

The Oregon Energy Facility Siting Council

**Second Amended Site Certificate
for the
Klamath Generation Facility**

May 15, 2009

**Oregon Energy Facility Siting Council
FIRST AMENDED SITE CERTIFICATE FOR THE
KLAMATH GENERATION FACILITY**

I. INTRODUCTION

1 The Energy Facility Siting Council (“Council”) issues this site certificate for the Klamath
2 Generation Facility in the manner authorized under ORS Chapter 469. This site certificate is a
3 binding agreement between the State of Oregon (“State”), acting through the Council, and
4 Klamath Generation LLC (“KG” or “certificate holder”) authorizing KG to construct and operate
5 the Klamath Generation Facility in Klamath County, Oregon.

6 The findings of fact, reasoning and conclusions of law underlying the terms and
7 conditions of this site certificate are set forth in the following documents, incorporated herein by
8 this reference: (a) the Council’s Final Order in the Matter of the Application for a Site Certificate
9 for the Proposed Klamath Generation Facility (“Final Order on the Application”) issued on
10 September 27, 2005, (b) the Council’s Final Order on Amendment #1 and (c) the Council’s Final
11 Order on Amendment #2. [Amendments #1 and #2]

12 In interpreting this site certificate, any ambiguity will be clarified by reference to the
13 following, in order of priority: (1) this Second Amended Site Certificate, (2) the Final Order on
14 Amendment #2, (3) the Final Order on Amendment #1, (4) the Final Order on the Application
15 and (5) the record of the proceedings that led to the Final Orders on the Application and
16 Amendments #1 and #2. [Amendments #1 and #2]

17 The definitions in ORS 469.300 and OAR 345-001-0010 apply to terms used in this site
18 certificate, except where otherwise stated or where the context clearly indicates otherwise.

II. SITE CERTIFICATION

- 19 1. To the extent authorized by state law and subject to the conditions set forth herein, the
20 State authorizes KG to construct, operate and retire a combined-cycle natural gas power
21 plant, together with certain related or supporting facilities, at the site in Klamath County,
22 Oregon, as described in Section III of this site certificate. ORS 469.401(1).
- 23 2. This site certificate is effective until it is terminated under OAR 345-027-0110 or the
24 rules in effect on the date that termination is sought or until the site certificate is revoked
25 under ORS 469.440 and OAR 345-029-0100 or the statutes and rules in effect on the date
26 that revocation is ordered. ORS 469.401(1).
- 27 3. This site certificate does not address, and is not binding with respect to, matters that were
28 not addressed in the Council’s Final Orders on the Application and Amendments #1 and
29 #2. These matters include, but are not limited to: building code compliance, wage, hour
30 and other labor regulations, local government fees and charges and other design or
31 operational issues that do not relate to siting the facility (ORS 469.401(4)) and permits
32 issued under statutes and rules for which the decision on compliance has been delegated
33 by the federal government to a state agency other than the Council. ORS 469.503(3).
34 [Amendments #1 and #2]
- 35 4. Both the State and the certificate holder shall abide by local ordinances, state law and the
36 rules of the Council in effect on the date this site certificate is executed. ORS 469.401(2).

1 In addition, upon a clear showing of a significant threat to public health, safety or the
2 environment that requires application of later-adopted laws or rules, the Council may
3 require compliance with such later-adopted laws or rules. ORS 469.401(2).

4 5. For a permit, license or other approval addressed in and governed by this site certificate,
5 the certificate holder shall comply with applicable state and federal laws adopted in the
6 future to the extent that such compliance is required under the respective state agency
7 statutes and rules. ORS 469.401(2).

8 6. Subject to the conditions herein, this site certificate binds the State and all counties, cities
9 and political subdivisions in Oregon as to the approval of the site and the construction,
10 operation and retirement of the facility as to matters that are addressed in and governed
11 by this site certificate. ORS 469.401(3).

12 7. Each affected state agency, county, city and political subdivision in Oregon with
13 authority to issue a permit, license or other approval addressed in or governed by this site
14 certificate shall, upon submission of the proper application and payment of the proper
15 fees, but without hearings or other proceedings, issue such permit, license or other
16 approval subject only to conditions set forth in this site certificate. ORS 469.401(3).

17 8. After issuance of this site certificate, each state agency or local government agency that
18 issues a permit, license or other approval for the facility shall continue to exercise
19 enforcement authority over such permit, license or other approval. ORS 469.401(3).

20 9. After issuance of this site certificate, the Council shall have continuing authority over the
21 site and may inspect, or direct the Oregon Department of Energy (“Department”) to
22 inspect, or request another state agency or local government to inspect, the site at any
23 time in order to ensure that the facility is being operated consistently with the terms and
24 conditions of this site certificate. ORS 469.430.

III. DESCRIPTIONS

25 This section describes the Klamath Generation Facility (KGF), as authorized by this site
26 certificate. The KGF is a combined-cycle combustion turbine system fueled by natural gas. The
27 KGF has a nominal electric generating capacity of approximately 500 megawatts (MW). The net
28 electrical power output is approximately 483 MW for the evaporative cooling option without
29 duct firing and approximately 478 MW for the air cooling option without duct firing.
30 Supplemental duct firing may add up to 65 MW of capacity during peak electrical demand
31 periods. Actual output varies depending on ambient conditions and operational considerations.
32 The certificate holder may construct one of two options for cooling the steam cycle, described
33 below. The description of the facility in this site certificate is a summary. The Final Order on the
34 Application contains a more complete description, which is incorporated herein by this reference.

1. The Energy Facility

Combustion Turbines

35 The energy facility consists of two combustion turbines (CTs) fueled solely by natural
36 gas. Each CT includes an air compressor, fuel combustor, turbine and electric generator. Each
37 generator produces approximately 160 MW of electricity (nominal electric capacity at annual
38 average conditions). At full load, each CT burns natural gas at the rate of approximately 1,650

1 million British thermal units per hour (higher heating value) at the annual average temperature of
2 48° F.

Heat Recovery Steam Generators

3 The energy facility includes two heat recovery steam generators (HRSGs). The exhaust
4 gas from each CT heats water in the HRSGs to produce steam. After passing through the HRSG,
5 the exhaust gas vents to the atmosphere. The steam produced in each HRSG provides energy for
6 a steam turbine. Each HRSG is equipped with a natural-gas-fired duct burner to augment steam
7 turbine generator output during periods of high electrical demand. Boiler water chemistry is
8 maintained by an automatic chemical injection system.

Steam Turbine

9 The certificate holder may construct one large steam turbine to receive steam from both
10 HRSGs or two smaller steam turbines with each dedicated to one of the HRSGs. The steam
11 turbine or turbines produce up to 178 MW of electrical power without duct firing. The maximum
12 output with duct firing is approximately 242 MW. The generating capacity is based on average
13 temperature, barometric pressure and relative humidity at the site during the times of the year
14 when the facility is intended to operate.

Condenser Cooling System

15 A condenser cools the steam exhaust from the steam turbine. The condensate water then
16 flows back to the HRSG to repeat the cycle of steam production. The certificate holder may
17 construct either evaporative cooling or air cooling, as described further in the Final Order on the
18 Application.

Component Cooling System

19 The component cooling water system is a separate closed loop using an air-cooled heat
20 exchanger to take waste heat from the components. Two 100-percent capacity pumps and heat
21 exchangers provide cooling water to each of the CT and steam turbine lube oil coolers, generator
22 coolers and other miscellaneous auxiliaries.

Control System

23 The facility has a microprocessor-based distributed control system for plant control, data
24 acquisition and data analysis. The distributed control system provides control for startup,
25 shutdown, normal operation and personnel and equipment protection. It controls automatic
26 valves and major electrical motors and provides instrumentation monitoring, switch gear and
27 circuit breaker status, trending, historical record keeping, alarms, system graphics and the status
28 of important components and current instrument values within the system.

29 An uninterruptible power supply provides emergency power to critical equipment for safe
30 shutdown in case of a power outage. An instrument air system uses two 100-percent capacity air-
31 cooled air compressors with filters, coolers, receivers and dryers to provide clean, dry instrument
32 and plant service air.

Air Emission Controls

33 The facility has emission control systems to reduce nitrogen oxides (NO_x), carbon
34 monoxide and other emissions. A Continuous Emissions Monitoring System provides
35 monitoring of NO_x, carbon monoxide and oxygen concentrations in the HRSG exhaust systems.

Water Treatment System

1 The facility has a water treatment system to treat make-up water required for the steam
2 cycle. Two 100-percent capacity demineralizer or reverse osmosis systems provide make-up
3 water to the HRSGs.

2. Related or Supporting Facilities

4 The facility includes the following related or supporting facilities:

- 5 • Interconnections
- 6 • Access roads
- 7 • Fire protection
- 8 • Chemical storage
- 9 • Stormwater evaporation pond
- 10 • Laydown and staging Areas

(a) Interconnections

Natural Gas Supply

11 The facility receives natural gas through a connection with the existing Pacific Gas &
12 Electric Gas Transmission (PG&E GT) Bonanza to Medford Lateral (Medford Lateral). The
13 Medford Lateral runs along the northern edge of the project site.

Cooling Water Supply and Discharge for Evaporative Cooling

14 If the certificate holder selects evaporative cooling, the facility would use reclaimed
15 water as the primary source of cooling water. Reclaimed water not evaporated in the cooling
16 tower is discharged to the Klamath River.

Potable Water Supply

17 The facility obtains potable water for sanitary and other process uses from the City of
18 Klamath Falls.

Sewer Line

19 Wastewater from the facility is piped to an interconnection point with the wastewater
20 system of the City of Klamath Falls.

Electric Transmission

21 An electric interconnection delivers the facility's electricity to PacifiCorp's 500-kV
22 Captain Jack to Meridian transmission line, which loops through the switchyard of the Klamath
23 Cogeneration Project.

(b) Access Roads

24 The facility shares access roads with the Klamath Cogeneration Project.

(c) Fire Protection

25 The facility has a firewater loop system, including fire hydrants, building sprinkler
26 systems and hose stations. A dedicated portion of the raw water storage tank is used as the source
27 of water for the fire protection system. A packaged CO₂ (or equivalent) fire suppression system

1 is part of the CT fire protection systems. The facility has an on-site fire protection system to
2 control and extinguish fires within buildings and yard areas.

(d) Chemical Storage

3 Chemical storage at the facility includes two 15,000-gallon storage tanks containing
4 anhydrous ammonia and two 7,000-gallon bulk chemical storage tanks, located in concrete-
5 walled areas for secondary containment.

(e) Stormwater Evaporation Pond

6 Stormwater is collected by a drainage system of piping and ditches and routed to a lined
7 evaporation pond on the site.

(f) Laydown and Staging Areas

8 During construction, the facility includes temporary laydown, staging and parking areas.

3. Location of the Facility

9 The facility is located about five miles southwest of Klamath Falls in Klamath County,
10 Oregon, on approximately 25 acres of industrial land. The site is outside of the City of Klamath
11 Falls and its urban growth boundary. The site is in Section 18 of Township 39 South, Range 9
12 East in Klamath County.

IV. CONDITIONS REQUIRED BY COUNCIL RULES

13 This section lists conditions required by OAR 345-027-0020 (Mandatory Conditions in
14 Site Certificates), OAR 345-027-0023 (Site Specific Conditions), OAR 345-027-0028
15 (Monitoring Conditions) and OAR Chapter 345, Division 26 (Construction and Operation Rules
16 for Facilities). These conditions should be read together with the additional specific facility
17 conditions in the sections that follow to ensure compliance with the siting standards of OAR
18 Chapter 345, Divisions 22 and 24, and to protect the public health and safety.

19 In addition to all other conditions stated in this order, the site certificate holder is subject
20 to all conditions and requirements contained in the rules of the Council and in local ordinances
21 and state law in effect on the date the certificate is executed. Under ORS 469.401(2), upon a
22 clear showing of a significant threat to the public health, safety or the environment that requires
23 application of later-adopted laws or rules, the Council may require compliance with such later-
24 adopted laws or rules.

25 The Council recognizes that many specific tasks related to the design, construction,
26 operation and retirement of the facility will be undertaken by KG's agents or contractors.
27 Nevertheless, the certificate holder is responsible for ensuring compliance with all provisions of
28 the site certificate.

- 29 (1) OAR 345-027-0020(1): The Council shall not change the conditions of the site certificate
30 except as provided for in OAR Chapter 345, Division 27.
- 31 (2) OAR 345-027-0020(2): The certificate holder shall submit a legal description of the site to
32 the Department of Energy within 90 days after beginning operation of the facility. The legal
33 description required by this rule means a description of metes and bounds or a description
34 of the site by reference to a map and geographic data that clearly and specifically identifies
35 the outer boundaries that contain all parts of the facility. [Amendment #1]

- 1 (3) OAR 345-027-0020(3): The certificate holder shall design, construct, operate and retire the
2 facility:
3 (a) Substantially as described in the site certificate;
4 (b) In compliance with the requirements of ORS Chapter 469, applicable Council rules,
5 and applicable state and local laws, rules and ordinances in effect at the time the site
6 certificate is issued; and
7 (c) In compliance with all applicable permit requirements of other state agencies.
- 8 (4) OAR 345-027-0020(4): The certificate holder shall begin and complete construction of the
9 facility by the dates specified in the site certificate. (*See condition (46) and (47).*)
- 10 (5) OAR 345-027-0020(5): Except as necessary for the initial survey or as otherwise allowed
11 for wind energy facilities, transmission lines or pipelines under this section, the certificate
12 holder shall not begin construction, as defined in OAR 345-001-0010, or create a clearing
13 on any part of the site until the certificate holder has construction rights on all parts of the
14 site. For the purpose of this rule, “construction rights” means the legal right to engage in
15 construction activities. For wind energy facilities, transmission lines or pipelines, if the
16 certificate holder does not have construction rights on all parts of the site, the certificate
17 holder may nevertheless begin construction, as defined in OAR 345-001-0010, or create a
18 clearing on a part of the site if the certificate holder has construction rights on that part of
19 the site and:
20 (a) The certificate holder would construct and operate part of the facility on that part of
21 the site even if a change in the planned route of a transmission line or pipeline occurs
22 during the certificate holder’s negotiations to acquire construction rights on another part of
23 the site; or
24 (b) The certificate holder would construct and operate part of a wind energy facility on
25 that part of the site even if other parts of the facility were modified by amendment of the
26 site certificate or were not built.
- 27 [Amendment #1]
- 28 (6) OAR 345-027-0020(6): If the Council requires mitigation based on an affirmative finding
29 under any standards of Division 22 or Division 24 of this chapter, the certificate holder
30 shall consult with affected state agencies and local governments designated by the Council
31 and shall develop specific mitigation plans consistent with Council findings under the
32 relevant standards. The certificate holder must submit the mitigation plans to the Office and
33 receive Office approval before beginning construction or, as appropriate, operation of the
34 facility.
- 35 (7) OAR 345-027-0020(7): The certificate holder shall prevent the development of any
36 conditions on the site that would preclude restoration of the site to a useful, non-hazardous
37 condition to the extent that prevention of such site conditions is within the control of the
38 certificate holder.
- 39 (8) OAR 345-027-0020(8): Before beginning construction of the facility, the certificate holder
40 shall submit to the State of Oregon, through the Council, a bond or letter of credit in a form
41 and amount satisfactory to the Council to restore the site to a useful, non-hazardous
42 condition. The certificate holder shall maintain a bond or letter of credit in effect at all
43 times until the facility has been retired. The Council may specify different amounts for the

1 bond or letter of credit during construction and during operation of the facility. (*See*
2 *Condition (64).*)

3 [Amendment #1]

4 (9) OAR 345-027-0020(9): The certificate holder shall retire the facility if the certificate holder
5 permanently ceases construction or operation of the facility. The certificate holder shall
6 retire the facility according to a final retirement plan approved by the Council, as described
7 in OAR 345-027-0110. The certificate holder shall pay the actual cost to restore the site to a
8 useful, non-hazardous condition at the time of retirement, notwithstanding the Council's
9 approval in the site certificate of an estimated amount required to restore the site.

10 (10) OAR 345-027-0020(10): The Council shall include as conditions in the site certificate all
11 representations in the site certificate application and supporting record the Council deems to
12 be binding commitments made by the applicant.

13 (11) OAR 345-027-0020(11): Upon completion of construction, the certificate holder shall
14 restore vegetation to the extent practicable and shall landscape all areas disturbed by
15 construction in a manner compatible with the surroundings and proposed use. Upon
16 completion of construction, the certificate holder shall remove all temporary structures not
17 required for facility operation and dispose of all timber, brush, refuse and flammable or
18 combustible material resulting from clearing of land and construction of the facility.

19 [Amendment #1]

20 (12) OAR 345-027-0020(12): The certificate holder shall design, engineer and construct the
21 facility to avoid dangers to human safety presented by seismic hazards affecting the site that
22 are expected to result from all maximum probable seismic events. As used in this rule
23 "seismic hazard" includes ground shaking, landslide, liquefaction, lateral spreading,
24 tsunami inundation, fault displacement and subsidence.

25 (13) OAR 345-027-0020(13): The certificate holder shall notify the Department, the State
26 Building Codes Division and the Department of Geology and Mineral Industries promptly
27 if site investigations or trenching reveal that conditions in the foundation rocks differ
28 significantly from those described in the application for a site certificate. After the
29 Department receives the notice, the Council may require the certificate holder to consult
30 with the Department of Geology and Mineral Industries and the Building Codes Division
31 and to propose mitigation actions. [Amendment #1]

32 (14) OAR 345-027-0020(14): The certificate holder shall notify the Department, the State
33 Building Codes Division and the Department of Geology and Mineral Industries promptly
34 if shear zones, artesian aquifers, deformations or clastic dikes are found at or in the vicinity
35 of the site. [Amendment #1]

36 (15) OAR 345-027-0020(15): Before any transfer of ownership of the facility or ownership of
37 the site certificate holder, the certificate holder shall inform the Department of the proposed
38 new owners. The requirements of OAR 345-027-0100 apply to any transfer of ownership
39 that requires a transfer of the site certificate. [Amendment #1]

40 (16) OAR 345-027-0020(16): If the Council finds that the certificate holder has permanently
41 ceased construction or operation of the facility without retiring the facility according to a
42 final retirement plan approved by the Council, as described in OAR 345-027-0110, the
43 Council shall notify the certificate holder and request that the certificate holder submit a

1 proposed final retirement plan to the Office within a reasonable time not to exceed 90 days.
2 If the certificate holder does not submit a proposed final retirement plan by the specified
3 date, the Council may direct the Department to prepare a proposed final retirement plan
4 for the Council's approval. Upon the Council's approval of the final retirement plan, the
5 Council may draw on the bond or letter of credit described in section (8) to restore the site
6 to a useful, non-hazardous condition according to the final retirement plan, in addition to
7 any penalties the Council may impose under OAR Chapter 345, Division 29. If the amount
8 of the bond or letter of credit is insufficient to pay the actual cost of retirement, the
9 certificate holder shall pay any additional cost necessary to restore the site to a useful, non-
10 hazardous condition. After completion of site restoration, the Council shall issue an order to
11 terminate the site certificate if the Council finds that the facility has been retired according
12 to the approved final retirement plan. [Amendment #1]

13 (17) OAR 345-027-0023(2): If the energy facility or related or supporting facility is a natural gas
14 pipeline, the certificate holder shall submit to the Department copies of all incident reports
15 involving the pipeline required under 49 CFR §191.15. [Amendment #1]

16 (18) OAR 345-027-0023(3): If the facility includes any pipeline under Council jurisdiction:

17 (a) The certificate holder shall design, construct and operate the pipeline in accordance
18 with the requirements of the U.S. Department of Transportation as set forth in Title 49,
19 Code of Federal Regulations, Part 192, in effect as of the date of this rule; and

20 (b) The certificate holder shall develop and implement a program using the best available
21 practicable technology to monitor the proposed pipeline to ensure protection of public
22 health and safety.

23 (19) [Condition removed by Amendment #1]

24 (20) OAR 345-027-0023(4): If the facility includes any transmission line under Council
25 jurisdiction:

26 (a) The certificate holder shall design, construct and operate the transmission line in
27 accordance with the requirements of the National Electrical Safety Code (American
28 National Standards Institute, Section C2, 1997 Edition); and

29 (b) The certificate holder shall develop and implement a program that provides
30 reasonable assurance that all fences, gates, cattle guards, trailers, or other objects or
31 structures of a permanent nature that could become inadvertently charged with electricity
32 are grounded or bonded throughout the life of the line.

33 [Amendment #1]

34 (21) OAR 345-027-0023(5): If the proposed energy facility is a pipeline or a transmission line or
35 has, as a related or supporting facility, a pipeline or transmission line, the Council shall
36 specify an approved corridor in the site certificate and shall allow the certificate holder to
37 construct the pipeline or transmission line anywhere within the corridor, subject to the
38 conditions of the site certificate. If the applicant has analyzed more than one corridor in its
39 application for a site certificate, the Council may, subject to the Council's standards,
40 approve more than one corridor. [Amendment #1]

41 (22) The certificate holder shall submit a written design information report to the Department, as
42 described in OAR 345-024-0550, before beginning construction. [Amendment #1]

1 (23) OAR 345-027-0023(7): If the facility is subject to a carbon dioxide emissions standard
2 adopted by the Council or enacted by statute, the Council shall include in the site certificate
3 appropriate conditions as described in OAR 345-024-0550, OAR 345-024-0560, OAR 345-
4 024-0590, OAR 345-024-0600, OAR 345-024-0620, OAR 345-024-0630 and OAR 345-
5 024-0710. [Amendment #1]

6 (24) OAR 345-027-0028: The following general monitoring conditions apply:

7 (a) The certificate holder shall consult with affected state agencies, local governments
8 and tribes and shall develop specific monitoring programs for impacts to resources
9 protected by the standards of Divisions 22 and 24 of this chapter and resources addressed
10 by applicable statutes, administrative rules and local ordinances. The certificate holder must
11 submit the monitoring programs to the Department of Energy and receive Department
12 approval before beginning construction or, as appropriate, operation of the facility.

13 (b) The certificate holder shall implement the approved monitoring programs described in
14 section (1) and monitoring programs required by permitting agencies and local
15 governments.

16 (c) For each monitoring program described in sections (1) and (2), the certificate holder
17 shall have quality assurance measures approved by the Department before beginning
18 construction or, as appropriate, before beginning commercial operation.

19 (d) If the certificate holder becomes aware of a significant environmental change or
20 impact attributable to the facility, the certificate holder shall, as soon as possible, submit a
21 written report to the Department describing the impact on the facility and any affected site
22 certificate conditions.

23 [Amendment #1]

24 (25) OAR 345-026-0048: Following receipt of a site certificate or an amended site certificate,
25 the certificate holder shall implement a plan that verifies compliance with all site certificate
26 terms and conditions and applicable statutes and rules. As a part of the compliance plan, to
27 verify compliance with the requirement to begin construction by the date specified in the
28 site certificate, the certificate holder shall report promptly to the Department of Energy
29 when construction begins. Construction is defined in OAR 345-001-0010. In reporting the
30 beginning of construction, the certificate holder shall describe all work on the site
31 performed before beginning construction, including work performed before the Council
32 issued the site certificate, and shall state the cost of that work. For the purpose of this
33 exhibit, “work on the site” means any work within a site or corridor, other than surveying,
34 exploration or other activities to define or characterize the site or corridor. The certificate
35 holder shall document the compliance plan and maintain it for inspection by the
36 Department or the Council. [Amendment #1]

37 (26) OAR 345-026-0080: The certificate holder shall report according to the following
38 requirements:

39 (a) General reporting obligation for energy facilities under construction or operating:

40 (i) Within six months after beginning construction, and every six months thereafter
41 during construction of the energy facility and related or supporting facilities, the certificate
42 holder shall submit a semiannual construction progress report to the Department of Energy.
43 In each construction progress report, the certificate holder shall describe any significant
44 changes to major milestones for construction. The certificate holder shall include such
45 information related to construction as specified in the site certificate. When the reporting

1 date coincides, the certificate holder may include the construction progress report within the
2 annual report described in this rule.

3 (ii) By April 30 of each year after beginning construction, the certificate holder shall
4 submit an annual report to the Department addressing the subjects listed in this rule. The
5 Council Secretary and the certificate holder may, by mutual agreement, change the
6 reporting date.

7 (iii) To the extent that information required by this rule is contained in reports the
8 certificate holder submits to other state, federal or local agencies, the certificate holder may
9 submit excerpts from such other reports to satisfy this rule. The Council reserves the right
10 to request full copies of such excerpted reports.

11 (b) In the annual report, the certificate holder shall include the following information for
12 the calendar year preceding the date of the report:

13 (i) Facility Status: An overview of site conditions, the status of facilities under
14 construction and a summary of the operating experience of facilities that are in operation. In
15 this section of the annual report, the certificate holder shall describe any unusual events,
16 such as earthquakes, extraordinary windstorms, major accidents or the like that occurred
17 during the year and that had a significant adverse impact on the facility.

18 (ii) Reliability and Efficiency of Power Production: For electric power plants, the
19 plant availability and capacity factors for the reporting year. The certificate holder shall
20 describe any equipment failures or plant breakdowns that had a significant impact on those
21 factors and shall describe any actions taken to prevent the recurrence of such problems.

22 (iii) Fuel Use: For thermal power plants:

23 (A) The efficiency with which the power plant converts fuel into electric energy.
24 If the fuel chargeable to power heat rate was evaluated when the facility was sited, the
25 certificate holder shall calculate efficiency using the same formula and assumptions, but
26 using actual data; and

27 (B) The facility's annual hours of operation by fuel type and, every five years
28 after beginning operation, a summary of the annual hours of operation by fuel type as
29 described in OAR 345-024-0590(5).

30 (iv) Status of Surety Information: Documentation demonstrating that bonds or letters
31 of credit as described in the site certificate are in full force and effect and will remain in full
32 force and effect for the term of the next reporting period.

33 (v) Monitoring Report: A list and description of all significant monitoring and
34 mitigation activities performed during the previous year in accordance with site certificate
35 terms and conditions, a summary of the results of those activities and a discussion of any
36 significant changes to any monitoring or mitigation program, including the reason for any
37 such changes.

38 (vi) Compliance Report: A description of all instances of noncompliance with a site
39 certificate condition. For ease of review, the certificate holder shall, in this section of the
40 report, use numbered subparagraphs corresponding to the applicable sections of the site
41 certificate.

42 (vii) Facility Modification Report: A summary of changes to the facility that the
43 certificate holder has determined do not require a site certificate amendment in accordance
44 with OAR 345-027-0050.

1 (viii) Nongenerating Facility Carbon Dioxide Emissions: For nongenerating facilities
2 that emit carbon dioxide, a report of the annual fuel use by fuel type and annual hours of
3 operation of the carbon dioxide emitting equipment as described in OAR 345-024-0630(4).

4 [Amendment #1]

5 (27) [Condition removed by Amendment #1]

6 (28) OAR 345-026-0105: The certificate holder and the Department of Energy shall exchange
7 copies of all correspondence or summaries of correspondence related to compliance with
8 statutes, rules and local ordinances on which the Council determined compliance, except for
9 material withheld from public disclosure under state or federal law or under Council rules.
10 The certificate holder may submit abstracts of reports in place of full reports; however, the
11 certificate holder shall provide full copies of abstracted reports and any summarized
12 correspondence at the request of the Department. [Amendment #1]

13 (29) OAR 345-026-0170: The certificate holder shall notify the Department of Energy within 72
14 hours of any occurrence involving the facility if:

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

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

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

20 [Amendment #1]

V. **CONDITIONS FOR COMPLIANCE WITH THE CARBON DIOXIDE EMISSIONS STANDARD**

21 The conditions listed in this section are conditions related to compliance with the carbon
22 dioxide emissions standard.

23 (30) The net carbon dioxide emissions rate for the base load gas plant must not exceed 0.675
24 pounds of carbon dioxide per kilowatt-hour of net electric power output, with carbon
25 dioxide emissions and net electric power output measured on a new and clean basis, as
26 defined in OAR 345-001-0010.

27 (31) The net carbon dioxide emissions rate for incremental emissions for the facility operating
28 with power augmentation must not exceed 0.675 pounds of carbon dioxide per kilowatt-
29 hour of net electric power output, with carbon dioxide emissions and net electric power
30 output measured on a new and clean basis at the site during the times of year when is
31 facility is intended to operate with power augmentation, subject to modification under
32 Condition (41).

33 (32) For the purposes of the site certificate, “monetary path payment requirement” means the
34 amount of offset funds determined pursuant to OAR 345-024-0550, -0560, -0590 and -0600
35 and the amount of the selection and contracting funds that the certificate holder must
36 disburse to The Climate Trust, as the qualified organization, pursuant to OAR 345-024-
37 0710 and the site certificate. The certificate holder shall calculate the monetary path
38 payment requirement using an offset fund rate of \$1.27 per ton of carbon dioxide in 2007
39 dollars.

1 (a) The certificate holder shall calculate 2007 dollars using the Index described in
2 Condition (64).

3 (b) The certificate holder shall increase the amount of the letter of credit described in
4 Condition (38) by the percentage increase in the Index. The certificate holder shall index
5 the funds from the date of the Council's approval of the site certificate to the date of
6 disbursement of funds to The Climate Trust.

7 [Amendment #1]

8 (33) Before beginning construction of the facility, the certificate holder shall submit to the
9 Department information identifying its final selection of a gas turbine vendor and heat
10 recovery steam generator vendor along with the following information, as appropriate:

11 (a) For the base load gas plant, the certificate holder shall submit written design
12 information, based on its contracts with vendors, sufficient to verify the plant's designed
13 new and clean heat rate (higher heating value) and its net power output at the average
14 annual site condition. The certificate holder shall submit an affidavit certifying the heat rate
15 and capacity.

16 (b) For a base load gas plant designed with power augmentation, the certificate holder
17 shall submit written design information, based on its contracts with vendors, sufficient to
18 verify the facility's designed new and clean heat rate (higher heating value) and its net
19 power output at the site during the times of year when is facility is intended to operate with
20 power augmentation. The certificate holder shall submit an affidavit certifying the heat rate
21 and capacity.

22 (34) Before beginning construction of the facility, the certificate holder shall specify to the
23 Department the annual average hours and the times that it expects to operate with power
24 augmentation.

25 (35) To calculate the initial monetary path payment requirement, the certificate holder shall use
26 the contracted design parameters for capacities and heat rates submitted under Condition
27 (33) and the annual average hours and times of operation with power augmentation
28 specified under Condition (34).

29 (36) Before beginning construction of the facility, the certificate holder shall enter into a
30 Memorandum of Understanding (MOU) with The Climate Trust that establishes the
31 disbursement mechanism to transfer selection and contracting funds and offset funds to The
32 Climate Trust.

33 (a) The MOU must be substantially in the form of Attachment A to the Council's Final
34 Order on the Application. At the request of the certificate holder, the Council may approve
35 a different form of a letter of credit and concurrent MOU without an amendment of the site
36 certificate.

37 (b) Either the certificate holder or The Climate Trust may submit to the Council for the
38 Council's resolution any dispute between the certificate holder and The Climate Trust
39 concerning the terms of the letter of credit, the MOU or any other issues related to the
40 monetary path payment requirement. The Council's decision shall be binding on all parties.

41 (37) The certificate holder shall submit all monetary path payment requirement calculations to
42 the Department for verification in a timely manner before submitting a letter of credit for
43 Council approval, before entering into the MOU with The Climate Trust as required by
44 Condition (36) and before making disbursements to The Climate Trust.

1 (38) Before beginning construction of the facility, the certificate holder shall submit to The
2 Climate Trust a letter of credit in the amount of the offset funds of the monetary path
3 payment requirement as determined under Condition (32).

4 (a) The certificate holder shall use a form of letter of credit that is substantially in the
5 form of Appendix B to the MOU described in Condition (36). At the request of the
6 certificate holder, the Council may approve a different form of a letter of credit without an
7 amendment of the site certificate.

8 (b) The certificate holder shall use an issuer of the letter of credit approved by the
9 Council.

10 (c) The certificate holder shall maintain the letter of credit in effect until the certificate
11 holder has disbursed the full amount of the offset funds to The Climate Trust. The
12 certificate holder may reduce the amount of the letter of credit commensurate with
13 payments it makes to The Climate Trust. The letter of credit must not be subject to
14 revocation before disbursement of the full amount of the offset funds.

15 [Amendment #1]

16 (39) For any transfer of the site certificate approved under OAR 345-027-0100:

17 (a) If The Climate Trust has not yet fully withdrawn the amount of the letter of credit of
18 the current certificate holder at the time of the transfer, the new certificate holder shall
19 submit to The Climate Trust a pro-rated letter of credit, subject to the requirements of
20 Condition (38). The new certificate holder shall submit to Council for the Council's
21 approval the identity of the issuer of the letter of credit. The Council may approve a new
22 letter of credit without a site certificate amendment.

23 (b) The new certificate holder shall enter into an MOU with The Climate Trust as
24 described in Condition (36) unless the new certificate holder demonstrates to the
25 satisfaction of the Department that there has been a valid assignment of the current
26 certificate holder's MOU to the new certificate holder. The Council may approve a new
27 MOU without a site certificate amendment.

28 (c) For resolution of any dispute between the new certificate holder and The Climate
29 Trust concerning the disbursement mechanism for monetary path payments or any other
30 issues related to the monetary path payment requirement, either party may submit the
31 dispute to the Council as provided in Condition (36)(b).

32 (40) The certificate holder shall disburse to The Climate Trust offset funds and selection and
33 contracting funds when requested by The Climate Trust in accordance with Conditions (42)
34 and (43) and the following requirements:

35 (a) The certificate holder shall disburse selection and contracting funds to The Climate
36 Trust before beginning construction and as appropriate when additional offset funds are
37 required under Conditions (42) and (43).

38 (b) Upon notice pursuant to subsection (c), The Climate Trust may request from the
39 issuer of the letter of credit the full amount of all offset funds available or it may request
40 partial payment of offset funds at its sole discretion. Notwithstanding the specific amount of
41 any contract to implement an offset project, The Climate Trust may request up to the full
42 amount of offset funds the certificate holder is required to provide to meet the monetary
43 path payment requirement.

44 (c) The Climate Trust may request disbursement of offset funds pursuant to paragraph (b)
45 by providing notice to the issuer of the letter of credit that The Climate Trust has executed a

1 letter of intent to acquire an offset project. The certificate holder shall require that the issuer
2 of the letter of credit disburse offset funds to The Climate Trust within three business days
3 of a request by The Climate Trust for the offset funds in accordance with the terms of the
4 letter of credit.

5 (41) Within the first 12 months of commercial operation of the facility, the certificate holder
6 shall conduct a 100-hour test at full power without power augmentation (Year One Test-1)
7 and a test at full power with power augmentation (Year One Test-2). Tests performed for
8 purposes of the certificate holder's commercial acceptance of the facility may suffice to
9 satisfy this condition in lieu of testing after beginning commercial operation.

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

16 (b) The certificate holder shall conduct the Year One Test-2 to determine the actual heat
17 rate (Year One Heat Rate-2) and net electric power output (Year One Capacity-2) for the
18 facility operating with power augmentation, without degradation, with the results adjusted
19 for the site condition for temperature, barometric pressure and relative humidity at the site
20 during the times of year when the power augmentation is intended to operate. The
21 certificate holder shall calculate carbon dioxide emissions using a rate of 117 pounds of
22 carbon dioxide per million Btu of natural gas fuel.

23 (c) The certificate holder shall notify the Department at least 60 days before conducting
24 the tests required in subsections (a) and (b) unless the certificate holder and the Department
25 have mutually agreed that less notice will suffice.

26 (d) Before conducting the tests required in subsections (a) and (b), the certificate holder
27 shall, in a timely manner, provide to the Department for its approval a copy of the protocol
28 for conducting the tests. The Department may approve modified parameters for testing
29 power augmentation on a new and clean basis and pursuant to OAR 345-024-0590(1)
30 without a site certificate amendment. The certificate holder shall not conduct the tests until
31 the Department has approved the testing protocols.

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

34 (42) Based on the data from the Year One Tests described in Condition (41), the certificate
35 holder shall calculate an adjusted monetary path payment. The certificate holder shall
36 submit its calculations to the Department for verification. If the adjusted amount exceeds
37 the amount of the letter of credit provided according to Condition (38) before beginning
38 construction, the certificate holder shall fully disburse the excess amount directly to The
39 Climate Trust within 30 days of the Department's verification of the calculations.

40 (a) The certificate holder shall include the appropriate calculations of the adjusted
41 monetary path payment with its reports of the results of the Year One Tests required under
42 Condition (41).

43 (b) For calculating the adjusted monetary path payment, the certificate holder shall use an
44 offset fund rate of \$1.27 per ton of carbon dioxide (in 2007 dollars) and shall calculate
45 contracting and selecting funds based on 20 percent of the first \$250,000 in offset funds and
46 4.286 percent of any offset funds in excess of \$250,000 (in 2007 dollars).

1 (c) In no case shall the certificate holder diminish the value of the letter of credit it
2 provided before beginning construction or receive a refund from The Climate Trust based
3 on the calculations made using the Year One Capacities and the Year One Heat Rates.

4 [Amendment #1]

5 (43) The certificate holder shall use the Year One Capacity-2 and Year One Heat Rate-2 that it
6 reports for the facility, as described in Condition (41)(b), to calculate whether it owes
7 supplemental monetary path payments due to increased hours that it uses power
8 augmentation.

9 (a) Each five years after beginning commercial operation of the facility (five-year
10 reporting period), the certificate holder shall report to the Department the annual average
11 hours the facility operated with power augmentation during that five-year reporting period,
12 as required under OAR 345-024-0590(6). The certificate holder shall submit five-year
13 reports to the Department within 30 days after the anniversary date of beginning
14 commercial operation of the facility.

15 (b) If the Department determines that the facility exceeded the projected net total carbon
16 dioxide emissions calculated under Conditions (33), (34) and (41), prorated for five years,
17 during any five-year reporting period described in subsection (a), the certificate holder shall
18 offset excess emissions for the specific reporting period according to paragraph (i) and shall
19 offset the estimated future excess emissions according to paragraph (ii), as follows:

20 (i) In determining whether there have been excess carbon dioxide emissions that the
21 certificate holder must offset for a five-year reporting period, the Department shall apply
22 OAR 345-024-0600(4)(a). The certificate holder shall pay for the excess emissions at \$1.27
23 per ton of carbon dioxide emissions (in 2007 dollars). The Department shall notify the
24 certificate holder and The Climate Trust of the amount of supplemental payment required to
25 offset excess emissions.

26 (ii) The Department shall calculate estimated future excess emissions for the
27 remaining period of the deemed 30-year life of the facility using the parameters specified in
28 OAR 345-024-0600(4)(b). The certificate holder shall pay for the estimated excess
29 emissions at \$1.27 per ton of carbon dioxide (in 2007 dollars). The Department shall notify
30 the certificate holder of the amount of supplemental payment required to offset future
31 excess emissions.

32 (iii) The certificate holder shall offset excess emissions identified in paragraphs (i)
33 and (ii) using the monetary path as described in OAR 345-024-0710. The certificate holder
34 shall pay selection and contracting funds of 20 percent of the first \$250,000 in offset funds
35 and 4.286 percent of any offset funds in excess of \$250,000 (in 2007 dollars).

36 (c) The certificate holder shall disburse the supplemental selection and contracting funds
37 and supplemental offset funds to The Climate Trust within 30 days after notification by the
38 Department of the amount that the certificate holder owes.

39 [Amendment #1]

40 (44) The certificate holder shall use only pipeline quality natural gas or shall use synthetic gas
41 with a carbon content per million Btu no greater than pipeline-quality natural gas to fuel the
42 combustion turbines for the base-load gas plant and the power augmentation.

43 (45) After the certificate holder has complied with the conditions relating to the carbon dioxide
44 standard before beginning construction, incremental increases in capacity and heat rate that
45 otherwise fall within the limits specified in OAR 345-027-0050(2) do not require an

1 amendment of the site certificate if the certificate holder complies substantially with
2 Conditions (30) through (44), except as modified below, and if:

3 (a) The Department or the Council determines, as described in OAR 345-027-0050(5),
4 that the proposed change in the facility does not otherwise require an amendment; and

5 (b) The certificate holder complies with the appropriate carbon dioxide emissions
6 standard and monetary offset rate in effect at the time the Department or the Council makes
7 its determination under this condition.

VI. SPECIFIC FACILITY CONDITIONS

8 The conditions listed in this section include conditions based on representations in the
9 site certificate application and supporting record. The Council deems these representations to be
10 binding commitments made by the applicant. These conditions are required under OAR 345-027-
11 0020(10). This section includes other specific facility conditions the Council finds necessary to
12 ensure compliance with the siting standards of OAR Chapter 345, Divisions 22 and 24, and to
13 protect the public health and safety.

14 (46) The certificate holder shall begin construction of the facility by November 16, 2011. The
15 Council may grant an extension of the deadline to begin construction in accordance with
16 OAR 345-027-0030 or any successor rule in effect at the time the request for extension is
17 submitted. [Amendments #1 and #2]

18 (47) The certificate holder shall complete construction of the facility by November 16, 2014.
19 Construction is complete when: 1) the facility is substantially complete as defined by the
20 certificate holder's construction contract documents, 2) acceptance testing has been
21 satisfactorily completed and 3) the energy facility is ready to begin continuous operation
22 consistent with the site certificate. The certificate holder shall promptly notify the
23 Department of the date of completion of construction. The Council may grant an extension
24 of the deadline for completing construction in accordance with OAR 345-027-0030 or any
25 successor rule in effect at the time the request for extension is submitted. [Amendments #1 and
26 #2]

27 (48) The certificate holder shall obtain all necessary state and local permits or approvals
28 required for construction, operation and retirement of the facility or ensure that its
29 contractors obtain the necessary state and local permits or approvals.

30 (49) Within 72 hours after discovery of conditions or circumstances that may violate the terms
31 or conditions of the site certificate, the certificate holder shall report the conditions or
32 circumstances to the Department.

33 (50) The certificate holder shall notify the Department within 72 hours of any accidents
34 including mechanical failures on the site associated with the operation of the facility that
35 may result in public health and safety concerns.

36 (51) The certificate holder shall not contract with a third party to operate the facility without
37 prior approval by the Council. The certificate holder shall submit to the Council the identity
38 and qualifications of the proposed third-party contractor so that the Council may review the
39 qualifications of the contractor and determine compliance with the Organizational Expertise
40 Standard (OAR 345-0022-0010). The certificate holder may contract with a Council-
41 approved third party to operate the facility without an amendment of the site certificate.
42 However, a contract with a third party to operate the facility does not relieve the certificate

1 holder of responsibility for compliance with all terms and conditions of the site certificate.
2 The certificate holder is at all times a “responsible party” as defined in OAR 345-029-0005
3 for purposes of enforcement of the site certificate under OAR Chapter 345, Division 29.

4 (52) The certificate holder shall promptly notify the Department in advance of any planned
5 permanent cessation of construction or operation of the facility. The certificate holder shall
6 submit to the Department a proposed final retirement plan as described in OAR 345-027-
7 0110 two years before such cessation, if possible, or as soon as possible within two years
8 before such cessation.

9 (53) The certificate holder shall prepare and implement a materials management and monitoring
10 plan approved by the Department. The materials management and monitoring plan must
11 address the handling of potentially hazardous substances (as defined by ORS 465.200)
12 during construction and operation of the facility, measures to prevent on- and off-site
13 contamination and documentation of plan implementation. The certificate holder shall use
14 hazardous materials in a manner that protects public health, safety and the environment and
15 shall comply with all applicable local, state and federal environmental laws and regulations.

16 (54) The certificate holder shall implement fire-safety measures, including but not limited to the
17 following:

18 (a) The certificate holder shall install an on-site fire protection system designed in
19 conformance with applicable fire codes and National Fire Protection Association standards
20 to allow control and extinguishing of fires within buildings and in yard areas. The fire
21 protection system shall include provisions for water storage, motor-driven fire pumps, a
22 firewater loop system and monitors, chemical extinguishing for combustion equipment,
23 building sprinkler systems, fire hydrants and hose stations. The source of firewater shall be
24 from a dedicated portion of the raw water storage tank. If applicable Oregon codes specify
25 added conditions or more-stringent requirements, the certificate holder shall incorporate the
26 Oregon code requirements into the facility design.

27 (b) The certificate holder shall install a packaged CO₂ (or equivalent) fire suppression
28 system as part of the combustion-turbine fire protection system.

29 (c) The certificate holder shall install a fire protection system, including fire detection
30 and pre-action alarms, in the energy facility control room.

31 (d) The certificate holder shall provide portable fire extinguishers at strategic locations
32 within the energy facility. The type and number of fire extinguishers shall satisfy applicable
33 code requirements.

34 (55) The certificate holder shall prepare and maintain a site health and safety plan that informs
35 employees and others onsite what to do in case of emergencies and that includes the
36 locations of fire extinguishers and nearby hospitals, important telephone numbers and first
37 aid techniques.

38 (56) At least 30 days before beginning preparation of detailed design and specifications for the
39 electrical transmission line or the natural gas pipeline, the certificate holder shall consult
40 with the Oregon Public Utility Commission staff to ensure that the designs and
41 specifications are consistent with applicable codes and standards.

42 (57) To protect public safety, the certificate holder shall design and maintain the transmission
43 lines so that:

1 (a) Alternating current electric fields during operation do not exceed 9 kV per meter at
2 one meter above the ground surface in areas accessible to the public.

3 (b) Induced currents during operation are as low as reasonably achievable.

4 (58) The certificate holder shall take reasonable steps to reduce or manage human exposure to
5 electromagnetic fields.

6 (59) To reduce the visual impact of the facility, the certificate holder shall:

7 (a) Screen outdoor storage areas from view on all sides by a sight obscuring fence, wall
8 or hedge at least 8 feet in height if other structures do not otherwise block such areas from
9 view.

10 (b) Screen outdoor mechanical equipment from view from adjacent property and from
11 any public street, road or access.

12 (c) Paint exterior surfaces of the facility structures in neutral colors to blend visually with
13 existing facilities and background colors.

14 (d) Control dust through the application of water or by other equally effective means
15 during construction and retirement of the facility.

16 (e) Use directional lighting and light-shielding devices consistent with safety and security
17 requirements to minimize off-site glare during construction, operation and retirement of the
18 facility.

19 (f) Plant indigenous, low-maintenance trees, such as ponderosa pine, juniper and black
20 cottonwood, around the perimeter of the facility site, subject to Condition (91), to provide
21 additional screening of the facility.

22 (60) To protect riparian areas, the certificate holder shall avoid impacts on all land within a 100-
23 foot setback from the Klamath River, including land used for temporary lay-down areas and
24 any construction or operational activity.

25 (61) The certificate holder shall not allow other connections to the extension of the City of
26 Klamath Falls sewer system except connections necessary for the discharge of the KGF's
27 wastewater and, under the evaporative cooling option, cooling system blowdown water.

28 (62) If evaporative cooling is used, the certificate holder shall:

29 (a) Design and construct the cooling tower so that the temperature of the cooling tower
30 discharge water (blowdown) is lower than the temperature of wastewater discharged from
31 Spring Street Wastewater Treatment Plant and South Suburban Sanitary District throughout
32 the year.

33 (b) Design and construct the cooling tower with drift eliminators to limit the drift rate to
34 approximately 0.0005 percent of the water circulating in the cooling tower.

35 (63) Before beginning construction, the certificate holder shall notify the Department in advance
36 of any work on the site that does not meet the definition of "construction" in OAR 345-001-
37 0010(10) or ORS 469.300(7) and shall provide to the Department plans of the work and
38 evidence that its value is less than \$250,000.

39 (64) Before beginning construction, the certificate holder shall submit to the State of Oregon
40 through the Council a bond or letter of credit in the amount of \$4.160 million (in 2006
41 dollars) naming the State of Oregon, acting by and through the Council, as beneficiary or
42 payee.

1 (a) The calculation of 2006 dollars shall be made using the U.S. Gross Domestic Product
2 Implicit Price Deflator, Chain-Weight, as published in the Oregon Department of
3 Administrative Services' "Oregon Economic and Revenue Forecast," or by any successor
4 agency (the "Index"). The certificate holder shall increase the amount of the bond or letter
5 of credit amount annually by the percentage increase in the Index and shall pro-rate the
6 amount within the year to the date of retirement. If at any time the Index is no longer
7 published, the Council shall select a comparable calculation of 2006 dollars.

8 (b) The certificate holder shall use a form of bond or letter of credit approved by the
9 Council.

10 (c) The certificate holder shall use an issuer of the bond or letter of credit approved by the
11 Council.

12 (d) The certificate holder shall describe the status of the bond or letter of credit in the
13 annual report submitted to the Council under Condition (26)(b).

14 (e) The bond or letter of credit shall not be subject to revocation or reduction before
15 retirement of the facility site.

16 [Amendment #1]

17 (65) If the certificate holder elects to use a bond to meet the requirements of Condition (64), the
18 certificate holder shall ensure that the surety is obligated to comply with the requirements
19 of applicable statutes, Council rules and this site certificate when the surety exercises any
20 legal or contractual right it may have to assume construction, operation or retirement of the
21 energy facility. The certificate holder shall also ensure that the surety is obligated to notify
22 the Council that it is exercising such rights and to obtain any Council approvals required by
23 applicable statutes, Council rules and this site certificate before the surety commences any
24 activity to complete construction, operate or retire the energy facility.

25 (66) Before beginning construction, the certificate holder shall notify the Department of the
26 identity and qualifications of the engineering, procurement and construction ("EPC")
27 contractor(s) for specific portions of the work. The certificate holder shall select EPC
28 contractors that have substantial experience in the design and construction of similar
29 facilities.

30 (67) Before beginning construction, the certificate holder shall submit to Klamath County an
31 application for Site Plan Review of the proposed energy facility, as described in KCLDC §
32 41.050 and 41.060.

33 (68) The certificate holder shall design, engineer and construct the facility to avoid dangers to
34 human safety presented by non-seismic hazards. As used in this condition, "non-seismic
35 hazards" include settlement, landslides, groundwater, flooding and erosion.

36 (69) Before beginning construction, the certificate holder shall conduct site-specific geotechnical
37 investigation and shall report its findings to the Oregon Department of Geology & Mineral
38 Industries (DOGAMI). The geotechnical investigation shall be conducted in general
39 accordance with the site-specific seismic hazard report and the engineering geologic report
40 guidelines that have been adopted by the Oregon Board of Geologist Examiners. The
41 guidelines are available through the Board and in the DOGAMI publication O-00-04
42 (2000).

43 (70) The certificate holder shall design and construct the facility in accordance with
44 requirements set forth by the State of Oregon's Building Code Division and any other

1 applicable codes and design procedures. The current minimum code requirements are set
2 forth in the 2004 Oregon Structural Specialty Code, which adopts parts of the 2003
3 International Building Code and October 1, 2004, Oregon amendments.

4 (71) The certificate holder shall conduct geotechnical studies before final plant design and
5 construction to fully characterize the site geology, seismic hazard and engineering geologic
6 conditions for the incorporation into appropriate designs. The certificate holder shall
7 consider the following:

8 (a) Geophysical surveys of the energy facility site to estimate the location, extent and
9 thickness of the following five geological units and, in particular, to locate the contact
10 between the diatomaceous silt and the volcanoclastic sandstone and conglomerate units
11 near the western end of the proposed energy facility site:

12 (i) Dark-gray rockfill and organic debris (fill)

13 (ii) Dark-brown, dry, medium-dense to very dense, poorly-graded silty sand

14 (iii) Grayish-brown, fine to coarse gravel, cemented volcanoclastic sandstone and
15 conglomerate

16 (iv) Brown to tan, very stiff, diatomaceous silt

17 (v) Black, hard basalt and basaltic boulders in a coarse ash matrix

18 (b) Excavation of shallow trenches to confirm the location of the diatomaceous silt and
19 the volcanoclastic sandstone and conglomerate contact and to gather samples for standard
20 geotechnical tests. The certificate holder's geotechnical expert shall observe the location,
21 orientation and nature of this contact (sedimentary or tectonic) in the trenches. Direct
22 observation is required to confirm whether the contact is faulted. If it is faulted, then this
23 would indicate a potential surface fault rupture hazard at the proposed energy facility site
24 that the certificate holder must investigate further by specific studies outside of the
25 proposed energy facility site.

26 (c) Excavation, logging and sampling of test pits at proposed building locations and other
27 facilities to:

28 (i) Estimate the extent and depth of fills, foundation preparation requirements and
29 permissible bearing loads,

30 (ii) Confirm groundwater conditions and

31 (iii) Examine the variability and composition of existing fill materials across the
32 proposed energy facility site.

33 (d) Drilling, logging and sampling of boreholes or other subsurface exploration
34 techniques to confirm the subsurface stratigraphy including competent foundation materials
35 and engineering properties of the materials underlying the proposed energy facility site.

36 (e) Laboratory testing of samples from test pits and boreholes to confirm the physical
37 properties of placed fill and natural geological materials beneath the proposed energy
38 facility site.

39 (f) Refinement of the existing site-specific probabilistic seismic hazard assessment of
40 earthquake ground motions.

41 (g) If diatomaceous silt is confirmed to occur beneath the proposed energy facility site,
42 performance of a dynamic site response to assess the potential amplification of earthquake
43 ground motions through these soft soils.

44 (h) Study of stereoscopic aerial photographs to confirm the conclusion that the hazard
45 from earthquake-induced slope failure is negligible at the proposed energy facility site.

- 1 (72) Before beginning construction, the certificate holder shall deliver to the Department a copy
2 of the agreement between the certificate holder and the City of Klamath Falls confirming
3 that the City will supply up to 0.36 mgd of potable water to the certificate holder to meet
4 the facility's operational needs under a water right held by the City.
- 5 (73) If the facility is designed to use evaporative cooling, the certificate holder shall deliver to
6 the Department, before beginning construction, evidence satisfactory to the Department
7 verifying that:
8 (a) The City of Klamath Falls and South Suburban Sanitary District have entered into an
9 agreement under which the SSWTP and SSSD would combine and improve their
10 wastewater treatment systems so as to provide sufficient reclaimed water to meet the
11 cooling water supply needs of the KGF.
12 (b) The certificate holder shall provide evidence satisfactory to the Department of a
13 contract with the City of Klamath Falls and SSSD that requires the certificate holder to
14 make a contribution equal to one-third of the actual cost of combining and improving the
15 SSWTP and SSSD wastewater treatment systems, up to a maximum contribution of \$25
16 million.
- 17 (74) If the facility is designed to use evaporative cooling, the certificate holder shall deliver to
18 the Department, before beginning construction, a copy of the agreement between the City
19 of Klamath Falls and the certificate holder, confirming that the City will provide up to 4.0
20 mgd of reclaimed water to meet the cooling water supply needs of the KGF.
- 21 (75) If the facility is designed to use evaporative cooling, the certificate holder shall deliver to
22 the Department, before beginning construction, evidence satisfactory to the Department that
23 the Oregon Department of Environmental Quality has issued or will issue to the City of
24 Klamath Falls an NPDES Waste Discharge Permit, including approval of a Reclaimed
25 Water Use Plan, that allows the City to provide up to 4.0 mgd of reclaimed water to meet
26 the cooling water supply needs of the KGF.
- 27 (76) If the facility is designed to use evaporative cooling, the certificate holder, before beginning
28 construction, shall enter into such supporting agreements as necessary to implement a water
29 supply mitigation plan. Under the water supply mitigation plan, the City of Klamath Falls
30 would discharge reclaimed water to the Klamath River equal to the amount of water
31 evaporated at the KGF cooling tower, up to 4.8 cfs, and would supply potable water to the
32 KGF to meet cooling requirements. The plan would be activated when the flow of the
33 Klamath River at Keno Dam falls below the instream water right levels applied for by the
34 Oregon Department of Fish and Wildlife that are specified in Table 3 of the Council's Final
35 Order on the Site Certificate application. The requirement to activate the mitigation plan
36 would apply ~~only~~ when the KGF is operating and ~~only~~ to the extent that the KGF is using
37 cooling water. The plan would include a system of notification from the operators of the
38 Link River Dam and Keno Dam to the operator of the KGF and water level monitoring for
39 activation and deactivation of the water mitigation plan. The certificate holder shall, before
40 beginning construction, submit the water supply mitigation plan and supporting agreements
41 to the Oregon Department of Energy for approval consistent with the intent of the Council
42 as expressed in the Final Order on the Site Certificate.
- 43 (77) The certificate holder shall design the facility to conform with the noise level performance
44 standards shown in the site certificate application, Appendix X-1, Tables 4 and 5. If the

1 certificate holder includes in the final design additional equipment that would increase
2 noise levels, the certificate holder shall install additional noise control measures, as
3 necessary, to assure that overall plant noise at 400 feet from the footprint would not exceed
4 60 dBA. Additional noise control measures may include, but are not limited to, quieter
5 models for each equipment type, additional silencers or enclosures around equipment,
6 lagging of pipes, using resilient couplings for pipe connections or mounting equipment on
7 resilient pads.

8 (78) The certificate holder shall equip all fuel and chemical storage areas with secondary
9 containment. The certificate holder shall design containment areas using appropriately
10 impermeable construction materials and perimeter curbs and shall size the containment
11 areas to hold the total volume of liquids stored within them with a margin of safety that
12 includes, for outdoor containment areas, the volume of precipitation that might accumulate
13 during the 100-year frequency precipitation event.

14 (79) Before beginning construction, the certificate holder shall obtain an NPDES Storm Water
15 Discharge General Permit #1200-C, as required, from the Oregon Department of
16 Environmental Quality.

17 (80) Before beginning construction, the certificate holder shall prepare and implement a Spill
18 Prevention Control and Countermeasure Plan, as required under 40 CFR 112.

19 (81) Before beginning construction, the certificate holder shall work in cooperation with the
20 Oregon Department of Transportation to determine the best solutions to construction traffic
21 safety concerns and to develop and implement a traffic safety plan.

22 (82) During construction, the certificate holder shall have a full-time on-site assistant
23 construction manager who is qualified in environmental compliance to ensure compliance
24 with all site certificate conditions. The certificate holder shall notify the Department of the
25 name, telephone number and e-mail address of this person. This person shall observe
26 contractor waste management practices and ensure compliance with applicable regulations
27 and construction site policy.

28 (83) The certificate holder shall contractually require all construction contractors and
29 subcontractors involved in the construction of the facility to comply with all applicable
30 laws and regulations and with the terms and conditions of the site certificate. Such
31 contractual provisions shall not operate to relieve the certificate holder of responsibility
32 under the site certificate.

33 (84) The certificate holder shall require that all on-site construction contractors prepare and
34 implement a site health and safety plan before beginning construction activities. The
35 certificate holder shall ensure that the plan informs employees and others onsite what to do
36 in case of emergencies and includes the locations of fire extinguishers and nearby hospitals,
37 important telephone numbers and first aid techniques.

38 (85) The certificate holder shall report to the Council any change of major construction
39 contractors.

40 (86) The certificate holder shall provide portable toilets for onsite sewage handling during
41 construction and make sure that they are pumped and cleaned regularly by a licensed
42 pumper who is qualified to pump and clean portable toilet facilities.

- 1 (87) To reduce construction noise impacts at nearby residential areas, the certificate holder shall:
2 (a) Confine the noisiest operation of heavy construction activities equipment to the
3 daylight hours.
4 (b) Require contractors to install and maintain exhaust mufflers on all combustion
5 engine-powered equipment.
6 (c) Establish a complaint response system at the construction manager's office to address
7 noise complaints.
- 8 (88) The certificate holder shall mitigate possible impacts to fish and wildlife and their habitat
9 by measures including but not limited to the following:
10 (a) Minimizing road construction and vehicle use where possible
11 (b) Locating the project in Ruderal and Development/Landscape ecological communities
12 and maximizing the use of existing utility corridors
13 (c) Avoiding vegetation removal wherever possible
14 (d) Using best management practices to prevent erosion of soil into wetlands or the
15 Klamath River
16 (e) Posting speed limit signs throughout the construction zone
17 (f) Instructing construction personnel (including all construction contractors and their
18 personnel) on wildlife in the area and on required precautions to avoid injuring or
19 destroying wildlife
20 (g) Instructing construction personnel (including all construction contractors and their
21 personnel) to watch out for wildlife while driving through the project area, to maintain
22 reasonable driving speeds so as not to harass or accidentally strike wildlife and to be
23 particularly cautious and drive at slower speeds in a period from one hour before sunset to
24 one hour after sunrise when some wildlife species are the most active
25 (h) Requiring all construction personnel to report any injured or dead wildlife detected at
26 the facility site.
- 27 (89) Before beginning construction, the certificate holder shall develop a site grading plan in
28 accordance with the 2003 International Building Code Chapter 18 or equivalent grading
29 codes. The certificate holder shall reduce the potential negative impacts to the site by
30 specifying minimum soil density values to be obtained during construction, providing for
31 surface run off and erosion and by measures including but not limited to the following:
32 (a) Directing surface water away from slopes.
33 (b) Providing vegetation for slopes.
34 (c) Restoring temporarily disturbed areas to pre-disturbance conditions.
35 (d) Revegetating disturbed soil areas.
36 (e) In areas of Capona loam Soil type, applying soil amendments and using mechanical
37 improvements as necessary to improve stability.
38 (f) In areas of Teeters silt loam and Tulana silt loam soil types, protecting exposed
39 trenches and restored areas from wind erosion by use of erosion blankets, hydroseeding or
40 wood chips spread over exposed loam areas as necessary to reduce the potential of wind
41 erosion.
- 42 (90) The certificate holder shall conduct all construction work in compliance with an Erosion
43 and Sediment Control Plan (ESCP) satisfactory to the Oregon Department of
44 Environmental Quality and as required under the facility's National Pollutant Discharge
45 Elimination System (NPDES) Storm Water Discharge General Permit #1200-C. The

1 certificate holder shall include a monitoring program in the ESCP to ensure that the
2 measures implemented to reduce soil impacts are effective. The certificate holder shall
3 include in the ESCP any procedures necessary to meet local erosion and sediment control
4 requirements or stormwater management requirements and to comply with the provisions of
5 KCLDC Article 73. The certificate holder shall submit the ESCP for review by the Oregon
6 Department of Energy, the Oregon Department of Fish and Wildlife, the Oregon
7 Department of Agriculture and the Oregon Division of State Lands.

8 (91) The certificate holder shall develop and implement a post-construction revegetation plan
9 that:

10 (a) Includes performance goals, a planting and irrigation plan, maintenance requirements
11 and a monitoring program. The certificate holder shall submit the post-construction
12 revegetation plan for review by the Oregon Department of Energy, the Oregon Department
13 of Fish and Wildlife, the Oregon Department of Agriculture and the Oregon Division of
14 State Lands.

15 (b) Complies with the requirements of KCLDC Article 65.

16 (92) The certificate holder shall locate chemical storage, servicing of construction and
17 maintenance equipment and vehicles and overnight storage of wheeled vehicles at least 100
18 feet from any wetland or waterway.

19 (93) The certificate holder shall avoid impact to wetlands identified in the Council's Final Order
20 on the Site Certificate and shall avoid any impact that would remove, fill or alter 50 cubic
21 yards or more of material within any waters of the state.

22 (94) The certificate holder shall design and construct the facility to comply with the off-street
23 parking requirements of KCLDC Article 68.

24 (95) The certificate holder shall design and construct the facility with a perimeter security fence
25 in compliance with KCLDC § 64.040.

26 (96) The certificate holder shall install all utility service connections in accordance with KCLDC
27 Article 76.

28 (97) The certificate holder shall implement a waste management plan during construction that
29 includes but is not limited to the following measures:

30 (a) Minimizing the generation of wastes from construction through detailed estimating of
31 materials needs and through efficient construction practices.

32 (b) Training employees to minimize and recycle solid waste.

33 (c) Collecting recyclable steel scrap and wood waste to the greatest extent feasible and
34 transporting it to a recycling facility.

35 (d) Using concrete waste as fill on-site or at another site or, if no reuse option is
36 available, transporting it to a local landfill.

37 (e) Recycling packaging wastes (such as paper and cardboard).

38 (f) Collecting non-recyclable non-hazardous waste and transporting it to an authorized
39 landfill; and

40 (g) Segregating all hazardous wastes such as used oil, mercury-containing lights and
41 lead-acid and nickel-cadmium batteries and transporting such materials to a licensed firm
42 specializing in the proper recycling or disposal of hazardous wastes.

- 1 (98) The certificate holder shall make sure that chemical cleaning processes used for flushing
2 and chemical cleaning of piping and equipment during the final stages of construction
3 generate only non-hazardous wastewater. Chemical cleaning solutions will be trucked off-
4 site by a licensed contractor for proper disposal. The cleaning rinse waters, flush waters and
5 normal plant water usage during plant startup will be sent to the SSWTP.
- 6 (99) The certificate holder shall ensure that a qualified person instructs construction personnel in
7 the identification of cultural materials.
- 8 (100) If any archaeological or cultural resources are discovered during construction of the
9 facility, the certificate holder shall cease all ground-disturbing activities in the immediate
10 area until a qualified archaeologist can evaluate the significance of the find. If the
11 archaeologist determines that the resources are significant, the certificate holder shall make
12 recommendations to the Council for mitigation, include avoidance or data recovery, in
13 consultation with the Department, the State Historic Preservation Office (SHPO), the
14 Klamath Tribe, the Klamath County Planning Department and other appropriate parties.
15 The certificate holder shall not restart work in the affected area until it has demonstrated to
16 the Department that it has complied with the archaeological permit requirements
17 administered by SHPO.
- 18 (101) The certificate holder shall locate facility structures, including the potable water pipeline,
19 to avoid impact on any existing structures within the boundaries of recorded historic site
20 OR-KL-40.
- 21 (102) Before plant startup, the certificate holder shall obtain an Industrial Wastewater
22 Discharge Permit from the SSWTP for acceptance of facility wastewater, including sanitary
23 and process wastewater and (under the evaporative cooling option) cooling tower discharge
24 water. The certificate holder shall submit a copy of the permit to the Department. The
25 certificate holder shall comply with all federal pretreatment requirements for disposal of
26 wastewater into a publicly-owned treatment works.
- 27 (103) The certificate holder shall implement a waste management plan during operation that
28 includes but is not limited to the following measures:
29 (a) Training employees to minimize and recycle solid waste.
30 (b) Recycling paper products, aluminum cans, glass and plastics to the extent practicable
31 by providing separate disposal containers in the plant.
32 (c) Separating recyclable materials from the solid waste stream to the extent practicable
33 and periodically transporting such materials to a recycling facility.
34 (d) Collecting non-recyclable waste and transporting it to an authorized landfill.
35 (e) Segregating all hazardous wastes such as used oil, oily rags and oil-absorbent
36 materials, mercury-containing lights and lead-acid and nickel-cadmium batteries and
37 transporting such materials to a licensed firm specializing in the proper recycling or
38 disposal of hazardous wastes; and
39 (f) Transporting spent SCR catalysts to the manufacturer or to a metals reclaiming facility
40 or to another Department-approved facility.
- 41 (104) The certificate holder shall minimize sanitary wastewater during facility operation by
42 using flow-restricting devices on bathroom and locker room sink and shower fixtures and
43 by using low-water-consumption toilets. The certificate holder shall dispose of all sewage
44 into a sewage treatment and disposal system that complies with DEQ regulations. The

1 certificate holder shall discharge process wastewater to a DEQ-approved wastewater
2 facility that does not contribute to water quality standards violations.

3 (105) During operation, the certificate holder shall discharge stormwater run-off to an on-site
4 evaporation pond and shall not discharge stormwater to surface waters of the state.

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

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

13 (a) The specialist shall measure noise levels at the appropriate measurement point on the
14 noise sensitive property in the West Klamath residential neighborhood (approximately
15 1,450 feet from the nearest point of the energy facility and approximately 2,350 feet from
16 the center of the facility's primary noise sources) to determine if actual noise levels are
17 within the nighttime L₅₀ noise limit of 50 dBA as specified in OAR 345-035-0035(1)(b)(A).

18 (b) The specialist shall measure noise levels when environmental conditions are expected
19 to result in maximum sound propagation between the source and the receivers and when the
20 energy facility is operating in a typical operations mode that produces maximum noise
21 levels.

22 (c) The certificate holder shall report the results of the noise evaluation to the
23 Department.

24 (d) If operating conditions or atmospheric conditions required for measurement under this
25 condition do not exist within the first six months of operation, the Department may, upon
26 request, grant an extension of time for compliance with this condition.

27 (e) If measured noise levels do not comply with the applicable DEQ standard, the
28 certificate holder shall implement noise-reducing measures necessary to comply with the
29 standard without unreasonable delay. Within six months after implementing such measures,
30 the certificate holder shall provide to the Department new noise measurement results to
31 verify that the actual noise levels comply with the standard.

32 (108) Not later than 10 years after the beginning of operation, and each 10 years thereafter
33 during the life of the energy facility, the certificate holder shall complete an independent
34 Phase I Environmental Site Assessment of the energy facility site and shall submit the
35 assessment report to the Department. If any Phase I Environmental Site Assessment
36 identifies improper handling or storage of hazardous substances (as defined by ORS
37 465.200) or improper record keeping procedures, the certificate holder shall correct such
38 deficiencies promptly and shall report the corrective actions to the Department. If the
39 certificate holder has not corrected such deficiencies within six months after the date of the
40 assessment report, the certificate holder shall submit to the Council an independently
41 prepared estimate of cost of correction. Upon approval of the estimate by the Council, the
42 certificate holder shall increase the amount of the bond or letter of credit required under
43 Condition (64) by the approved amount of the estimate. In no event, however, shall the
44 certificate holder be relieved of its obligation to exercise all due diligence in correcting
45 deficiencies identified in the course of a Phase I Environmental Site Assessment.

- 1 (109) The certificate holder shall report any release (as defined by ORS 465.200) of hazardous
2 substances to the Department within one working day after the discovery of such release, in
3 addition to any other reporting requirements under applicable law. If the certificate holder
4 has not remedied a release consistent with applicable Oregon Department of Environmental
5 Quality standards within six months after the date of the release, the certificate holder shall
6 submit to the Council an independently prepared estimate of the cost to complete necessary
7 remediation. Upon approval of the estimate by the Council, the certificate holder shall
8 increase the amount of its bond or letter of credit by the approved amount of the estimate.
9 In no event, however, shall the certificate holder be relieved of its obligation to exercise all
10 due diligence in remedying a release of hazardous substances.
- 11 (110) If the facility is designed to use evaporative cooling, the certificate holder shall minimize
12 the amount of cooling tower blowdown by automating the chemical treatment and
13 blowdown system for the cooling tower to allow the tower to operate at the highest
14 practical number of cycles of concentration.
- 15 (111) If the facility is designed to use evaporative cooling and local health authorities
16 determine, at any time during facility operation, that the cooling towers may be the source
17 of adverse public health effects, the certificate holder shall cooperate with health authorities
18 by providing information and implementing cooling tower management practices to
19 mitigate the adverse effects.
- 20 (112) If the facility is designed to use evaporative cooling and the Council finds, at any time
21 during facility operation, that cooling tower emissions are likely to contribute significantly
22 to ground-level fogging or icing along public roads and to cause a significant threat to
23 public safety, the certificate holder shall cooperate with appropriate local public safety
24 authorities regarding implementation of reasonable safety measures, such as posting
25 warning signs on affected roads. Cooperation may include, but is not necessarily limited to,
26 the reimbursement of expenses for posting warning signs and implementing other safety
27 measures.

VII. SUCCESSORS AND ASSIGNS

28 To transfer this site certificate, or any portion thereof, or to assign or dispose of it in any
29 other manner, directly or indirectly, the certificate holder shall comply with OAR 345-027-0100.

VIII. SEVERABILITY AND CONSTRUCTION

30 If any provision of this agreement and certificate is declared by a court to be illegal or in
31 conflict with any law, the validity of the remaining terms and conditions shall not be affected,
32 and the rights and obligations of the parties shall be construed and enforced as if the agreement
33 and certificate did not contain the particular provision held to be invalid.

IX. GOVERNING LAW AND FORUM

34 This site certificate shall be governed by the laws of the State of Oregon. Any litigation
35 or arbitration arising out of this agreement shall be conducted in an appropriate forum in Oregon.

X. EXECUTION

1 This site certificate may be executed in counterparts and will become effective upon
2 signature by the Chair of the Energy Facility Siting Council and the authorized representative of
3 the certificate holder.

4 **IN WITNESS WHEREOF**, this site certificate has been executed by the State of Oregon, acting
5 by and through its Energy Facility Siting Council, and by Klamath Generation LLC.

ENERGY FACILITY SITING COUNCIL

KLAMATH GENERATION LLC

By: _____
Robert Shiprack, Chair
Oregon Energy Facility Siting Council

By: _____

Print: _____

Date: _____

Date: _____