cooling system). The quantity of wastewater will be significantly lower than that described in the Final Order because main cooling tower blowdown will be eliminated and hybrid cooling blowdown will occur at a much lower rate, and only during the hottest times of the year when the evaporative cooler is operated as described above.

Regenerant waste will be neutralized onsite, as required. The total quantity of all wastewater generated by the proposed modified KGF will be approximately 0.048 mgd on average, with an estimated maximum short-term duration flow (e.g., once or twice a week) of up to 0.07 mgd during operation of the water treatment system's regeneration process. This wastewater flow is significantly less than the average of 805 gpm (approximately 2.0 mgd) approved under the existing Site Certificate.

Condition 61 of the Site Certificate addresses interconnection to the City of Klamath Falls sewer system. Condition 104 addresses minimization of sanitary wastewater generation, and disposal of sewage and process wastewater. The proposed modified KGF will comply with these conditions.

Stormwater Treatment. Two stormwater drainage ponds for onsite stormwater retention/evaporation will be provided in conjunction with other drain collection areas to contain the stormwater runoff from within the site boundary.

Conditions 79 and 105 of the Site Certificate address stormwater runoff and treatment. The proposed modified KGF will comply with these conditions. Specifically and in accordance with Condition 105, the runoff from the Facility's fuel pile will be routed to the stormwater pond onsite. The certificate holder proposes modifying Condition 105 to allow alternate handling of stormwater if the certificate holder obtains a 1200-C National Pollutant Discharge Elimination System (NPDES) permit, as follows:

(105) During operation, the certificate holder shall discharge stormwater run-off to an on-site evaporation pond(s) and shall not discharge stormwater to surface waters of the state, unless the certificate holder obtains coverage under an NPDES permit from the Oregon Department of Environmental Quality (DEQ).

4.3.2 Proposed Modifications to Related or Supporting Facilities

Related or supporting facilities for the proposed modified KGF consist of interconnections, access roads and parking, fire protection, chemical storage, ash handling, distributed control, backup power and UPS, instrument air, laydown areas, the administration building, and landscaping. Proposed modifications are described in the following subsections.

Electrical and Transmission System Interconnections

The electrical system will be similar to, but smaller than, the system approved under the existing Site Certificate. The steam turbine will generate electric power at a voltage of 13.8 kV. This output will be routed to the existing KGP transformer, which is located adjacent to the modified KGF site. The KGP transformer, which will increase the voltage of the modified KGF's electrical output to 500 kV, has sufficient surplus capacity. The modified KGF will also include an onsite distribution system (for example, 4.16 kV and lower) to handle internal KGF electrical loads.

As described in the Final Order, the KGF would connect to PacifiCorp's existing 500-kV Captain Jack to Meridian transmission line, which loops through the switchyard of the KCP. The transmission interconnection for the proposed modified KGF will still be located on property leased from Collins Products and will lie within the site boundaries of the previously-authorized KGF, KGP, and KCP areas. Therefore, while the route of the modified transmission interconnection line will change (becoming shorter) and the transmission line will be routed underground rather than overhead, no change to the previously-authorized site boundary is required to accommodate the modified transmission interconnection line. KGF electrical output from the existing KGP transformer will still be delivered to the 500-kV Captain Jack-Meridian transmission line, as approved under the Site Certificate.

The transmission lines from the proposed modified KGF STG will be at 13.8 kV, with two conductors per phase, and will be buried underground after leaving the STG building until just before interconnecting to the existing KGP substation's Step-up Transformer. The protection equipment associated with the modified KGF will be in the existing KGP switchyard. As a result, there will be no aboveground structures.

Natural Gas (Supplemental) Fuel

The proposed modified KGF will use natural gas only during startup of the boiler. It is estimated that 100 million British thermal units per hour (MMBtu/hr) of natural gas will be consumed during the 8-hour startup process. Conservatively assuming that there will be 30 startups a year, natural gas consumption will be 24,000 MMBtu (or approximately 24 million cubic feet, at an average of 1,000 Btu/cubic foot). This is significantly less than the 90 million standard cubic feet per day of natural gas consumption approved in the Site Certificate. As described in the Final Order, the KGF would receive natural gas through a connection with the existing Pacific Gas & Electric Gas Transmission (PG&E GT) Bonanza to Medford Lateral (Medford Lateral). Under the proposed modified KGF, natural gas will continue to be supplied through an interconnect to the Medford Lateral at the adjacent KCP.

Access Roads and Parking

The existing road leading to the proposed modified KGF site from US 97 will be improved to support truck traffic required to supply fuel to the Facility and carry ash offsite. Improvements will likely include paving and widening the road, and widening the access point at US 97. In addition, under an agreement with the Oregon Department of Transportation (ODOT), US 97 will be widened and restriped to add acceleration/deceleration lanes for trucks accessing the Facility, and to facilitate smooth and safe traffic flow. Operations and maintenance staff, other employees, and daily deliveries will enter through the same access point. Paved internal roads will provide comprehensive access, as needed, to all sides of the proposed equipment.

Paved onsite parking will be installed in a central location to accommodate plant employees as well as maintenance crews, visitors, and delivery vehicles. One or more spaces will also be provided with dimensions in compliance with the Americans with Disabilities Act.

Fire Protection

A firewater loop system, including fire hydrants, building sprinkler systems, hose stations, and a diesel fire pump will be provided for the KGF site. The source of firewater will be pumped via the Facility's diesel fire pump from a dedicated portion of the raw water storage tank. An onsite fire protection system will be installed to allow control and extinguishing of fires within structures and biomass fuel storage areas. The control room will be protected using an appropriate system, including fire detection and pre-action alarms. To supplement the stationary fire systems, portable fire extinguishers will be provided at strategic locations within the Facility. The type and number of extinguishers will satisfy applicable code requirements. First-aid kits, eyewash stations, and safety showers will be provided at appropriate locations.

The certificate holder will comply with Condition 54 of the Site Certificate, which requires the implementation of measures related to fire safety. The certificate holder proposes removing Condition 54(b) requiring a packaged CO₂ (or equivalent) fire suppression system because this system was specified for a gas-fired combustion turbine but is not necessarily the most appropriate system for the biomass facility described in this amendment request.

Chemical Storage Systems

Bulk chemical storage tanks, or totes, with a storage capacity of 50 to 200 gallons, will be located in concrete-walled areas for secondary containment. The containment volume of outside storage areas will be designed to accommodate the spill volume for the largest tank in the area with an allowance for rainfall. Small totes provided for specialty chemicals will be provided with integral secondary containment. Ammonia will be stored in an approximately 10,000-gallon pressure vessel, located within a secondary containment structure. In accordance with Condition 53 of the Site Certificate, the certificate holder will prepare and implement a materials management and monitoring plan approved by ODOE.

Site Certificate Conditions 78, 80, 92, and 103(e) address requirements for chemical storage, handling, and disposal. The proposed modified KGF will comply with these conditions as applicable. The certificate holder proposes removing the requirement in Condition 103(f) regarding disposal of spent selective catalytic reduction (SCR) catalysts because the proposed modified KGF will not use SCR catalysts.

Ash Handling System

Bottom ash from the boiler and fly ash from the ESP unit will be collected and transferred to an interim onsite storage location via the ash handling system, which may include hoppers, conveyers, and mobile equipment. From the storage location, the ash will be loaded onto trucks for transport offsite. Ash generated during proposed modified KGF operations is estimated to be 18,000 tons per year. Ash will be transported offsite via trucks (5 to 6 days a week, for 50 weeks a year). It is estimated that 822 trucks per year (or approximately three trucks per day carrying 22 tons of ash in each truck) will be used. Ash will either be sold for agricultural use applications, as is a standard practice in Oregon (provided that the ash is determined to be nonhazardous and can provide a beneficial use for the receiving soil), or disposed of at an approved landfill.

Distributed Control Systems

The proposed modified KGF will have an integrated microprocessor-based control system for plant control, data acquisition, and data analysis. The distributed control system (DCS) will provide control for startup, shutdown, normal operation, and personnel and equipment protection. The control system will provide sufficient automation to allow plant operation with two operators under normal operating conditions.

Backup Power and Uninterruptible Power Supply

The proposed modified KGF will include an emergency diesel-fired generator to provide backup electrical generating capacity. An uninterruptible power supply (UPS) will also provide emergency power to critical equipment requiring 125 volts direct current (VDC) and 120 volts alternating current (VAC) for safe shutdown in the event of a power outage.

Instrument Air System

An instrument air system at the proposed modified KGF will utilize air-cooled air compressors complete with filters, coolers, receivers, and dryers to provide clean, dry instrument and plant service air.

Laydown Areas

During construction, temporary laydown areas at the proposed modified KGF site will be required for equipment and supplies. During final Facility design, the location of temporary laydown areas will be identified and designed within the overall temporary impacts area shown on Figure 4.

Administration Building

A two-story administration building (approximately 60 feet by 80 feet by 45 feet in height) will house the control room and administrative areas on the top floor, and a warehouse, shop area, and electrical equipment room on the lower floor. This structure is similar in size to the corresponding structure authorized under the existing Site Certificate.

Figure 3 presents a detailed plan view of the overall proposed modified KGF and Figure 8 provides elevations of the various plant components.

Landscaping

Landscaping will be provided in otherwise unused areas within the proposed modified KGF site boundary. This includes indigenous, low-maintenance trees, such as ponderosa pine, juniper, and black cottonwood, in accordance with Conditions 11, 59(f), and 91 of the Site Certificate.

4.3.3 Legal Description for Proposed Expanded Site Boundary

The site boundary for the proposed modified KGF is located in Section 18 of Township 39 South, Range 9 East and Section 13 of Township 39 South, Range 8 East.

SECTION 5

Information Required Pursuant to OAR 345-027-0060(1)(e)—Relevant Council Standards

OAR 345-027-0060(1)(e) A list of the Council standards relevant to the proposed change.

Response: Council standards relevant to the proposed change include Division 22 (General Standards for Siting Facilities) and Division 24 (Specific Standards for Siting Facilities). The requirements of each of these standards are outlined below, along with the certificate holder's responses.

5.1 OAR 345-022 General Standards for Siting Facilities

The following Division 22 standards are addressed:

- OAR 345-022-0010 Organizational Expertise
- OAR 345-022-0020 Structural Standard
- OAR 345-022-0022 Soil Protection
- OAR 345-022-0030 Land Use
- OAR 345-022-0040 Protected Areas
- OAR 345-022-0050 Retirement and Financial Assurance
- OAR 345-022-0060 Fish and Wildlife Habitat
- OAR 345-022-0070 Threatened and Endangered Species
- OAR 345-022-0080 Scenic Resources
- OAR 345-022-0090 Historic, Cultural and Archaeological Resources
- OAR 345-022-0100 Recreation
- OAR 345-022-0110 Public Services
- OAR 345-022-0120 Waste Minimization

5.1.1 OAR 345-022-0010 Organizational Expertise

(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.

(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.

(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.

(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.

Response:

A. Certificate Holder's Expertise

The certificate holder is Klamath Generation, LLC. Iberdrola Renewables, Inc. (IRI; formerly IBR) is the parent of KG and IRI, by way of several other entities, is ultimately owned by Iberdrola SA. Iberdrola Renovables, S.A., is a Spanish company that is the world leader in the renewable energy sector operating in 19 countries. Further, IRI continues to be a leader in the renewable industry in the United States. Within its power business, IRI is focused on the development and marketing of clean fuel sources, including wind as well as solar, biomass, and natural gas-fired generation. IRI is also the parent owner of KGP and KCP, both located adjacent to the KGF site and operating under site certificates issued by the Council.

IRI will provide the organizational, managerial, and technical expertise to construct and operate the modified KGF. IRI's organizational, managerial, and technical expertise is described in the Site Certificate, as amended.

In the Site Certificate, the Council found that IRI would provide its expertise to KG either directly or through Pacific Klamath Energy, Inc., an IRI subsidiary. The Council concluded that KG demonstrated the organizational expertise to construct and operate the KGF. There have been no changes that would affect the Council's previous findings under this standard.

The business address is as follows:

Iberdrola Renewables, Inc.
1125 NW Couch Street, Suite 700
Portland, OR 97209

Site Certificate Condition 85 pertains to the qualifications of construction contractors, and specifically requires that the certificate holder report to the Council any change of major construction contractors. Because the construction contractor has not yet been selected for this project, the certificate holder proposes that this condition be modified as follows, consistent with similar language in other recent site certificates:

(85) Before beginning construction, the certificate holder shall notify the Department of the identity and qualifications of the major design, engineering and construction

contractor(s) for the facility. The certificate holder shall select contractors that have substantial experience in the design, engineering and construction of similar facilities. The certificate holder shall report to the Council any change of major construction contractors.

B. Third-Party Permits

As described in the Site Certificate, the certificate holder would rely on the City of Klamath Falls for potable water supply and disposal of wastewater. The modifications proposed in this amendment request remove the need for reliance on the City of Klamath Falls for reclaimed water supply and for separate disposal of cooling tower discharge water. In the Site Certificate, the Council found that KG has a reasonable likelihood of entering into a contractual or other arrangement with the City of Klamath Falls for access to potable water and for wastewater treatment. The modifications proposed in this amendment request do not affect KG's likelihood of entering into such an arrangement and therefore the Council can rely on its previous findings.

C. Conclusions

This amendment request does not affect the certificate holder's ability to comply with the site certificate. Therefore, OAR 345-022-0010 (1) through (4) is met.

5.1.2 OAR 345-022-0020 Structural Standard

(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 Maximum Considered Earthquake Ground Motion identified at International Building Code (2003 edition) Section 1615 and maximum probable ground motion, taking into account ground failure and amplification for the site specific soil profile under 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 maximum probable ground motion events. As used in this rule "seismic hazard" includes ground shaking, ground failure, landslide, 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 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).

Response: As described in the Final Order (2005) and based on a current review of available literature, the previously authorized KGF site is characterized by colluvial deposits and mixed alluvial/colluvial deposits, which overlie lacustrine sediments. Seismic hazards at the site were described in the Final Order to include amplification of ground motions by subsurface materials, and earthquake-induced differential soil settlement.

This assessment of subsurface conditions and faulting, which characterizes the seismic, geologic, and soil hazards of the area included within the proposed modified KGF site boundary, is based on a literature review of existing geologic mapping (Priest et al., 2008) and Natural Resource Conservation Service soil mapping. The additional area included in the modified KGF contains the same colluvial and mixed alluvial/colluvial deposits described in the Final Order. No faults were mapped through the modified site boundary. Based on this review, there is no evidence of recent (historical) slope instability, faulting, or potential for ground rupture within the proposed modified site boundary. There remains the potential for ground rupture, earthquake-induced landslides and slope instability, amplification of ground motion and for earthquake-induced lateral spreading, liquefaction, and settlement or subsidence within the proposed modified site boundary, to the same level described in the Final Order. The current literature review did not uncover any new seismic-related risks based on the proposed modifications to the Facility, including its boundary modification.

The Site Certificate, as amended, contains six conditions relating to structural stability, seismic hazard, and resultant potential dangers to human safety. Conditions 12, 13, and 14 require that the certificate holder design, engineer, and construct the Facility to avoid dangers from seismic hazards; and notify ODOE and the Oregon Department of Geology and Mineral Industries (DOGAMI) if conditions are significantly different from those described in the Final Order, or if shear zones, artesian aquifers, deformations, or clastic dikes are found at the site. Conditions 68 and 69 require that the Facility be designed to avoid dangers to human safety presented by nonseismic hazards, and that the certificate holder conduct a site-specific geotechnical investigation prior to construction. The certificate holder can comply with Conditions 12, 13, 14, 68, and 69 as written.

At the time of the Second Amended Site Certificate (May 15, 2009), the basis for Condition 70 referred to the 2003 International Building Code (IBC) and the 2004 Oregon Structural Specialty Code (OSSC). Since that time, the code adopted by the State of Oregon has changed. The current basis should be in accordance with the 2009 IBC, as amended by the 2010 OSSC. These code updates are not anticipated to affect the seismic design parameters for the Facility. Therefore, the certificate holder proposes that Condition 70 be modified as follows:

(70) The certificate holder shall design and construct the facility in accordance with requirements set forth by the State of Oregon's Building Code Division and any other applicable codes and design procedures. The current minimum code requirements are set forth in the ~~2004 Oregon Structural Specialty Code, which adopts parts of the 2003 International Building Code and October 1, 2004, Oregon amendments~~ 2010 Oregon Structural Specialty Code, which adopts parts of the 2009 International Building Code.

This amendment request does not change the information presented in the Final Order or the certificate holder's ability to comply with the Site Certificate, and therefore, OAR 345-022-0020(1) is met.

(2) The Council may issue a site certificate for a facility that would produce power from wind, solar or geothermal energy without making the findings described in section (1). However, the Council may

apply the requirements of section (1) to impose conditions on a site certificate issued for such a facility.

Response: This rule is not applicable.

(3) The Council may issue a site certificate for a special criteria facility under OAR 345-015-0310 without making the findings described in section (1). However, the Council may apply the requirements of section (1) to impose conditions on a site certificate issued for such a facility.

Response: This rule is not applicable.

5.1.3 OAR 345-022-0022 Soil Protection

To issue a site certificate, the Council must find that the design, construction and operation 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 and chemical factors such as salt deposition from cooling towers, land application of liquid effluent, and chemical spills.

Response: Soils and soil types within the previously-authorized site boundary were described in Exhibit I of the original Application for Site Certificate and in Section V.3.(e) of the 2005 Final Order. The proposed modifications are not anticipated to result in any significant changes to soil impacts due to structural revisions or operational changes. Soils that underlie the modified proposed site boundary are identified for this amendment (Figure 9). Seven soil types underlie the new site boundary. All of these soils were identified and described in the Final Order; no additional soils are present that could be impacted. Table 5-1 provides a list of soils in the vicinity, within original KGF boundaries, and within the proposed modified KGF boundaries.

TABLE 5-1
Soil Series/Complexes in the Vicinity of the Proposed Modified Site Boundary

Soil #	Series/Complex	Notes
7B	Calimus loam, 2-5% slopes	Within proposed modified site boundary. Considered hydric at "wet spots."
9B	Capona loam, 2-5% slopes	
9C	Capona loam, 5-15% slopes	Within previously-authorized site boundary.
18A	Dodes loam, 0-2% slopes	Considered hydric at "wet spots."
18B	Dodes loam, 5-15% slopes	Within proposed modified site boundary.
23A	Harriman loam, 0-2% slopes	
23B	Harriman loam, 2-5% slopes	
23C	Harriman loam, 5-15% slopes	
28	Henley-Laki loams	Considered hydric at "wet spots."
28C	Henley-Laki loams	Considered hydric at "wet spots."
40	Laki-Henley loams	Considered hydric at "wet spots." Within proposed modified site boundary.
50E	Lorella very stony loam, 2-35% south slopes	
51E	Lorella-Calimus association, steep north slopes	
53	Malin clay loam	Considered hydric at all locations

TABLE 5-1
Soil Series/Complexes in the Vicinity of the Proposed Modified Site Boundary

Soil #	Series/Complex	Notes
58A	Modoc fine sandy loam, 0-2% slopes	Considered hydric at "wet spots." Within proposed modified site boundary.
58C	Modoc fine sandy loam, 5-15% slopes	
74B	Stukel-Capona loams, 2-15% slopes	Within previously-authorized site boundary.
74D	Stukel-Capona loams, 15-25% slopes	
77	Teeters silt loam	Considered hydric at all locations.
78	Tulana silt loam	Within proposed modified site boundary. Considered hydric at all locations

Note: Consistent with current definitions, the proposed modified site boundary includes area of temporary disturbance. The previously-authorized site boundary included only permanently disturbed areas, although temporarily disturbed areas were investigated and evaluated in the original Application for Site Certificate. Source: NRCS, 2011.

Four of the seven soil types would be within the additional areas in the modified site boundary. The properties, characteristics, and limitations of these soils, along with proposed mitigation measures, are described in Exhibit I of the Application for Site Certificate and in Section V.3(e) of the 2005 Final Order. Therefore, no additional soil analyses were conducted as part of this amendment and no new types of soil impacts are anticipated, although the permanent and temporary disturbance acreages have changed.

Mitigation for the additional disturbed areas will include the same measures as mitigation for erosion and runoff in other portions of the site, as described in the Final Order. The second amended Site Certificate identified Conditions 89, 90, and 91, which require preparation of a site grading plan, an Erosion and Sediment Control Plan (which will be required to obtain an NPDES stormwater discharge general permit), and a post-construction revegetation plan to reduce wind and water erosion of soils.

Due to the additional area for potential soil impacts within the modified site boundary, the certificate holder proposes that these portions of Condition 89 be revised as follows:

(89) (e) In areas of ~~Capona loam~~ Soil type loamy soils, applying soil amendments and using mechanical improvements as necessary to improve stability.

(89) (f) In areas of ~~Teeters silt loam and Tulana silt loam~~ all soil types, protecting exposed trenches and restored areas from wind erosion by use of erosion blankets, hydroseeding, or wood chips spread over areas of exposed ~~loam areas~~ soils as necessary to reduce the potential for wind erosion.

The certificate holder can comply with the conditions as written and as modified above.

Table 1-1 in Section 1 summarizes the number of acres that will be temporarily disturbed by construction within the proposed modified site boundary, and the number of acres occupied by permanent Facility components within the proposed modified site boundary.

A. Impacts During Construction

Overall impacts on soils during construction of the proposed modified KGF will be the same as those described in the 2005 Final Order, Section V.3.(e).

B. Impacts During Operation

As described in the Final Order, operation of the KGF within the previously-authorized site boundary will have little impact on soils. There will be no additional impact to soils from operations within the proposed modified site boundary beyond the description provided in the Final Order.

C. Mitigation Measures

This amendment request does not change the mitigation measures presented in the Final Order or the certificate holder's ability to comply with the Site Certificate, and therefore, OAR 345-022-0022 is met.

5.1.4 OAR 345-022-0030 Land Use

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

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

(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; or

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

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

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

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

Response: Under OAR 345-027-0070(10), the Council must consider whether the Facility complies with the land use standard for areas that will be affected by construction and operation of the proposed modified site boundary. As demonstrated in this Land Use section, the proposed modified KGF complies with the applicable substantive criteria of Klamath County and continues to meet the justification for an exception to Statewide Planning Goal 11 as previously granted by the Council. Accordingly, the Council may find that the proposed modified KGF satisfies OAR 345-022-0030.

Pursuant to ORS 469.504(1)(B), the Council found in Section V.3(a) of the 2005 Final Order that the KGF complies with OAR 345-022-0030(2)(b) and that an exception to Statewide

Planning Goal 11 was justified, and further imposed Site Certificate Conditions 48, 59-61, 73, 75, 90, 91, 94-96, and 100. Although not specifically enumerated in the Final Order language, Condition 67 of the Site Certificate also relates to land use and requires that, before construction, the certificate holder file a site plan review with Klamath County under Klamath County Land Development Code (KCLDC) 41.050 and 41.060, which require a Type I administrative land use review to confirm that the applicable development standards are satisfied, similar to what would be required for a building or zoning permit issued consistent with ORS 469.401(3). The proposed modified site boundary is in the same Klamath County zoning district as the previously-authorized KGF (Heavy Industrial or "IH"). See Figure 10 for an aerial photograph of existing land use within the proposed modified site boundary; and Figure 11 for a zoning map of the previously-authorized KGF site boundary compared with the proposed modified KGF site boundary.

As with the previously-authorized KGF, the proposed modified KGF is permitted conditionally in the IH zone as a commercial power generating facility under the "extensive impact services and utilities use" set forth in KCLDC 53.430. Additionally, the permanent footprint of the proposed modified KGF will be located on the same parcel (tax lot 1000 on Klamath County Tax Map 39s09e18 [Township 39 South, Range 9 East, Section 18]) as the previously-authorized KGF. A review of the most current KCLDC (revised November 8, 2005) and Klamath County Comprehensive Plan (KCCP) (revised March 25, 2003) shows that the applicable substantive criteria remain unchanged from what was originally authorized for KGF. KG confirmed with planning staff from Klamath County (Patterson, 2011) that the only changes to the KCLDC and KCCP since the Second Amended Site Certificate dated May 2009 were site-specific (e.g., zone changes) and did not affect substantive criteria applicable to the KGF.

The proposed modified KGF will result in fewer impacts (e.g., reduction in water use, reduction from two exhaust stacks to a single exhaust stack, and reduction in the size of most structures) than the previously-authorized KGF. In addition, the types and levels of public facilities and services required for the proposed modified KGF are already physically available on the Collins Products property, as was previously described in the Final Order. In the Final Order, the Council found that both wastewater and cooling water blowdown would constitute "sewage" under Statewide Planning Goal 11 and because the KGF would be outside the City of Klamath Falls urban growth boundary (UGB), the construction of approximately 500 feet of new wastewater and cooling water discharge lines would be prohibited under Statewide Planning Goal 11 unless an exception was taken. The Council approved the Goal 11 exception, and given that the proposed modified KGF will be served by the same or less public facilities and services authorized by the Council under the existing Goal 11 exception, the exception continues to apply to the proposed modified KGF (see response to OAR 345-022-0030[4] below). Therefore, for these reasons and the reasons set forth below, this amendment request does not affect the certificate holder's ability to meet ORS 469.504(1)(B), OAR 345-022-0030(2)(b), the Statewide Planning Goals, the applicable substantive criteria from the KCLDC and the KCCP, or Site Certificate Conditions 48, 59-61, 67, 90, 91, 94-96, and 100.

(3) As used in this rule, the "applicable substantive criteria" are criteria from the affected local government's acknowledged comprehensive plan and land use ordinances that are required by the statewide planning goals and that are in effect on the date the applicant submits the application. If the

special advisory group recommends applicable substantive criteria, as described under OAR 345-021-0050, the Council shall apply them. If the special advisory group does not recommend applicable substantive criteria, the Council shall decide either to make its own determination of the applicable substantive criteria and apply them or to evaluate the proposed facility against the statewide planning goals.

Response: The applicable substantive criteria in the KCLDC and KCCP associated with siting a commercial power generation facility in the IH zone have not changed from the criteria that were (1) identified as applicable to KGF by the special advisory group (SAG); and (2) addressed in Section V.3(a) of the 2005 Final Order. On January 14, 2002, the Council appointed the Board of Commissioners of Klamath County as a SAG for the KGF application for site certificate. The SAG, acting through Klamath County Planning Director Carl Shuck, identified applicable substantive criteria from the KCLDC and KCCP. These provisions were used by the Council in review of the previously-authorized KGF. As mentioned above, KG confirmed with Klamath County planning staff that although the KCLDC and KCCP have been amended since the First Amended Final Order dated August 2007, these changes have been site-specific (e.g., zone changes) and did not affect substantive criteria applicable to the proposed modified KGF. Therefore, the applicable substantive criteria for the proposed modified KGF remain consistent with the SAG's previous recommendations and the Council's determinations in the Final Order.

This amendment request includes a proposal for construction and operation of a biomass-fueled power plant in lieu of the previously-authorized KGF, a combined-cycle natural gas-fired power plant. Nonetheless the land use proposed in this amendment request is within the same category as specified for the previously-authorized KGF and defined by the SAG from KCLDC Section 53.430(A) and described in Section V.3(a) on pages 23 through 27 of the Final Order. The proposed modified KGF is a biomass-fueled power plant specifically for commercial power generation and falls under KLCD 53.430(A), which is necessary when demonstrating that applicable substantive criteria from the previously-authorized KGF remain the same for the proposed modified KGF.

The findings and reasons for demonstrating compliance with the applicable substantive criteria for the proposed modified KGF remain consistent with previous recommendations made by the SAG and determined by the Council in Section V.3(a) of the 2005 Final Order. The proposed modified KGF still complies with applicable provisions from the KCLDC and the KCCP as applied to the previously-authorized KGF. Therefore, the Council may rely on the proposed findings in this amendment request and the findings in Section V.3(a) of the 2005 Final Order to conclude that the certificate holder has sufficiently demonstrated that the proposed modifications satisfy OAR 345-022-0030(3).

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

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

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

(c) The following standards are met:

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

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

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

Response: In the Final Order, the Council found that the amended Goal 11 was a directly applicable state provision within the meaning of ORS 469.504(1)(A). Water and sewer facilities are both considered “public facilities” under Goal 11, but the goal and its accompanying rules treat water facilities and sewer facilities differently. The extension of a sewer system outside of the UGB is prohibited based on the broad definition of what constitutes an “extension of a sewer system.” Comparatively, the goal and rules do not similarly prohibit the extension of a water system. As described in the Final Order, the points of interconnect for the wastewater and cooling water discharge lines for the site were approximately 500 feet from the location of the previously-authorized KGF; the same is required for the proposed modified KGF. New connecting lines will need to be constructed within a utility easement from the site to the points of interconnection. Based on the facts presented in the Final Order, the Council determined that this amounted to an “extension of a sewer system” and that the “sewer system” consisted of the sanitary wastewater and cooling water discharge lines and interconnections associated with the previously-authorized KGF. The Council found that an exception to Goal 11 was justified under ORS 469.504(2) and 345-022-0030(4)(c) on the basis of the findings, reasons, and conclusions set forth on pages 39-40 in the Final Order.

While the sanitary wastewater line and its interconnection associated with the proposed modified KGF is the same as that associated with the previously-authorized KGF, the proposed modified KGF will not require a cooling water discharge interconnection with the City. Accordingly, no new findings, reasons, or conclusions are required, as the existing Goal 11 exception is available to the proposed modified KGF. Thus, the Council may find that OAR 345-022-0030(4) is satisfied under subpart (c).

5.1.5 OAR 345-022-0040 Protected Areas

(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. References in this rule to protected areas designated under federal or state statutes or regulations are to the designations in effect as of May 11, 2007:

- (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...*
- (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.*

Response:

A. Overview

The certificate holder conducted an analysis of significant potential impacts to protected areas as described above in (a) through (p) for an analysis area extending 20 miles from the proposed modified KGF site boundary in accordance with OAR 345-001-0010(2) and -57(e), including areas outside the state.¹ In the 2005 Final Order, a total of 12 protected areas were identified within 20 miles of the KGF, but as stated in Section V.3(f) on page 63, “the proposed facility would not be located within any protected area designated under OAR 345-022-0040(1).” Similarly, the certificate holder’s analysis indicates that no protected areas lie within the proposed modified KGF site boundary.

In the Final Order the Council found that the design, construction, and operation of the KGF, subject to the conditions of the site certificate, would not likely result in significant adverse impacts to protected areas for the reasons described on pages 63-65 of the Final Order. This finding is consistent with OAR 345-021-0010(1)(L)(C)(i-iv). As part of this amendment request, the certificate holder reassessed the potential for significant adverse impacts to protected areas (also see responses to OAR 340-035-0035, Noise; OAR 345-022-0110, Public Services; and OAR 345-022-0120, Waste Minimization). The reassessment found that the design, construction, and operation of the proposed modified KGF will likewise not result in noise, public service (specifically, traffic and water), wastewater, or visual impacts to protected areas within 20 miles of the site boundary, as discussed below.

B. Analysis

The protected areas identified in the Final Order that are within 20 miles of the site boundary were reviewed and updated for this amendment request, and are presented in Table 5-2 in accordance with OAR 345-001-0010(2) and -57(e). The certificate holder identified 13 protected areas that are located within 20 miles of the site boundary. Two areas identified as protected in the Final Order are not included in the list of protected areas in Table 5-2, because National Forests currently are not listed as Protected Areas as defined in OAR 345-022-004(1). The two areas identified in the Final Order that are no longer included on the list of protected areas are the Klamath and Winema National Forests.

The names of four protected areas have been modified from the Final Order. The Upper Klamath National Wildlife Refuge (NWR) is now identified as Hanks Marsh based on review of U.S. Fish and Wildlife Service (USFWS) maps. The Squaw Point State Wildlife Area (SWA) is now referred to as Sesti Tgawaals Point (and is a unit of the Klamath Wildlife Area) based on ODFW maps. The names of two other protected areas associated with the Klamath Wildlife Area (KWA) Management Plan (ODFW, 2008) have also been revised: the Klamath State Wildlife Refuge Area is now the Miller Island Unit of the KWA, and the State Wildlife Area – Gorr Island is now referred to as the Gorr Island Unit of the KWA.

Three new protected areas are identified in Table 5-2: the Oregon, California, and Eastern (OC&E) Woods Line State Trail, the Klamath River State Scenic Waterway, and the Tule Lake NWR.

¹ One of the 13 protected areas is located entirely in California. Although the certificate holder has undertaken studies of potential impacts to all protected areas within the analysis area, the certificate holder reserves the right to argue that applicable Oregon law does not require analysis of protected areas outside of Oregon.

OC&E Woods Line State Trail. The OC&E Woods Line State Trail is the closest of these protected areas to the proposed modified KBF. Its closest segment is 4.5 miles northeast of the site boundary. Although the trail has been in the planning stages since the 1990s, a Draft Plan was not developed until after the Final Order was issued. The *Draft Plan for Oregon, California, and Eastern Woods Line State Trail* was published in 2007 (OPRD, 2007). The western end of the 100-mile-long trail (which follows two railroad rights-of-way) is located in Klamath Falls.

Klamath River State Scenic Waterway. A section of the Klamath River located approximately 12 miles southeast of the site boundary has been designated as a State Scenic Waterway. The state designation was not included in the Final Order. The river does not have a management plan, but OAR 736-040-0053 contains rules related to the Klamath River. Oregon Parks and Recreation Department (OPRD) reviews proposals for lands within the scenic river corridor (1/4 mile on either side of the banks of the river). Because the proposed modified KGF is not within the scenic river corridor, OPRD will not need to review the amendment request for impacts on the Klamath River State Scenic Waterway.

Tule Lake National Wildlife Refuge. The nearest portion of the Tule Lake NWR is approximately 17 miles southeast of the proposed modified KGF site boundary. The Tule Lake, Upper Klamath and Lower Klamath National Wildlife Refuges have never had comprehensive management plans, but all are required to have plans in place by 2012 as part of the National Wildlife Refuge System Improvement Act of 1997 (Austin, 2010).

The closest protected area to the proposed modified KGF is the Miller Island Unit of the KWA, which is 0.5 mile away. All of the other protected areas are at least 4 miles away from the proposed modified KGF, as shown in Figure 12 and Table 5-2.

TABLE 5-2
Protected Areas within 20-Mile Analysis Area

Protected Area	Rule Reference	Approximate Distance (Miles) and Direction to Facility Boundary	Managed by	State
Lower Klamath NWR	(d)	5 – South	USFW	OR, CA
Upper Klamath NWR (Hanks Marsh)	(d)	9 – North	USFW	OR
Bear Valley NWR	(d)	6 – South	USFW	OR
Tule Lake NWR	(d)	17 – Southeast	USFW	OR
Upper Klamath River WSR	(k)	12 – Southwest	BLM/OPRD	OR
Klamath Scenic Waterway	(k)	12 – Southwest	OPRD	OR
Mountain Lakes Wilderness	(c)	14 – Northwest	USFS	OR
Klamath Experiment Station	(m)	4.5 – East	OSU	OR
Klamath Wildlife Area (SWA)				
Miller Island Unit	(p)	0.5 – South	ODFW	OR
Gorr Island Unit	(p)	4 – South	ODFW	OR
Sesti Tgawaals Point Unit	(p)	12 – Northwest	ODFW	OR

TABLE 5-2
Protected Areas within 20-Mile Analysis Area

Protected Area	Rule Reference	Approximate Distance (Miles) and Direction to Facility Boundary	Managed by	State
Lower Klamath NWR	(d)	5 – South	USFW	OR, CA
Shoalwater Bay Unit	(p)	16 – Northwest	ODFW	OR
OC&E Woods Line State Trail	(h)	4.5 – Northeast	OPRD	OR

Notes:

BLM = U.S. Bureau of Land Management
 CA = California
 NWR = National Wildlife Refuge
 ODFW = Oregon Department of Fish and Wildlife
 OPRD = Oregon Parks and Recreation Department
 OR = Oregon
 OSU = Oregon State University
 SWA = State Wildlife Area
 USFS = U.S. Forest Service
 USFW = U.S. Fish and Wildlife Service
 WSR = Wild and Scenic River

C. Noise

The noise generated by the proposed modified KGF will comply with Oregon Department of Environmental Quality (DEQ) noise control regulations as discussed in the response to OAR 340-035-0035 and would not result in significant adverse impacts to protected areas. The certificate holder will engineer the Facility in a manner such that the proposed modified KGF will be in compliance with OAR 340-035-0035.

D. Traffic

The Final Order found that there would be no Facility-related significant adverse impacts to protected areas from traffic. Changes associated with the proposed modified KGF will increase the traffic volumes within the transportation routes, as discussed in the response to OAR 345-022-0110. However, there will be no significant adverse impacts to protected areas from the increased traffic because the only main transport routes that pass near protected areas are major highways, such as US 97, for which current traffic levels will not experience significant adverse impacts from Facility traffic. Impacts to traffic from construction and operation of the Facility are addressed in detail in Attachment 5, Traffic Impact Analysis.

E. Water Use and Wastewater Disposal

The Final Order found that there would be no Facility-related impacts to protected areas related to water use and wastewater disposal. The proposed modified KGF will use significantly less water and generate significantly less wastewater than what was previously authorized in the Site Certificate. The only new protected areas identified within 20 miles of the proposed modified KGF is farther away from the Facility than other, previously-evaluated areas, and will not be affected by water use or wastewater disposal from the modified Facility. Therefore, the proposed modified KGF will likewise have no significant adverse impacts to protected areas.

F. Visual Impacts

The Final Order found that there would be no Facility-related visual impacts to protected areas. The visual impacts analysis that the Final Order was based on noted that the authorized KGF site would have been located on Collins Products' property in an area that was (and still is) zoned and developed as an industrial area. Additionally, the Final Order found the proposed modified KGF would not have been visible from most protected areas. It further found that for those protected areas from which it would be potentially visible (which are identified in Table 5-1 of the Final Order as the Miller Island SWA and Klamath Experimental Station), significant impacts to visual quality would not be anticipated due to landscaping, distance and the topography surrounding the Facility site.

Generally, the process components of the proposed modified KGF will be smaller than the components of the previously-authorized KGF. There will be no cooling tower plume, and there will be only a single stack measuring up to 199 feet rather than two stacks measuring up to 199 feet. There will be a fuel stacker/reclaimer measuring up to approximately 125 feet but its visual impact will be insignificant because it will appear against a backdrop of existing industrial facilities of greater size (for example, the KCP stacks). As such, the proposed modified KGF will be less visible than the KGF previously authorized in the Site Certificate.

As part of this amendment request, the certificate holder reassessed the potential for significant adverse impacts to scenic resources. The assessment found that there would be no significant adverse impacts to scenic resources, as a result of construction and operation of the proposed modified KGF. None of the protected areas that are located within 10 miles (the distance used for assessing impacts to scenic resources; see Section 5.1.9) have management objectives related to scenic quality or have specifically identified protection for views of scenic resources. Although the proposed modified KGF will be seen from parts of the Miller Island Unit of the KWA (even with landscaping, which will help screen parts of the Facility), the appearance of the Facility will be consistent with the existing industrial character of areas next to it and will not have a significant adverse visual impact to the Miller Island Unit. The proposed modified KGF will also have no impact on the protected area (i.e., the OC&E Woods Line State Trail) that was added to the list of protected areas first evaluated in the 2005 Final Order. The proposed modified Facility site boundary will be located 4.5 miles from the nearest part of the trail and although portions of the trail appear within the seen area for the Facility stack as shown on Figure 12, the Facility will likely not be visible from the trail because of distance and vegetation.

The proposed modified KGF is designed to comply with all applicable state and federal air requirements and no significant impacts are anticipated to resources, including protected areas. The certificate holder is in the process of modifying the existing Air Contaminant Discharge Permit (ACDP) with DEQ (see Section 6.2.1).

G. Summary

In summary, the design, construction, and operation of the proposed modified KGF will not occur within, nor will it result in any significant adverse impacts to, the protected areas listed. Accordingly, the certificate holder demonstrates that the proposed modified KGF can be designed, constructed, and operated in accordance with OAR 345-022-0040(1).

5.1.6 OAR 345-022-0050 Retirement and Financial Assurance

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.

Response: As originally authorized under the Site Certificate, the KGF would consist of a combined-cycle combustion turbine system fueled by natural gas, with a generating capacity of approximately 500 MW. The amendment request seeks to change the fuel to woody biomass and reduce the maximum generating capacity to approximately 35 MW net, or approximately 39 MW gross generating capacity.

The proposed modified KGF will result in smaller structures on the site. However, this amendment request proposes to increase the previously-authorized site boundary to accommodate the current definition of site boundary, including temporary disturbance, as well as an additional 10 acres needed to store the woody biomass for fuel generation. The proposed modified KGF site boundary covers approximately 142.5 acres, including 35.1 acres of permanent impact and 107.4 acres where temporary impacts could occur. Total temporary impacts are estimated at up to approximately 83.9 acres, as shown in Table 1-1.

The onsite structures associated with the proposed modified KGF will consist of the following:

- One boiler exhaust stack instead of the previously authorized two
- Five supporting buildings instead of the previously authorized four
- An STG building, which will be approximately 6,000 square feet (70,000 square feet smaller than previously authorized)
- Chemical storage tanks, which were previously authorized
- Two stormwater evaporation ponds, one of which was previously authorized
- Access roads improvements, such as widening and straightening to accommodate the additional truck traffic from fuel delivery and ash transport
- Electrical system connecting to an existing transformer; support structures and low-voltage protection will transport electricity at a lower voltage than the previously authorized system and will be buried underground rather than placed on overhead structures.

This amendment request does not change the information presented in the Final Order regarding the process or methods for retiring (decommissioning) the Facility, following permanent cessation of construction or operation, nor does this request change the certificate holder's ability to comply with the Site Certificate. The methodology used for retiring and restoring the proposed modified KGF will not change from the methodology described in the Final Order. The proposed modified KGF can be retired (decommissioned) and the site restored adequately to a useful, nonhazardous condition that allows continued heavy industrial uses. Accordingly, this amendment request does not change the certificate

holder's ability to meet OAR 345-022-0050 and the Council may find under OAR 345-027-0070(10) that the retirement and financial assurance standard is met.

(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.

Response: As described in the Final Order, the certificate holder demonstrated a reasonable likelihood of obtaining a bond or letter of credit in the amount of \$6.2 million in 2005 dollars to retire the KGF. The cost estimate for site restoration was revised in the First Amended Site Certificate to \$4.160 million in 2006 dollars on the basis of a detailed review of the cost of site restoration. The certificate holder will submit an adjusted bond or letter of credit based on the proposed modified KGF retirement costs before construction as required by the Site Certificate.

Construction of the proposed modified KGF will result in an additional area of restoration based on the increased site boundary acreage. However, this increased footprint will be occupied by biomass fuel piles which will not require extensive restoration actions. The proposed modified KGF structures will generally occupy a smaller footprint than previously considered in the cost estimate for restoration.

For the reasons above, the KGF, as amended, meets OAR 345-022-0050 and the Council may find under OAR 345-027-0070(10) that the retirement and financial assurance standard is met.

5.1.7 OAR 345-022-0060 Fish and Wildlife Habitat

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

OAR 635-415-0025 Requirements (Implementation of Department Habitat Mitigation Recommendations):²

(1) "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.

(a) The mitigation goal for Category 1 habitat is no loss of either habitat quantity or quality.

(2) "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.

*(a) The mitigation goal 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. ****

(3) "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.

² The provisions cited under OAR 635-415-0025 are included only in part, rather than in their entirety, for purposes of brevity.

(a) *The mitigation goal is no net loss of either habitat quantity or quality. ****

(4) *“Habitat Category 4” is important habitat for fish and wildlife species.*

(a) *The mitigation goal is no net loss in either existing habitat quantity or quality. ****

(5) *“Habitat Category 5” is habitat for fish and wildlife having high potential to become either essential or important habitat.*

(a) *The mitigation goal, if impacts are unavoidable, is to provide a net benefit in habitat quantity or quality. ****

(6) *“Habitat Category 6” is habitat that has low potential to become essential or important habitat for fish and wildlife.*

(a) *The mitigation goal is to minimize impacts. ****

Response: The certificate holder has conducted a desktop analysis consisting of a review of field data obtained for the existing Site Certificate and a review of 2009 aerial photography within the analysis area (0.5 mile from the area that will be affected by construction and operation of the proposed modified Facility). The desktop analysis will be confirmed and supplemented by a site visit and field survey in spring/summer 2011, and the results will be provided to ODOE and ODFW when they are available. Figure 13 shows the field survey area for the spring/summer 2011 survey. Figure 14 and Table 5-3 show the habitat types within the 0.5-mile analysis area.

The land affected by construction and operation of the proposed modified KGF is zoned for heavy industrial use. Two existing power generation facilities, the KCP and KGP, are located on land adjacent to the proposed modified KGF. The habitats within the Facility site boundary are of relatively low quality. As a result, few wildlife species use the area.

TABLE 5-3
Habitat Types within 0.5-Mile Analysis Area

Habitat Type	Acreage Within Analysis Area
Agriculture, Pasture, and Mixed Environments	513
Herbaceous Wetland	202
Open Water	201
Upland Grassland/field	80
Urban and Mixed Environments	590

The proposed modified KGF will permanently affect 1.8 acres of Category 5 habitat and 33.3 acres of Category 6 habitat, as shown in Table 5-4. An additional 3.1 acres of Category 5 habitat and 80.8 acres of Category 6 habitat will be temporarily affected during construction. The proposed additions are located in roadside areas adjacent to abandoned fields and agricultural land, or developed areas (i.e., commercial and industrial facilities). Table 5-4 and Figure 15 show the permanent and temporary impacts by habitat type and category.

TABLE 5-4
Permanent and Temporary Impacts by Habitat Type and Category

Habitat Type	Permanent Impacts (Acres)	Temporary Impacts (Acres)
Agriculture, Pasture, and Mixed Environs		
<i>Category 5</i>	0	0.3
Herbaceous Wetland	0	0
Open Water	0	0
Upland Grassland/field	0	0
Urban and Mixed Environments		
<i>Category 5</i>	1.8	2.8
<i>Category 6</i>	33.3	80.8
TOTAL CATEGORY 5	1.8	3.1
TOTAL CATEGORY 6	33.3	80.8

In addition to direct footprint impacts from the Facility of 25 acres, the Council formerly approved the use of up to 3.1 mgd of reclaimed water, diverted from current discharge to the Klamath River, for use in evaporative cooling at the previously-authorized KGF. Based on the modifications proposed in this amendment request, dry cooling will be used and there will no longer be a need to divert reclaimed water from discharge to the Klamath River. Consequently, there will be a reduction in overall habitat impacts for the Facility, as there will no longer be impacts to Category 3 habitat (Klamath River).

Habitat impacts have been minimized to the greatest possible extent, consistent with Condition 88 of the Site Certificate. Temporary and permanent habitat impacts will be mitigated consistent with ODFW standards. The only impacts from the proposed modified KGF will occur in Categories 5 and 6 habitats. Specific mitigation measures, if required, will be detailed in a separate Habitat Mitigation Plan to be prepared in cooperation with ODFW and ODOE. The certificate holder proposes modifying Condition 88(b) to reflect current habitat categorization as follows:

(88)(b) Locating the project in ~~Ruderal and Development/Landscape~~ urban and mixed environment ecological communities and maximizing the use of existing utility corridors

The Council found in the Final Order that the design, construction, and operation of the KGF were consistent with ODFW’s fish and wildlife habitat mitigation goals and standards (OAR 635-415-0025). Condition 88 of the Site Certificate requires that the certificate holder take certain measures to avoid and minimize possible impacts to fish and wildlife. Condition 91 requires development of a post-construction revegetation plan. The certificate holder can comply with Condition 91 as written and Condition 88 as modified.

Conclusion

This amendment request does not change the certificate holder’s ability to comply with the Final Order. There is sufficient evidence upon which the Council may find that the design,

construction, and operation of the proposed modified KGF, taking into account the proposed mitigation measures and subject to existing conditions 88 and 91, as modified, are consistent with the fish and wildlife mitigation goals and standards of OAR 635-415-0025 and that the certificate holder has demonstrated compliance with OAR 345-022-0060.

5.1.8 OAR 345-022-0070 Threatened and Endangered Species

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 and operation 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 and operation 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.

Response:

A. Within Site Boundary

In the 2005 Final Order, the Council found that no threatened or endangered plant or animal species are known to exist within the KGF site boundary. No plant species listed as threatened or endangered under ORS 564.105(3) nor animal species listed under ORS 564.105(2) were documented. Similarly, within the proposed modified KGF site boundary, no plant and animal species listed as threatened or endangered under ORS 564.105(2) and (3), respectively, have been documented. One State-listed threatened species, the bald eagle, might travel through the area, but the nearest known nest site is over 3 miles from the proposed modified KGF site boundary (Oregon Biodiversity Information Center [ORBIC], 2011) and neither the species nor its habitat will be significantly affected by the proposed modified KGF. Although presence is unlikely, surveys will be conducted in spring/summer 2011 to verify the presence or absence of Applegate's milk-vetch within the areas proposed for permanent or temporary impact as shown in Figure 15.

Based on a desktop survey of current available data, and to be confirmed by a field survey in spring/summer 2011, no threatened or endangered species are known to exist within the proposed modified KGF site boundary. Accordingly, there are no protection and conservation programs adopted under ORS 564.105(3) for threatened or endangered plant species within the proposed modified KGF site boundary.

B. Outside Site Boundary and within Five-Mile Analysis Area

The certificate holder found records of sightings outside the site boundary but within the 5-mile analysis area of one plant species (Applegate's milk-vetch), two wildlife species (kit fox [*Vulpes macrotis*]) and bald eagle [*Haliaeetus leucocephalus*]); and two fish species (shortnose sucker [*Chasmistes brevirostris*]) and Lost River sucker [*Deltistes luxatus*] listed by ODFW and USFWS as threatened or endangered. Attachment 3 provides the cover letter request for ORBIC lists of threatened and endangered species within the analysis area. Each of the five species is described further in the next sections.

Applegate's Milk-Vetch. One federally and state-listed endangered plant species occurs within the analysis area. Applegate's milk-vetch is recorded in several locations within the 5-mile analysis area (ORBIC, 2011). The closest recorded population is 2 miles southwest of the Facility site boundary. Desktop reviews of the site boundary reveal a lack of suitable habitat for Applegate's milk-vetch within the proposed modified site boundary. Although suitable habitat is not likely present, the site will be surveyed for Applegate's milk-vetch in spring/summer 2011. Surveys will occur during the bloom time for Applegate's milk-vetch. The certificate holder will coordinate with the USFWS to determine dates when reference populations are in bloom.

Kit Fox. There has been only one recorded sighting of the kit fox (*Vulpes macrotis*). The sighting occurred in 1972 and was suspected to be a released or escaped pet (ORNHIC 2001; ORBIC, 2011) as the record was outside the known range of the species in Oregon. Accordingly, the Council found in the Final Order that the KGF was not likely to affect kit fox.

Bald Eagle. The bald eagle is a state-listed threatened species. It was a federally listed threatened species until the USFWS removed it from the list on June 28, 2007. The bald eagle remains protected under the Bald and Golden Eagle Act of 1940 and the Migratory Bird Treaty Act of 1918. The Council found that bald eagles are present year-round in the analysis area. The proposed modified KGF will be located away from high-risk areas such as primary flyways, nesting territories, and areas of dense fog. No potential roost trees will be removed during construction. The nearest known nest site is over 3 miles from the proposed modified KGF site boundary (ORBIC, 2011). The proposed modified KGF transmission line will be buried underground and will be confined to the heavily industrialized area in the immediate vicinity. There will be no new transmission lines extending away from the energy facility site. By "clustering" the proposed modified KGF with the existing KCP and KGP and minimizing the need for overhead transmission lines, the three facilities together should present a highly visible obstruction that birds will recognize and avoid. For similar reasons, the Council found in 2005 that construction and operation of the KGF were not likely to have any significant direct impact on bald eagles or their habitat. The previously-authorized design included two exhaust stacks and the proposed modified design reduces this to one stack. The reduction in stacks will result in even fewer potential impacts to eagles.

Shortnose and Lost River Suckers. The Council found that the shortnose and Lost River suckers are both state-listed and federally listed endangered species and that both species have been observed in the Klamath River and its tributaries in the analysis area. The Council found in 2005 that the KGF would have no effect on the habitat used by the shortnose and Lost River suckers. As mentioned above, a change in design has led to the elimination of the

need for cooling water, i.e., reclaimed effluent from the SSWTP, to be withdrawn from the Klamath River. This further reduces the potential for impacts to listed fish species from the proposed modified KGF.

Additional Species Identified in Final Order

The 2005 Final Order (page 77) mentioned the western snowy plover (*Charadrius alexandrinus nivosus*) and peregrine falcon (*Falco peregrinus anatum*). The Pacific population of the western snowy plover is State and federally listed as threatened; however, the interior population is not listed. Banding studies indicated breeding populations of the Pacific coast and interior populations are distinct. There are occasional records of Pacific population individuals flying to the interior. Interbreeding appears to be rare. The listed population does not breed in interior areas. The proposed modified KGF is unlikely to affect the Pacific population as occurrences in the interior are rare and nesting habitat only occurs along on the coast of the Pacific Ocean (USFWS, 2007).

The peregrine falcon was delisted in 2007 due to recovery.

C. Summary

In the Final Order, the Council found that the design, construction, and operation of the KGF, taking into account mitigation, did not have the potential to significantly reduce the likelihood of the survival or recovery of any threatened or endangered plant or wildlife species listed under Oregon law. The changes in design described above are unlikely to add to the potential for impacts. Proposed design changes result in additional permanent and temporary footprint impacts, the elimination of an exhaust stack, the elimination of overhead transmission lines, as well as the elimination of the use of reclaimed water for evaporative cooling. Overall, these changes will reduce the potential for impacts to listed species because the additional footprint impacts occur in low-quality habitat (Categories 5 and 6) and the conversion to dry cooling will significantly reduce impacts to the Klamath River over the wet cooling option currently contained in the approved Site Certificate.

No plant and animal species listed as threatened or endangered under ORS 564.105(2) and (3), respectively, were documented within the proposed modified site boundary. One State-listed threatened species, the bald eagle, might travel through the area, but neither the species nor its habitat will be significantly affected by the proposed modified KGF.

Although presence is unlikely, surveys will be conducted in the spring/summer of 2011 to verify the presence or absence of Applegate's milk-vetch in the additional areas.

D. Conclusion

This amendment request does not change the certificate holder's ability to comply with the Final Order. Based on the information provided in this amendment request, there is sufficient evidence upon which the Council may find that the proposed modified Facility, taking into account the proposed mitigation measures, is not likely to cause a significant reduction in the likelihood of survival or recovery of threatened or endangered plant or wildlife species within the analysis area, and that the certificate holder demonstrates compliance with OAR 345-022-0070.

5.1.9 OAR 345-022-0080 Scenic Resources

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

(2) The Council may issue a site certificate for a special criteria facility under OAR 345-015-0310 without making the findings described in section (1). However, the Council may apply the requirements of section (1) to impose conditions on a site certificate issued for such a facility.

Response: As presented in the 2005 Final Order, the Council found that the design, construction, and operation of the KGF, subject to the conditions of the site certificate, would not likely result in significant adverse impacts to scenic and aesthetic values found within the analysis area. As demonstrated below, the design, construction, and operation of the proposed modified KGF also will not result in significant adverse impacts to scenic resources and values that have been identified as significant or important in local land use plans, tribal management plans, and federal management plans developed for lands located within the 10-mile analysis area.

The Final Order considered the analysis area for scenic and aesthetic values to be all areas within 30 miles of the KGF (which was the required distance in 2005). The current analysis area for scenic resources, as defined in OAR 345-001-0010(2) and (57)(b), is a 10-mile radius from the proposed modified Facility. In addition, current regulations require that scenic resources and values be specifically identified in local land use plans, tribal management plans, or federal management plans to be considered in evaluating impacts to scenic resources.

As part of this amendment request, the certificate holder reassessed potential impacts to scenic resources and values identified in local land use plans and federal management plans that apply to lands within 10 miles of the proposed modified KGF site boundary. Tribal management plans were not considered in this analysis because there are no tribal management plans relevant to lands within 10 miles of the proposed site boundary.

A. Changes to the Visual Features of the Site that Would Occur With the Proposed Modified Facility

This amendment request seeks to modify the previously-authorized KGF. The most visible features of the proposed modified KGF will be the major process components, which consist of the steam/power generation system, cycle cooling system, fuel delivery and handling system, and water treatment system. The process components for the proposed modified KGF will be generally smaller than the facilities described in the Final Order. The fuel pile and the fuel-handling equipment for the proposed modified KGF were not a part of the previously-authorized KGF.

The proposed modified KGF will use a hybrid auxiliary cooling system. For most of the year it will operate as a dry cooler tower (i.e., air-cooled condenser). During the hottest periods of summer, an evaporative section of the auxiliary cooler will operate to assist the dry cooling process. However, this evaporative function will only operate when the ambient temperature is above 75 to 80°F. This limited operating range for the evaporative section of

the auxiliary cooler reduces the temperature differential between cooling tower emissions of water vapor and the ambient air, thereby minimizing the visibility of a condensed water vapor plume. When the evaporative section of the hybrid auxiliary cooler is in operation, its water consumption will be approximately 15 gpm; additionally, historic meteorological data indicate that only 8.5 percent of the time is the ambient temperature above 75°F and only 4 percent of the time is the ambient temperature above 80°F. The auxiliary cooling system will generate a significantly smaller visible plume, if any, than the plume described in the Final Order due to reduced hours of operation and the significantly smaller amount of water being consumed by the hybrid cooler versus the previously-authorized wet cooling system. The evaporation rate from the proposed hybrid auxiliary cooler will be less than one percent (15 gpm, versus the previously-authorized approximately 1,600 gpm) of the evaporation rate for the approved wet cooling system.

B. Effect on Identified Scenic Values

The certificate holder conducted an analysis of the proposed modified KGF and potential impacts on scenic resources and values identified as significant or important in applicable land use and land management plans. The purpose of the analysis was to determine potential visual impacts from the proposed modified KGF.

Applicable Local, Tribal, and Federal Plans. The applicable land use and land management plans evaluated as part of the request for amendment are presented in Table 5-5.

TABLE 5-5
Applicable Local Land Use Plans and Federal Management Plans that Pertain to Lands Within 10 Miles of the Proposed Modified Site Boundary

Plan Category/Area/Applicable Plans	Facility Potentially Visible in the Plan Area and Further Analysis Required
Local Land Use Plans	
Klamath County, <i>Comprehensive Plan for Klamath County</i> , January 2010	X
City of Klamath Falls, <i>City of Klamath Falls Comprehensive Plan</i> , 1981	X
Oregon, California and Eastern Wood Line State Trail, <i>Oregon, California and Eastern Wood Line State Trail Draft Plan</i> , September 2007	X
Applicable Federal Land Management Plans	
Klamath Wildlife Area, <i>Draft Klamath Wildlife Area Management Plan</i> , January 2008	X

Identification, Description, and Potential Impacts on Scenic Resources and Values Identified as Significant or Important. Section V.3(g)(B) of the 2005 Final Order describes significant or important scenic resources and values specifically identified in applicable land use and land management plans. The analysis below addresses information that has changed since issuance of the Final Order (such as changes to the boundary of a planning area or resource), and new information that has become available since issuance of the Final Order (such as new or updated management plans). In addition, the analysis addresses the visibility of the proposed modified KGF from these lands. In general, the process

components of the proposed modified KGF are smaller and less visible than the components approved in the Final Order, and generally of similar type to surrounding power and forest products facilities.

Table 5-5 above lists the applicable plans that pertain to lands from which the modified KGF might be visible. A discussion of the scenic resources identified in these plans follows.

Identification and Description

Klamath County Comprehensive Plan, 2010. The *Klamath County Comprehensive Plan* has been updated since the September 8, 1999, version considered in the KGF Final Order (2005). The original plan was prepared in 1984, and a number of plan amendments have been adopted, with the most recent amendment completed on January 26, 2010. The only directly applicable part of the plan for scenic resources is Goal 5: Open Space, Scenic and Historic Areas, and Natural Resources. This goal was developed to preserve open space and protect natural and scenic resources. Scenic resources include outstanding scenic views and sites as well as potential wild and scenic waterways and state scenic waterways. The first objective of this goal is to create an inventory of the location of all natural and scenic resources within Klamath County so that they can be preserved and protected. An inventory has not been done to date, so no specific scenic resources in the County have been identified in the Plan as significant or important.

City of Klamath Falls Comprehensive Plan, 1981. The *City of Klamath Falls Comprehensive Plan* has not been updated since the April 1981 version referenced in the 2005 KGF Final Order. As discussed in the Final Order, the plan identified seven scenic vantage points at or near the following locations: Moore Park, Loma Vista Drive, Mountain View Boulevard, Carlyle Street, Lincoln and 6th Streets, California Avenue, and Front Street. The Final Order found that the approved KGF would not create significant adverse impacts to these viewpoints. The modifications described in this amendment request would generally reduce visibility of the KGF. Therefore, the Council can rely on its previous finding to conclude that the proposed modified KGF would not be likely to result in significant adverse impacts to the viewing of scenic areas within the City of Klamath Falls.

Oregon, California, and Eastern Wood Line State Trail Draft Plan, September 2007. A Draft Plan for the 100-mile-long Oregon, California, and Eastern Woods Line (OC&E Woods Line State Trail) was developed in 2007 by the Oregon Parks and Recreation Department. The western end of the trail begins in Klamath Falls and heads east along two abandoned rail lines. The closest part of the trail to the proposed modified KGF site boundary is approximately 4.5 miles away. The Draft Plan identifies four scenic sites along the trail, which would be considered scenic resources. However, the four scenic sites are located on segments of the trail that are greater than 10 miles away from the proposed modified KGF and as such, are not included in this analysis.

Klamath Wildlife Area Management Plan, January 2008. The Klamath Wildlife Area Management Plan (Plan) was developed by the Oregon Department of Fish and Wildlife (ODFW) in 2008 and replaces the original plan that was adopted in 1993. The management objectives stated in the Plan for the Klamath Wildlife Area (KWA) focus on benefiting wildlife. Public use of the KWA must be compatible with the sustainability of wildlife resources. Hunting and other consumptive uses (trapping and fishing) are allowed at the

KWA. Nonconsumptive uses (for example, wildlife viewing, photography, dog training, boat ramp use, educational use, and scientific use) are also popular. Although wildlife viewing is clearly an important part of the KWA mission, scenic resources within the KWA have not been identified for the overall KWA or for the habitat management units within Miller Island. Because the plan does not identify specific scenic resources, the KWA is not considered to contain scenic resources.

Potential Impacts

No specific scenic resources within the analysis area have been identified in the local land use and federal management plans that were reviewed.

C. Conclusions

In accordance with the Final Order and the discussion above, the design, construction, and operation of the proposed modified KGF will not result in significant adverse impacts to scenic resources and values identified in relevant local land use plans and federal management plans as significant or important. Accordingly, the certificate holder demonstrates that the proposed modified KGF can be designed, constructed, and operated in accordance with OAR 345-022-0080.

5.1.10 OAR 345-022-0090 Historic, Cultural and Archaeological Resources

(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 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).

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

Response: Under OAR 345-027-0070(10), the Council must find that all applicable standards are satisfied before approving a site certificate amendment request. As discussed below, an archaeological survey will be conducted before any construction activities begin.

In March 2011, CH2M HILL on behalf of the certificate holder conducted a literature search at the Oregon State Historic Preservation Office (SHPO). Results of this survey are provided in confidential Attachment 4, *Archaeological Resources Screening for the Proposed Modified Klamath Generation Facility, Klamath Falls, Oregon* (CH2M HILL, 2011). Note that specific locations of cultural sites identified within or near the proposed Facility site boundary are considered confidential by Oregon SHPO and therefore Attachment 4 is provided under separate cover for cultural resource agencies and Tribes only.

A. Desktop Survey Results

The background research conducted at the SHPO indicates that six cultural resource surveys have been carried out within and adjacent to the proposed modified KGF site boundary, and that five archaeological sites and one isolated find are recorded.

One archaeological site was recorded within or near the site boundary – site 35KL2831, identified in the Final Order as OR-KL-40 and known as the historic Weyerhaeuser Mill site. In the Final Order, the Council found that construction, operation, and retirement of the KGF, taking into account mitigation, are not likely to result in significant adverse impacts to historic, cultural, or archaeological resources.

Other sites in the vicinity of the Facility, but believed to be outside of the site boundary, include prehistoric resources. For this reason, a formal archaeological survey is recommended. The survey will include a site visit and subsurface sampling and will take place in advance of any ground-disturbing activities within the proposed Facility site boundary. This subsurface testing will require a State Archaeological Excavation Permit issued by SHPO. The results of the field investigation will be provided to SHPO and ODOE as a confidential report upon completion.

Site Certificate Conditions 99, 100, and 101 require training construction personnel to identify cultural materials; halting construction if archaeological objects are discovered in the course of construction of the Facility; and locating the Facility components to avoid impacts on the historic Weyerhaeuser Mill site. The proposed modifications to the KGF will not affect the certificate holder's ability to comply with these conditions. Numerous existing structures within the boundaries of the historic Weyerhaeuser Mill site do not contribute to its eligibility for the National Register of Historic Places (NRHP), and protection of the historic site does not require avoiding impacts to those buildings. Because some newer (1967-era) existing buildings may need to be removed as part of construction of the proposed modified KGF, the certificate holder proposes a modification to Condition 101 to clarify its intent to avoid impact on historic structures as follows:

(101) The certificate holder shall locate facility structures, including the potable water pipeline, to avoid impact on any existing structures contributing to the NRHP eligibility of the original Weyerhaeuser Timber Company Mill within the boundaries of recorded historic site OR-KL-40 (site 35KL2831).

B. Conclusions

For the reasons stated above, the certificate holder demonstrates that the proposed modified KGF can be designed, constructed, and operated in accordance with OAR 345-022-0090, subject to existing Site Certificate Conditions 99, 100, and 101 of the Site Certificate, with the proposed modification to Condition 101.

5.1.11 OAR 345-022-0100 Recreation

(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 rareness;*
- (e) *Irreplaceability or irretrievability of the opportunity.*

Response: Recreational opportunities within the analysis area for the previously-authorized site boundary are addressed in Section IV.3(i) of the 2005 Final Order. As stated in the Final Order, the analysis area for the Recreation Standard is the area within the site boundary and 5 miles from the site boundary. The following sections address recreational opportunities for the proposed modified KGF.

A. Recreational Opportunities within the Analysis Area for the Proposed Modified Klamath Generating Facility

Recreational opportunities within the proposed modified site boundary have not changed from those identified in the existing Site Certificate (as amended) and Final Order. The proposed modified KGF is situated in an area zoned Heavy Industrial, making it unsuitable for recreational activities. Furthermore, no recreational facilities are identified on City or County plans within or adjacent to the proposed modified Facility site boundary.

Recreational opportunities located outside the proposed modified site boundary, but within the 5-mile analysis area, also remain unchanged from those identified in the existing Site Certificate (as amended) and Final Order. Nearby recreation areas consist of the following:

- Klamath River (approximately one-quarter mile south of the Facility) – As determined in the Site Certificate, this section of the river is not typically used for recreational purposes.
- Reames Golf and Country Club (approximately three-quarter mile to the northeast) – An existing, private facility is located on the east side of US 97.
- Lower Klamath National Wildlife Refuge (approximately 5 miles south) – Located across the Klamath River from the proposed modified KGF, the intended recreational use of this site is wildlife viewing rather than vistas beyond the site boundary.
- Klamath Wildlife Area Miller Island Unit (approximately one-half mile south) – The intended recreational use of this site is wildlife viewing. This area includes a 2.5-mile pedestrian trail.
- Klamath Wildlife Area Gorr Island Unit (approximately 4 miles south) – The intended recreational use of this site is wildlife viewing.
- Klamath Experiment Station (approximately 5 miles East) – The Klamath Experiment Station is operated under the Oregon State Extension Service, and provides community programs, such as 4-H, and numerous community learning opportunities related to agriculture, horticulture, and livestock .

- Oregon, California, and Eastern Railroad Woods Line State Trail – The 10-mile-long hiking trail begins at the north end of Lake Ewauna, extends through the Winema National Forest, forks along the Sprague River and ends in either Bly or Sycan Marsh.
- Existing Recreational Facilities within the City of Klamath Falls – These facilities largely consist of neighborhood parks.
- Existing Recreational Facilities Outside the City – These facilities include the South Suburban athletic fields along Anderson Avenue north of the airport (multiple baseball fields with restroom facilities), 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.

As stated in the Final Order, the proposed modified KGF will be screened by intervening terrain from all but the Miller Island wildlife refuge listed above. During operation, noise from the Facility will comply with DEQ noise standards in the wildlife refuge. Construction noise will be temporary and will not significantly interfere with recreational use. See Section 6.1.1 for additional information on noise impacts.

B. Potential Impact on Important Recreational Opportunities

In the Final Order, the Council determined that the KGF would have no direct impact on any important recreational facilities or opportunities in the analysis area. Likewise, design, construction, and operation of the proposed modified KGF will have no adverse effect on the recreational opportunities listed above, taking into account mitigation measures required by the Site Certificate. Accordingly, the proposed modified KGF can be designed, constructed, and operated in accordance with OAR 345-022-0100(1) and consistent with the Council's previous conclusion in the Final Order.

5.1.12 OAR 345-022-0110 Public Services

(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.

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

Response: In the Final Order, the Council found that the KGF complies with the Public Services standard with the inclusion of Site Certificate Conditions 54, 55, 79, 81, 84, 90, 97, 102, and 103. This amendment request proposes to change the currently authorized combined-cycle natural gas-fired power plant to a modified biomass-fueled power generation facility. However, the amendment request does not change the potential adverse impacts on public services from what was originally authorized in the Site Certificate, nor affect the certificate holder's ability to comply with the Site Certificate.

A. Sewers and Sewage Treatment

Impacts to sewage from the proposed modified KGF will be less than previously authorized under the existing Site Certificate. The quantity of wastewater generated during construction will be similar to or less than the 10 gpm described in the Final Order. The quantity of wastewater generated during operations will average approximately 0.048 mgd, with an estimated maximum short-term duration flow of up to 0.07 mgd. This is approximately 70 percent lower than the average 0.228 mgd described in the Final Order. Construction and process wastewater discharge will meet all wastewater discharge requirements set forth by the City of Klamath Falls Public Works Department. Wastewater

Impacts from the proposed modified KGF to wastewater handling facilities will be less than previously authorized under the existing Site Certificate. Wastewater will be handled by the City of Klamath Falls' municipal wastewater system as approved under the existing Site Certificate. Because there is an existing Industrial Wastewater Discharge Permit in force for the adjacent KCP, the certificate holder may choose to modify this permit to allow KGF wastewater to be discharged under the same permit. For this reason, the certificate holder proposes the following modification to Condition 102:

(102) Before plant startup, the certificate holder shall obtain an Industrial Wastewater Discharge Permit, or shall secure coverage under an existing Industrial Wastewater Discharge Permit, from the SSWTP for acceptance of facility wastewater, including sanitary and process wastewater ~~and (under the evaporative cooling option) cooling tower discharge water~~. The certificate holder shall submit a copy of the permit to the Department. The certificate holder shall comply with all federal pretreatment requirements for disposal of wastewater into a publicly-owned treatment works. [Amendment #3]

B. Water

Impacts to water use during construction of the proposed modified KGF are expected to decrease from those authorized in the Final Order (2005), Section V.3(b)B. Specifically, the number of construction workers and the uses of potable water during construction are estimated to be fewer than those authorized in the Site Certificate.

Potable water necessary for operations at the proposed modified KGF is expected to be less than 5 percent of what was approved under the existing Site Certificate and subsequent amendments. This reduction of more than 80 percent in water use is due to the modification of the Facility to reduce the size of its electrical output and rely primarily on a dry cooling system. Therefore, the water demand will be significantly lower than that authorized under the existing Site Certificate. Potable water will still be obtained from the same supply as previously authorized: the City of Klamath Falls municipal water system.

C. Stormwater Drainage

Consistent with Section V.3(b)(C) of the 2005 Final Order, no service providers will be affected by stormwater management, since stormwater runoff during operation would evaporate onsite and would not be discharged to offsite locations. A 1200-C NPDES permit will be obtained before construction of the proposed modified KGF, in compliance with Site Certificate Conditions 79 and 90. Condition 105 requires that the certificate holder prevent

discharge of stormwater to surface waters of the state. Although the preliminary design provided as part of this amendment request includes discharge of all stormwater to onsite evaporation ponds, the certificate holder proposes to modify Condition 105 to allow for the potential to obtain an NPDES permit for alternative handling of stormwater, as follows:

(105) During operation, the certificate holder shall discharge stormwater run-off to an on-site evaporation pond(s) and shall not discharge stormwater to surface waters of the state, unless the certificate holder obtains coverage under an NPDES permit from DEQ.

D. Solid Waste Management

The quantity of solid waste generated during construction and operation (except for ash) of the proposed modified KGF will be less than the quantity presented in the Final Order since the overall Facility will be smaller. The information provided in the Final Order remains the same for the types of waste expected to be generated during construction and operation (except for ash), as well as the methodology for handling, storing, disposing of, transporting, and minimizing waste.

Ash generated during Facility operations is estimated at 18,000 tons per year. Ash will be transported offsite via trucks (5 to 6 days a week, for 50 weeks a year). An estimated 822 trucks per year (or three trucks per day) will be used. Ash will either be sold to be used for agricultural application (provided that the ash is determined to be nonhazardous and can provide a beneficial use for the receiving soil), or disposed of at a landfill. The certificate holder will manage the disposal of the ash, and will not rely on a public service provider to handle the ash disposal. In addition, if the ash is disposed of at a landfill, the capacity of the landfill will be evaluated to ensure that the ash will not cause the landfill to prematurely reach capacity.

E. Housing

This amendment request does not increase the impacts described in the Final Order to the socioeconomic and demographic characteristics of the local populations. The number of construction workers necessary for construction of the proposed modified KGF is expected to slightly decrease as a result of the proposed modifications to the design of the KGF. As stated in the Final Order, construction of the proposed Facility is estimated to take 24 months and require an average workforce of 100 workers and a peak workforce of 250 workers. Given assumptions described in the Final Order, 284 construction workers and their family members, totaling 427 people, were expected to temporarily move to the area, representing a 2 percent increase in the population of Klamath Falls (U.S. Census Bureau, 2004). The overall population within Klamath County and Klamath Falls has slightly increased since the Final Order (Table 5-6). With this increase in the population of Klamath Falls, and decrease in the total number of construction workers needed, the number of people expected to move to the area temporarily during construction of the proposed modified KGF is expected to represent less than a 2 percent increase in Klamath Falls' population.

TABLE 5-6
Historical Population of Klamath County and Klamath Falls

	2004	2009
Klamath County	64,800	66,475
Klamath Falls	20,220	21,480

Source: U.S. Census Bureau 2004 and 2009.

Operational shifts at the proposed modified KGF will be staffed by 25 employees spread across 24 hours. The maximum daily shift is estimated at 10 to 12 employees. Calculations in the Final Order were based on the assumption of a 20-person permanent staff estimated to create approximately 15 indirect jobs. As stated in the 2005 Final Order (page 43), the local population would increase by approximately 58 people, representing a 0.3 percent increase in the population of Klamath Falls. Given 2009 population data for Klamath Falls and an estimated local population increase of 73 people (based on an operations staff of 25 rather than 20 employees), the increase in the population of Klamath Falls is estimated at 0.3 to 0.4 percent for the proposed modified KGF.

F. Traffic Safety

As described in the response to OAR 345-027-0060(1)(c), transportation to and from the proposed modified KGF will generally utilize the same state highways that were identified for the previously-authorized KGF. This amendment request will not significantly increase the daily truck traffic volume on state highways during construction of the proposed modified KGF. During operations, daily truck traffic volume on state highways will increase as a result of the fuel delivery and ash disposal trucks. While truck traffic will increase during operations, the increase will not have a significant adverse impact to traffic safety. As described in the traffic impact analysis contained in Attachment 5, potential construction and operational impacts to traffic safety and maintenance needs on state highways are anticipated to be inconsequential as the state highway system is constructed to sufficient design, safety, and load-bearing standards, and the number of additional vehicles will not be a significant change over current levels. These roadways are able to accommodate vehicles at the legal load limit, thereby reducing the potential for significant traffic safety and maintenance impacts.

It is anticipated that county and local roadways will safely accommodate proposed modified KGF operational traffic. However, the existing site access road intersection with US 97 will likely need to be modified (as described in Attachment 5) to ensure safe operations of US 97. The certificate holder will construct the modifications of this intersection in conformance with ODOT standards and subject to ODOT approval.

G. Police Protection

The impacts on police protection public services are not expected to change from the Final Order because the percentage increase in population under the proposed modifications will be similar to that described in the Final Order. As stated in the Final Order (page 48), the Klamath County Sheriff’s Department has jurisdiction over the KGF site and surrounding areas. Construction and operation of the proposed modified KGF are not expected to affect the ability of the Sheriff’s Department to provide police protection to the community.

H. Fire Protection

The impacts on fire protection public services are not expected to change from the Final Order. Impacts will likely be mitigated, as previously described in the Final Order, by the installation of an onsite fire protection system designed in conformance with applicable fire codes and National Fire Protection Association standards (Site Certificate Condition 54). The system will consist of a firewater loop system, including fire hydrants, building sprinkler systems, hose stations, and a diesel fire pump. The source of firewater will be pumped via the Facility's diesel fire pump from a dedicated portion of the raw water storage tank. The system will be installed to allow control and extinguishing of fires within structures and the biomass fuel storage areas. The control room will be protected using an appropriate system, including fire detection and pre-action alarms. To supplement the stationary fire systems, portable fire extinguishers will be provided at strategic locations within the Facility. The type and number of extinguishers will satisfy applicable code requirements. First-aid kits, eyewash stations, and safety showers will be provided at appropriate locations.

I. Health Care

As stated in the Final Order, the ability of health care providers to provide services is unlikely to be adversely affected by the increase in population as a result of construction or operation of the KGF. Because the percentage increase in population will be similar to that described in the Final Order, the Council can rely on its previous findings that no adverse impacts on health care will occur. The certificate holder will ensure that health and safety plans are in place during construction and operation (Site Certificate Conditions 55 and 82).

J. Schools

As stated in the Final Order, the ability of local schools to provide educational services is unlikely to be adversely affected by the increase in population as a result of construction or operation of the KGF. Because the percentage increase in population will be similar to that described in the Final Order, the Council can rely on its previous findings that no adverse impacts on schools will occur.

K. Conclusion

This amendment request does not change the certificate holder's ability to comply with the Site Certificate and fulfills the requirements of OAR 345-022-0110, subject to proposed modifications to Conditions 102 and 105.

5.1.13 OAR 345-022-0120 Waste Minimization

(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 and operation 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.

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

(3) The Council may issue a site certificate for a special criteria facility under OAR 345-015-0310 without making the findings described in section (1). However, the Council may apply the requirements of section (1) to impose conditions on a site certificate issued for such a facility.

This amendment request changes the nature of power generation at the proposed modified KGF from the currently authorized combined-cycle natural gas-fired facility to a biomass-fueled facility.

A. Solid Waste

As described in the Final Order, construction of the Facility would produce nonhazardous waste in the form of discarded equipment packing materials, wood materials, and construction debris such as excess piping, concrete and steel scrap. Construction of the proposed modified KGF will produce the same types of debris, which will be handled in accordance with Conditions 11, 53, and 97 of the Site Certificate.

As described in the Final Order, operation of the KGF would produce both hazardous and nonhazardous solid wastes. The proposed modified KGF will generate the same types of nonhazardous and hazardous wastes described in the Final Order. In addition, the biomass fuel will generate ash resulting from combustion of wood waste. Bottom ash from the boiler and fly ash from the ESP unit will be collected and transferred to an interim onsite storage location via the ash handling system, which may include hoppers, conveyors, and mobile equipment. From the storage location, the ash will be loaded into trucks for offsite disposal.

Ash generated during Facility operations is estimated to be 18,000 tons per year. Ash will be transported offsite via trucks (5 to 6 days a week, for 50 weeks a year). An estimated 822 trucks per year (or three trucks per day carrying 22 tons of ash in each truck) will be used. Ash will either be sold for agricultural use applications, as it is a standard practice in Oregon (provided that the ash is determined to be nonhazardous and can provide a beneficial use for the receiving soil), or disposed of at an approved landfill.

Condition 108 of the Site Certificate requires completion of an independent Phase I Environmental Site Assessment of the energy facility at least once every 10 years during the life of the energy facility. The certificate holder will comply with hazardous waste handling regulations to prevent discharge of hazardous materials to the environment, and will maintain and implement a Spill Prevention, Control, and Countermeasures Plan if required. For this reason, and because the project will involve use of fewer chemicals, no evaporative cooling tower or cooling tower basin, and storage of most if not all chemicals inside buildings, the certificate holder proposes to eliminate Condition 108 as an unnecessary and onerous cost that will not improve the safety or management of the Facility.

B. Wastewater

The Final Order found that construction wastewater generation would consist of portable toilet waste, and from flushing and cleaning of piping and equipment during the final stages of construction. Generation of wastewater during construction of the proposed

modified KGF will be consistent with that authorized under the existing Site Certificate and KG will comply with Conditions 86 and 98 regarding wastewater disposal during construction.

The quantity of wastewater generated during proposed modified Facility operations will be approximately 0.048 mgd, with an estimated maximum short-term duration flow of up to 0.07 mgd. The maximum flow will occur during use of the evaporative cooler section of the auxiliary cooler in combination with filter backflushing. The maximum instantaneous flow of approximately 665 gpm of wastewater will occur when the auxiliary cooler is operating and backflushing occurs (auxiliary cooler operates less than 750 hours per year and backflushing approximately 15 minutes per week). In the Final Order, wastewater generation not including cooling tower blowdown from a full-time wet cooling system, was estimated at up to 0.228 mgd, or an annual average of 158 gpm. For the evaporative cooling option already approved in the Final Order, total wastewater generation was estimated at up to 805 gpm. The proposed modified KGF will generate significantly less wastewater during operations than that approved under the existing Site Certificate (approximately 4 percent of the previous estimate). Handling and minimization of wastewater will be consistent with the existing Site Certificate. Conditions 102 and 104 address generation and disposal of sanitary and industrial wastewater during operations. The certificate holder can comply with these conditions as written.

C. Conclusion

The proposed modified KGF will result in less solid waste generation during construction, less wastewater during operations, and the addition of ash generation during operation. Ash solid waste will be nonhazardous and handled in a manner consistent with the criteria described in Section IV.3(c) of the 2005 Final Order. Wastewater generation will be less than that previously authorized for the Facility. Minimization of wastewater will be consistent with Section IV.3(c) of the Final Order. The certificate holder's ability to comply with the Site Certificate and its ability to meet OAR 345-022-0120 is shown to be satisfied.

5.2 OAR 345-024 Specific Standards for Siting Facilities

The following Division 24 standards are addressed:

- OAR 345-024-0090 Transmission Lines
- OAR 345-024-0550 Carbon Dioxide Standard for Base Load Gas Plants

5.2.1 OAR 345-024-0090 Transmission Lines

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

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

Response: The modifications proposed in this amendment request replace the approved overhead single-circuit 500-kilovolt (kV) electric transmission line with an underground single-circuit 13.8-kV electric transmission line. The transmission line will carry power from the Facility to the switchyard of the KCP, as authorized in the Final Order. The transmission line route will be modified from the approved 1,630-foot route around the KCP site to extend underground via a more direct route (of approximately 400 feet), as shown in Figure 3, connecting to the PacifiCorp Captain Jack to Meridian transmission line at the western edge of the KCP switchyard. The transmission interconnection lies within the existing substation and the site boundary of the KCP.

The transmission line associated with the proposed modified KGF will consist of a single-circuit 13.8-kV electric transmission line with two conductors per phase, approximately 750 feet in length. The transmission line will carry power from the biomass-fueled power plant with approximately 35 MW net, or approximately 39-MW gross generating capacity, underground after leaving the STG building until just before interconnecting to the existing KGP substation's Step-up Transformer. There will be no new aboveground structures associated with this transmission line. The transmission interconnection lies, as it did previously, within the existing substation and the site boundaries of the KCP and proposed modified KGF. The minimum distance from the centerline of the transmission line to the site boundary is approximately 300 feet, which is greater than the minimum distance presented in the Site Certificate. Figure 16 shows the interconnection with the common KGP Step-up Transformer.

For underground transmission lines, the electric field is completely contained within the insulation of the cable and the soil over the line. Unlike the previously-authorized overhead transmission line, there is no electric field measurable at the surface of the ground for underground transmission lines because the electric field is contained within the buried cables. Therefore, the proposed underground transmission line will not exceed 9 kV per meter at one meter above the ground in areas that are accessible to the public, as set forth in OAR 345-024-0090(1) and Condition 57 of the Site Certificate.

Underground transmission lines will not cause a voltage to appear on fences that parallel the underground circuits because the electric fields will be shielded by the earth over the underground lines. Therefore, the grounding of fences in proximity to the underground lines is unnecessary. Underground circuits generate only magnetic fields, and these fields pose no shock hazard to people.

For underground transmission lines, magnetic field is measurable on the surface of the ground above the cables. The potential magnetic field from the underground single-circuit 13.8-kV electric transmission line associated with the proposed modified KGF will be more shielded from public access by its location within the center of the KCP, KGP, and the proposed modified KGF facilities, and therefore, its offsite impact will be less than the magnetic field of the previously-authorized KGF transmission line.

Site Certificate Conditions 20, 21, 56, 57, and 58 apply to transmission line construction and operation. The modifications proposed in this amendment do not affect the certificate holder's ability to comply with these conditions. Accordingly, the certificate holder demonstrates that the components of the proposed modified KGF can be designed, constructed, and operated in accordance with OAR 345-024-0090.

5.2.2 OAR 345-024-0550 Carbon Dioxide Standard for Base Load Gas Plants

This rule is no longer applicable to the proposed modified KGF. In the 2005 Final Order (pp. 96-106), as amended, under OAR 345-024-0550 the rule is addressed because the Facility proposed in the 2001 Application for Site Certificate was a base load gas plant. Because the proposed modified KGF is no longer a base load gas plant, nor a non-base load power plant nor a nongenerating energy facility that emits carbon dioxide, the rule no longer applies. As a result, Conditions (30) through (45) of the Site Certificate, identifying conditions for compliance with the carbon dioxide emissions standard, do not apply to the proposed modified KGF.

SECTION 6

Information Required Pursuant to OAR 345-027-0060(1)(f) and (g)—Other Applicable Requirements

6.1 OAR 345-027-0060(1)(f) Compliance with ORS Chapter 469 and Other Applicable Requirements

(f) An analysis of whether the facility, with the proposed change, would comply with the requirements of ORS Chapter 469, applicable Council rules, and applicable state and local laws, rules and ordinances if the Council amends the site certificate as requested. For the purpose of this rule, a law, rule or ordinance is “applicable” if the Council would apply or consider the law, rule or ordinance under OAR 345-027-0070(10).

Response: Rules and laws applicable under this section are as follows:

- DEQ noise control regulations – OAR 340-035-0035
- Oregon Department of State Lands (DSL) regulations for removing, filling, or altering material within “waters of the state” – ORS 196.795 to .990, OAR 141-085-0500 to -0785, and Section 404 of the Clean Water Act
- ODOT regulations for state highway access and crossings – OAR Chapter 734, Divisions 51 and 55
- ORS 469.310 pertaining to the protection of public health and safety

These regulations and the certificate holder’s responses are explained further below. Regulations are summarized for brevity. To summarize the results of the following analysis, under this amendment request the certificate holder would comply with applicable DEQ noise control regulations, DSL fill-removal regulations, ODOT state highway access and crossing regulations, and ORS 469.310 pertaining to public health and safety. This amendment request does not change the certificate holder’s ability to comply with the Site Certificate.

6.1.1 DEQ Noise Control Regulations—OAR 340-035-0035

DEQ noise regulations for industrial and commercial noise sources are established under OAR 340-035-0035. In the Final Order, the Council found that KGF would comply with the applicable DEQ noise standards, subject to conditions of approval (Conditions 77, 87, 106, and 107). The proposed modified KGF does not change the applicable noise standards or alter the certificate holder’s ability to construct and operate the Facility in accordance with the existing Site Certificate conditions pertaining to noise (Conditions 77, 87, 106 and 107, with proposed modifications) and satisfy OAR 340-035-0035.

As discussed in the Final Order, the KGF would be a “new industrial or commercial noise source” located on a “previously used site.” Therefore, the applicable limits for noise generated by the proposed modified KGF are established in OAR 340-035-0035(1)(b)(A), which governs new noise sources on a previously-used site. The applicable limits are established in Table 8 of the rule as described in the following language from OAR 340-035-0035:

(1) *Standards and Regulations:*

(b) *New Noise Sources*

(A) *New Sources Located on Previously Used Sites. 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 if the statistical noise levels generated by that new source and measured at an appropriate measurement point, specified in subsection (3)(b) of this rule, exceed the levels specified in Table 8, except as otherwise provided in these rules.*

Table 8. State of Oregon Statistical Noise Limits for Industrial and Commercial Sources (OAR 340-035-0035)

Statistical Descriptor	Maximum Permissible Statistical Noise Levels (dBA)	
	Daytime (7:00 a.m. – 10:00 p.m.)	Nighttime (10:00 p.m. – 7:00 a.m.)
L ₅₀	55	50
L ₁₀	60	55
L ₁	75	60

Note:

Based on “Table 8” of OAR 340-0035: New Industrial and Commercial Noise Source. Standards

The Site Certificate addresses construction noise levels in Condition 87. Although construction noise is exempt from the noise standard under OAR 340-035-0035(5)(g), the Site Certificate establishes Condition 87 to reduce noise impacts on nearby residences during construction by confining the noisiest construction activities to the daylight hours, requiring contractors to install and maintain exhaust mufflers on all combustion engine-powered equipment, and establishing a complaint response system at the construction manager’s office to address noise complaints.

The Site Certificate addresses operational noise levels in Conditions 77, 106, and 107. These conditions are established to ensure that the Facility complies with Table 8 limits established in OAR 340-035-0035(1)(b)(A) and described above. As discussed in the Final Order, the most restrictive Table 8 limit is the nighttime L₅₀ limit of 50 dBA. Several measures are available to the certificate holder to ensure that the Facility complies with this limit and Conditions 77, 106, and 107. Such measures include acoustically engineered structures and enclosures, silenced ventilation and exhausts, acoustical lagging, acoustical barriers, and equipment or design performance standards. The certificate holder will determine the precise mitigation measures during detailed design to ensure compliance with these conditions and therefore compliance with OAR 340-035-0035. The certificate holder proposes modifications updating Conditions 77 and 106 to refer to the Table 8 limits

established in OAR 340-035-0035(1)(b)(A), and a modification to Condition 107(a) to update distances to receptors based on the proposed modified site boundary, as follows:

(77) The certificate holder shall design the facility to conform with the noise level performance standards shown in ~~the site certificate application, Appendix X-1, Tables 4 and 5~~ Table 8 of OAR 340-035-0035. ~~If the certificate holder includes in the final design additional equipment that would increase noise levels, the certificate holder shall install additional noise control measures, as necessary, to assure that overall plant noise at 400 feet from the footprint would not exceed 60 dBA.~~ Additional noise control measures may include, but are not limited to, quieter models for each equipment type, additional silencers or enclosures around equipment, lagging of pipes, using resilient couplings for pipe connections or mounting equipment on resilient pads.

(106) During operation, the certificate holder shall install and maintain silencers on short-duration noise sources such as steam and air vents. The certificate holder shall not allow noise levels from operation of the facility to exceed noise levels specified in Table 8 of OAR 340-035-0035 ~~50 dBA~~ at the appropriate measurement point on the noise sensitive property in the West Klamath residential neighborhood or at the boundaries of the Klamath Wildlife Area.

(107) Within six months after the start of commercial operation of the energy facility, the certificate holder shall retain a qualified noise specialist to measure noise levels associated with the energy facility operation and report as follows:

(a) The specialist shall measure noise levels at the appropriate measurement point on the noise sensitive property in the West Klamath residential neighborhood (approximately ~~1,450~~ 100 feet from the nearest point of the energy facility site boundary and ~~approximately 2,350 feet from the center of the facility's primary noise sources~~) to determine if actual noise levels are within the Table 8 limits nighttime L50 noise limit of 50 dBA as specified in OAR 345-035-0035(1)(b)(A).

Conclusion

Based on the findings discussed above, the certificate holder demonstrates that the proposed modified KGF does not change the applicable noise standards or alter the certificate holder's ability to construct and operate the Facility in accordance with the Site Certificate conditions pertaining to noise (Conditions 77, 87, 106 and 107, with proposed modifications). Therefore, the requirements of OAR 340-035-0035 are met.

6.1.2 Department of State Lands (DSL) Removal/Fill Regulations—ORS 196.795 to .990, OAR 141-085-0500 to -0785, and Section 404 of the Clean Water Act

The Oregon Removal-Fill Law (ORS 196.795 to .990) and regulations (OAR 141-085-0500 to -0785) adopted by DSL require a Removal/Fill Permit if 50 cubic yards or more of material is removed, filled, or altered within any "waters of the state" at the proposed site. The Council must determine whether a permit is needed. In addition to the DSL regulations, the USACE administers Section 404 of the Clean Water Act, which regulates the discharge of fill into waters of the United States (including wetlands). Under Section 404, a federal Nationwide or Individual fill permit may be required if waters of the United States are affected by Facility construction or operation.

Based on the layout for the proposed modified KGF, no direct impacts such as a discharge of dredged or fill material will occur to wetlands or waterways near the proposed site. Therefore, a Section 404 permit and a DSL Removal/Fill Permit are not required.

Ecology and Environment Inc. (E&E) completed a desktop wetland identification report for the proposed modified KGF (see Attachment 6), which also included an initial field reconnaissance. The results of the desktop survey and initial field reconnaissance indicated that there are no wetlands or water bodies within the permanent footprint of the proposed modified KGF. There are wetlands and other water bodies located within the vicinity of the proposed modified KGF, including areas within the proposed modified site boundary. A field delineation to be conducted in spring/summer 2011 (Figure 13) will confirm nature and extent of these features and detailed design will include measures to avoid impacts to any potentially jurisdictional wetlands.

The Final Order, as amended, included Condition 93, which requires the certificate holder to avoid impacts to wetlands that would include cut and fill of more than 50 cubic yards or more of material to waters of the state. This amendment request does not include any impacts to DSL jurisdictional waters presented in the Final Order, or affect the certificate holder's ability to comply with the Site Certificate. In addition, the certificate holder will mitigate potential indirect impact by erosion control measures and revegetation (Conditions 89, 90, and 91) and will take steps to avoid contamination of wetlands and waterways by hazardous substances (Condition 92) (see page 27 of the Final Order on Amendment #2 dated May 15, 2009). Therefore, OAR 141-085-0500 through -0785 are met.

6.1.3 State Highway Access and Crossings —OAR Chapter 734, Divisions 51 and 55

Under OAR Chapter 734, Division 51, ODOT regulates highway approaches and access control. In particular, pursuant to OAR 734-051-0070, an Approach Permit is required for an approach (permanent or temporary) to a state highway. The existing access road provides access to US 97. Because the access road will require modification to allow truck traffic associated with the modified KGF, an approach permit will be required. The approach permit will include mitigation requirements such as improvements to US 97 at the Facility access driveway intersection. To accommodate large trucks turning into the Facility, widening of US 97 and striping of deceleration lanes are proposed, as detailed in the Traffic Impact Analysis (Attachment 5). The certificate holder will enter into discussions with ODOT in spring/summer 2011 to discuss details of the proposed access road and US 97 modifications, and the results of these discussions will be communicated to ODOE when they are available.

6.1.4 Public Health and Safety—ORS 469.310

In the Final Order, as amended, the Council discussed findings regarding issues of public health and safety. Specifically, the following issues were addressed:

- Cooling tower fogging and icing
- Potential for public health hazards from the proposed use of reclaimed water for Facility cooling

- Potential health concerns regarding electric and magnetic fields from high-voltage transmission lines
- Certificate holder's coordination with the Oregon Public Utility Commission (PUC) to ensure that the certificate holder designs and builds the electrical transmission lines and natural gas pipelines in accordance with the appropriate codes and standards

A. Cooling Tower Fogging and Icing

The proposed modified KGF will use dry (air) cooling exclusively to reject waste heat from its main steam cycle. Miscellaneous and secondary waste heat loads will be cooled by a small auxiliary cooler of hybrid design (i.e., dry cooling as primary mode with the additional capacity for partial evaporative cooling). This auxiliary cooler will use its evaporative mode only during brief periods of elevated temperature in the summer. Ground-level fogging can occur when a cooling tower plume approaches ground level, and icing can occur during periods when ground-level fogging coincides with freezing surface temperatures. Cooling tower fogging occurs under conditions of high relative humidity and cool temperatures. Because the evaporative cooling mode of the auxiliary cooler will be used only when temperatures are above 75°F, potential cooling tower fogging and icing described in the Final Order will not occur and Site Certificate Condition 112 does not apply.

B. Cooling Tower Emissions

The proposed modified KGF will use the evaporative cooling mode of its hybrid auxiliary cooler for approximately 750 hours per year. Water for this evaporative cooling will consist of potable water supplied from the City of Klamath Falls. This is a change from the use of reclaimed water from the SSWTP in the cooling tower described for the approved KGF. In the Final Order, the Council found that use of reclaimed water would not pose a hazard to public health with mitigation measures described. Because the proposed modified KGF would use potable water instead of reclaimed water, cooling tower drift (emissions) from operation of the hybrid auxiliary cooler in evaporative mode would also not present a hazard to public health. Therefore, Site Certificate Condition 111 does not apply.

C. Electric and Magnetic Fields

As described in Section 5.2.1 above, the electric transmission interconnection for the proposed modified KGF will consist of an underground, 13.8-kV line between the KGF and the KGP switchyard. The transmission line, as modified, will not exceed the Council's electric field standard of 9 kV per meter at one meter above the ground surface in areas that are accessible to the public. The potential magnetic field from the underground electric transmission line associated with the proposed modified KGF will be more shielded from public access by its location within the center of the KCP, KGP and KGF facilities, and therefore, its off-site impact is anticipated to be less than the magnetic field of the previously-authorized KGF transmission line. Therefore, the certificate holder will comply with Site Certificate Condition 58.

D. Coordination with the Oregon Public Utility Commission

Site Certificate Condition 56 requires that the certificate holder coordinate the design of electrical transmission lines and natural gas pipelines with the PUC. The modifications

proposed in this amendment request do not affect the certificate holder's ability to comply with this condition.

Conclusion

Based on the findings discussed above, the certificate holder demonstrates that the proposed modifications, subject to the relevant conditions stated in the Site Certificate, as amended, are consistent with the protection of public health and safety. This amendment request does not change the KG's ability to comply with the SC. Therefore, the requirements of ORS 469.310 are met.

6.2 Compliance with Federally Delegated Programs That Are Not Under Council Jurisdiction

The Siting Council does not have jurisdiction to determine compliance with permit programs delegated by the federal government to another state agency. ORS 469.505(1) requires simultaneous review of federally delegated permit applications:

Any 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.

6.2.1 Air Quality

The air quality permit program is delegated by the U.S. Environmental Protection Agency (EPA) to DEQ. DEQ administers the New Source Review requirements of the Clean Air Act and the PSD program. DEQ authority is in ORS Chapter 468A and OAR Chapter 340, Divisions 216, 222, 223, 224, and 225.

KG must modify its existing ACDP, which was issued by DEQ, before beginning construction of the Facility (Site Certificate Condition 48). KG has initiated discussions with DEQ and intends to file its ACDP amendment request in the summer of 2011. The Facility is also subject to the Title V air permit program. Accordingly, KG will apply for a Title V permit within one year after commencing operations.

6.2.2 Federal Aviation Administration Permit Requirements

While all permanent structures of the proposed modified KGF will be less than 200 feet in height, the height of the temporary construction crane used to erect the boiler exhaust stack may be over 200 feet, and this height would trigger review by the Federal Aviation Administration (FAA). Upon review of crane latitude, longitude, and height, the FAA issues a determinative notice if the Facility will interfere with flight paths or will require further conditions of the site certificate, such as minimum lighting requirements. The FAA also identifies when notification of actual construction is required. However, no permit is issued by the FAA. If any temporary structure will be 200 or more feet in height, the KG will consult with the FAA.

6.3 OAR 345-027-0060(1)(g) Landowners Within or Adjacent to the Facility

(g) If the amendment would change the site boundary, extend the deadlines for beginning or completing construction or change the legal description of the facility, an updated list of the owners of property located within or adjacent to the site of the facility, as described in OAR 345-021-0010(1)(f).

*OAR 345-021-0010(1)(f) **Exhibit F.** A list of the names and mailing addresses of all owners of record, as shown on the most recent property tax assessment roll, of property located within or adjacent to the site boundary as defined in OAR 345-001-0010. The applicant shall submit an updated list of property owners as requested by the Department before the Department issues notice of any public hearing on the application for a site certificate as described in OAR 345-015-0220. In addition to incorporating the list in the application for a site certificate, the applicant shall submit the list to the Department in electronic format acceptable to the Department for the production of mailing labels. Property adjacent to the site boundary means property that is:*

(A) Within 100 feet of the site boundary where the site, corridor or micrositing corridor is within an urban growth boundary;

(B) Within 250 feet of the site boundary where the site, corridor or micrositing corridor is outside an urban growth boundary and not within a farm or forest zone; and

(C) Within 500 feet of the site boundary where the site, corridor or micrositing corridor is within a farm or forest zone;

Response: The KGF site is outside of boundary UGB, but not within a farm or forest zone. An updated list of the owners of property within 250 feet of the site boundary, consistent with OAR 345-021-0010(1)(f)(B), is contained in Attachment 7 to this amendment request. A second, identical list formatted for label printing is provided, as well.

SECTION 7

Information Described in Applicable Exhibits and Incorporation of Previous Information by Reference, Pursuant to OARs 345-027-0060(2), (3), and (4)

OAR 345-027-0060(2) In a request to amend a site certificate, the certificate holder shall provide the information described in applicable subsections of OAR 345-021-0010(1). The certificate holder may incorporate by reference relevant information that the certificate holder has previously submitted to the Department or that is otherwise included in the Department's administrative record on the facility.

Response: All exhibits of the Application for Site Certificate, and the first and second amendment requests, are hereby incorporated by reference.

OAR 345-027-0060(3) Before submitting a request to amend a site certificate, the certificate holder may prepare a draft request and may confer with the Department about the content of the request. Although the Council does not require the certificate holder to prepare a draft request and confer with the Department, the Council recommends that the certificate holder follow this procedure.

Response: The certificate holder initially conferred with ODOE in late 2010 on the nature of the proposed changes to the previously-authorized KGF, and then met with ODOE on April 22, 2011, to discuss the content of this amendment request. Recommendations made by ODOE during the April 22 meeting have been incorporated into this amendment request.

OAR 345-027-0060(4) The certificate holder shall submit an original and ten copies of the amendment request to the Department. In addition to the printed copies, the certificate holder shall submit the text (including appendices and graphical information to the extent practical) of the amendment request in a non-copy-protected electronic format acceptable to the Department. The certificate holder shall provide additional copies of the amendment request to the Department upon request and copies or access to copies to any person requesting copies. If requested by the Department, the certificate holder shall send copies of the request to persons on a mailing list provided by the Department.

Response: The certificate holder will comply with this requirement.

SECTION 8

Information Required Pursuant to OAR 345-027-0070 (2) and (10): Review of a Request for Amendment

OAR 345-027-0070

(2) The Department may determine that an amendment requires extended review if:

(a) The certificate holder requests extended review;

Response: The certificate holder requests extended review to allow additional time to supply supplemental information.

OAR 345-027-0070(10) In making a decision to grant or deny issuance of an amended site certificate, the Council shall apply the applicable substantive criteria, as described in OAR 345-022-0030, in effect on the date the certificate holder submitted the request for amendment and all other state statutes, administrative rules, and local government ordinances in effect on the date the Council makes its decision. The Council shall consider the following:

(a) For an amendment that would change the site boundary or the legal description of the site, the Council shall consider, for the area added to the site by the amendment, whether the facility complies with all Council standards;

Response: The previously-approved site boundary and legal description have been modified as described in Section 4.3.3 of this amendment request. Council standards relevant to these changes are addressed in Section 5.1.

(b) For an amendment that extends the deadlines for beginning or completing construction, the Council shall consider:

(A) Whether the Council has previously granted an extension of the deadline;

Response: The Council has previously extended construction deadlines for the KGF on two occasions (2007 and 2009). This request differs from the previous requests in that changes in the energy market have driven significant additional demand for renewable energy relative to other types of generation. As a result, KG will develop a renewable biomass energy facility on this site within the extended construction timeframe.

(B) Whether there has been any change of circumstances that affects a previous Council finding that was required for issuance of a site certificate or amended site certificate; and

Response: The Site Certificate, as amended, specifies that KG shall begin construction of the proposed modified KGF by November 16, 2011, and shall complete construction by November 16, 2014.

KG is preparing to begin construction of KGF by June 1, 2013. The additional time is required in order to allow sufficient time to complete Facility design and related contracting.

Given that construction could conceivably be delayed by weather or other unforeseen circumstances, KG would like the flexibility to begin construction of KGF by November 16, 2013, and requests that the current construction completion deadline be extended to November 16, 2016.

(C) Whether the facility complies with all Council standards, except that the Council may choose not to apply a standard if the Council finds that:

(i) The certificate holder has spent more than 50 percent of the budgeted costs on construction of the facility;

(ii) The inability of the certificate holder to complete the construction of the facility by the deadline in effect before the amendment is the result of unforeseen circumstances that are outside the control of the certificate holder;

(iii) The standard, if applied, would result in an unreasonable financial burden on the certificate holder; and

(iv) The Council does not need to apply the standard to avoid a significant threat to the public health, safety or the environment;

Response: The proposed modified KGF complies with all Council standards as set forth herein.

(c) For any amendment not described above, the Council shall consider whether the amendment would affect any finding made by the Council in an earlier order.

Response: Section 5.1 of this amendment request addresses the compliance of proposed modifications with the applicable Council standards for issuance of a site certificate.

(d) For all amendments, the Council shall consider whether the amount of the bond or letter of credit required under OAR 345-022-0050 is adequate.

Response: It is the certificate holder's position that the discussion in Section 5.1.5 of this amendment request (OAR 345-022-0050 Retirement and Financial Assurance) reflects a conservative approach to determining the amount of the bond or letter of credit to be required.

SECTION 9

Works Cited

- Alton, C. Conservation Information Assistant, Oregon Natural Heritage Program. 2001. Transmittal of Database Search Records for Rare, Threatened, and Endangered Plant and Animals within a Five-mile Search Radius of the Klamath Generating Station. October 21, 2001.
- Austin, Greg. 2010. Assistant Refuge Manager, Klamath Basin National Wildlife Refuge Complex, Tule Lake, California. Telephone conversation with Mark Greenig, CH2M HILL. May 6.
- City of Klamath Falls, Oregon. 1981. *City of Klamath Falls Comprehensive Plan*.
- Klamath County, Oregon. 2010. *Comprehensive Plan for Klamath County*. January 2010.
- Natural Resource Conservation Service (NRCS). 2011. NRCS Soils Web site. <http://soils.usda.gov/>.
- Oregon Biological Information Center (ORBIC). 2011. Database Search Results within 20 Miles of Proposed Modified Klamath Generating Facility. Oregon Biological Information Center, Portland, Oregon.
- Oregon Department of Fish and Wildlife (ODFW). 2008. *Draft Klamath Wildlife Area Management Plan*. January 2008.
- Oregon Energy Facility Siting Council. 2005. *Site Certificate for the Klamath Generation Peakers*. September 27, 2005.
- Oregon Energy Facility Siting Council. 2005. *Site Certificate for the Klamath Generation Facility*. September 27, 2005.
- Oregon Parks and Recreation Department (OPRD). 2007. *Oregon, California and Eastern Woods Line State Trail Draft Plan*. September 2007.
- Patterson, Libby/Klamath County Planning Clerk. 2011. Personal communication with Elaine Albrich/Stoel Rives LLP. May 2011.
- Priest, G.R., Hladky, F.R., and Murray, R.B. 2008. Geologic Map of the Klamath Falls Area, Klamath County, Oregon. State of Oregon Department of Geology and Mineral Industries GMS-118, scale 1:24,000.
- U.S. Census Bureau (USCB). 2004. Online Census 2004 results. Web site <http://factfinder.census.gov>.
- U.S. Census Bureau (USCB). 2009. Online Census 2009 results. Web site <http://factfinder.census.gov>.

U.S. Fish and Wildlife Service. 2007. *Recovery Plan for the Pacific Coast Population of the Western Snowy Plover* (*Charadrius alexandrinus nivosus*). In two volumes. Sacramento, California.