

**BEFORE THE ENERGY FACILITY SITING COUNCIL  
OF THE STATE OF OREGON**

In the matter of the Request for Amendment )  
No. 2 to the Site Certificate for the Klamath ) FINAL ORDER  
Cogeneration Project<sup>1</sup> )

A.	Introduction	2
B.	Amendment Requested	2
C.	Procedural History	3
D.	General Findings of Fact	4
E.	Compliance with Council Standards: Findings and Conclusions	6
F.	Compliance with Other Applicable Requirements: Findings and Conclusions	27
G.	General Conclusion	31
H.	Proposed Order	32
	Notice of Right to Request Judicial Review	32

<sup>1</sup> The amendment request is titled “Request for Amendment No. 1 to the Amended Site Certificate for the Klamath Cogeneration Project.” However, the Office considers the request to be a request for Amendment No. 2 to the Site Certificate for the Klamath Cogeneration Project.

## A. Introduction

Pacific Klamath Energy, Inc. (PKE), on behalf of the City of Klamath Falls (City), requests an amendment to the City's Amended Site Certificate for the Klamath Cogeneration Project (KCP). The request is made in accordance with Oregon Revised Statutes (ORS) 469.405, Oregon Administrative Rules (OAR) 345-21-000(1), OAR 345-27-050 and OAR 345-27-060.

The Oregon Energy Facility Siting Council (Council) approved a Final Order granting a Site Certificate to the City for the KCP on August 15, 1997. On April 17, 1998 the Council approved Amendment No. 1 to the Site Certificate and subsequently issued an Amended Site Certificate for the KCP. The City has not begun construction of the KCP.

The Site Certificate, as amended, authorizes the City to construct, operate and retire a natural gas-fired, combustion turbine cogeneration facility of up to 500 megawatts (MW) net capacity. The facility includes a 230 kV switchyard and four-mile long transmission line interconnection to PacifiCorp's existing Klamath Falls substation. The approved energy facility site on about 15 acres of land that is owned by Collins Products and is within Klamath County just outside the City's urban growth boundary. The site is about one-half mile west of the U.S. Highway 97 bridge over the Klamath River , about three miles southwest of the City.

## B. The Amendment Requested

PKE, acting on behalf of the City, submitted to the Office of Energy (Office) Request for Amendment No. 1 to the Amended Site Certificate for the Klamath Cogeneration Project (Request). The Requests asks that the Amended Site Certificate be further amended to allow the KCP an alternative means for its electrical interconnection with PacifiCorp's transmission system.

Specifically, PKE requests that the Council authorize a 500 kV interconnection with PacifiCorp's existing Meridian to Captain Jack 500 kV transmission line which is located about 3500 feet to the north of the approved power plant site. The 500 kV interconnection would consist of a 500 kV switchyard and a realignment of a portion of the Meridian to Captain Jack 500 kV line. The 500 kV interconnection would be an alternative to, and not a replacement for, the approved 230 kV interconnection. The KCP would not build both interconnections. Before beginning construction of the facility, the KCP would choose which interconnection it would build.

The 500 kV switchyard would require up to an additional five acres of land on property owned by Collins Products which would expand the approved power plant site from 15 to 20 acres. The switchyard would include step-up transformers, tie-in termination structures, circuit breakers, auxiliary transformers, a one story control room building and other electrical equipment typical to a switchyard such as surge arrestors, disconnect switches and bus work. The tallest switchyard structures would be about 120 feet tall.

The realignment of the Meridian to Captain Jack 500 kV line would relocate a portion of the line to connect to KCP's requested 500 kV switchyard. The total length of the requested realignment is about 6500 feet. The requested realignment requires about eight new steel lattice tower structures similar to those used for the existing Meridian to Captain Jack 500 kV line. The heights of the towers would vary from about 100 to 140 feet. Construction of the new interconnection would affect about 6.5 acres, of which about 0.5 acres would be permanently occupied by new towers. The location of the realignment would be near the location of the approved 230 kV line, entirely on land owned by Collins Products or Columbia Plywood and zoned for heavy industrial use by Klamath County.

The Request does not change the approved facility's electrical generating capacity, electrical power output or steam output, type or amount of fuel used, air emissions, water use or wastewater produced.

#### C. Procedural History

On August 15, 1997 the Council approved a final order (August 1997 Final Order) granting the City of Klamath Falls a Site Certificate for the Klamath Cogeneration Project.

On April 17, 1998 the Council approved a final order (April 1998 Final Order) granting Amendment No. 1 to the Site Certificate and subsequently issued an Amended Site Certificate for the Klamath Cogeneration Project (April 1998 Amended Site Certificate).

On August 10, 1998 the Office received a "Request for Amendment No. 1 to the Amended Site Certificate for the Klamath Cogeneration Project dated August 7, 1998" (the Request). The Request was submitted by Pacific Klamath Energy on behalf of the City of Klamath Falls.

On August 13, 1998 the Office issued a public notice of the Request as required by OAR 345-27-070(1). The notice was dated August 17, 1998. The Office sent the notice to persons on the Council's general mailing list, the Council's specific list for the KCP, and to property owners listed in Attachment 1 of the Request. The notice requested written comments be submitted to the Office by September 16, 1998. The Office did not receive any written comments about the Request.

On August 18 1998 the Office issued a notice of the Request to affected state agencies, local governments and tribes as required by OAR 345-27-070(1). The notice requested that written comments and recommendations be submitted to the Office by September 18, 1998. The Office received comments from a number of state agencies, Klamath County and the Northwest Power Planning Council. None raised any concerns or objections to the Request.

The Office, in letters to PKE dated August 27 and September 9, 1998, requested additional information from both PKE and PacifiCorp. PKE and PacifiCorp provided the requested information in letters dated September 30 and 29, 1998, respectively.

On October 30, 1998 the Office issued this Proposed Order and Proposed Amendment Number Two to the Site Certificate for the Klamath Cogeneration Project that address the Request as required by OAR 345-27-070(2).

On October 30, 1998 the Office issued a public notice as required by OAR 345-27-070(2). The notice stated that the Office had issued a Proposed Order on the Request, that any person could request a contested case proceeding on the Proposed Order, and that the deadline for commenting on, or requesting a contested case on, the Proposed Order was 5:00 p.m., November 30, 1998.

The Office received three written comments by the November 30, 1998 deadline. None requested a contested case proceeding. One was from the mayor of the City of Klamath Falls in support of the requested amendment. One was from the Oregon Department of Fish and Wildlife, Klamath Falls District Office in support of the requested amendment. One was from a resident of Klamath Falls who expressed concerns about the approved KCP and the requested amendment.

On December 11, 1998, the Council considered the Office of Energy's Proposed Order and Proposed Amendment Number Two to the Site Certificate for the Klamath Cogeneration Project, including the three public comment letters. The Council adopted the Proposed Order and approved the issuance of the Proposed Amendment Number Two. The Council directed the Office to prepare a Final Order and Amendment Number Two for the chair's signature.

#### D. General Findings of Fact Related to the Request for Amendment

The Request asks for the Council to authorize the City to build either the 230 kV interconnection that is described in the Amended Site Certificate, or a 500 kV interconnection as described in this order. The 500 kV interconnection would be an alternative to, and not a replacement of, the 230 kV interconnection that is authorized in the Amended Site Certificate. Figure 1 of the Request, which is attached to this order, shows a comparison of the 230 kV and 500 kV alternatives.

The 500 kV interconnection includes a 500 kV switchyard and a realigned section of the Meridian to Captain Jack 500 kV transmission line. PacifiCorp owns and operates the Meridian to Captain Jack 500 kV transmission line. The line is an integral part of the Southern Intertie transmission system grid. The Meridian to Captain Jack 500 kV line is located about 3500 feet to the northeast of the KCP energy facility site.

PacifiCorp has agreed to allow the KCP to interconnect to its Meridian to Captain Jack 500 kV line. However, PacifiCorp requires that such an interconnection be accomplished

in a manner that ensures full continuity of the existing 500 kV transmission system. PacifiCorp therefore has agreed to accomplish the interconnection by realigning a section of the Meridian to Captain Jack 500 kV line to interconnect with the KCP's requested 500 kV electrical switchyard.

Under the requested 500 kV interconnection alternative, the KCP would construct, own, operate and maintain a 500 kV switchyard, and PacifiCorp would design, construct, own, operate and maintain the realignment of its Meridian to Captain Jack 500 kV line.

PacifiCorp and the City would enter into one or more agreements relating to the KCP's interconnection to the 500 kV transmission system and operation of the KCP's 500 kV switchyard.

The length of the realigned segment of the Meridian to Captain Jack 500 kV line would be about 6500 feet. Therefore, it is not an energy facility as defined in ORS 469.300 and does not require a site certificate from the Council. However, the realigned section of the Meridian to Captain Jack 500 kV line is a related or supporting facility under ORS 469.300 and OAR 345-01-010 because it will be built specifically to connect the KCP to PacifiCorp's transmission system. Therefore, the design and construction of the realigned segment of the Meridian to Captain Jack 50 kV line are subject to the jurisdiction of the Council and is addressed in this order. The remainder of the existing Meridian to Captain Jack 500 kV line is neither an energy facility nor a related or supporting facility as defined by ORS 469.300 and is not subject to Council jurisdiction.

#### D.1. Description of the Amended Facility

The Request does seek any change to the approved KCP other than those discussed below. The Request does not change the facility's electrical generating capacity, electrical power output or steam output, type or amount of fuel used, air emissions, water use or wastewater produced.

The requested 500 kV interconnection alternative includes changes to the switchyard at the west end of the KCP energy facility site and the realignment of a segment of PacifiCorp's Meridian to Captain Jack 500 kV transmission line.

##### D.1.1. The 500 kV Switchyard

The 500 kV switchyard would be located at the west end of the approved energy facility site. The west end of the site would be extended to the west by up to about 520 feet. This would increase the size of the site from about 15 to about 20 acres. Figure 1 of the Request, which is attached to this order, shows the revised boundary of the energy facility site.

The 500 kV switchyard would include step-up transformers, tie-in termination structures, circuit breakers, auxiliary transformers, a one story control room building, and other electrical equipment that is typical to a switchyard such as surge arrestors, disconnect

switches and bus work. The tallest structures within the switchyard will be the structures that carry the 500 kV conductors from the step-up transformers and the tie-in termination structures. These will be about 120 feet tall.

#### D.1.2. The 500 kV Meridian to Captain Jack Realignment

The 500 kV realignment involves PacifiCorp removing about an 800 foot section of the existing Meridian to Captain Jack 500 kV line and constructing a short segment of new line to interconnect with the KCP's 500 kV switchyard. To do this PacifiCorp will remove Tower #4/26 of the existing line and replace it with a new tower located about 100 feet to the southeast along the existing line's route. From this new tower, the new alignment will run southwest about 3,000 feet to the KCP 500 kV switchyard. From the switchyard the return portion of the new alignment will run northeast to a point south of existing tower #5/26 on the Meridian to Captain Jack 500 kV line. From this point the return portion of the new alignment will run north to tower # 5/26. The return distance from the KCP switchyard to the existing 500 kV line is about 3,500 feet. Figure 2 of the Request, which is attached to this order, shows the route of the 500 kV realignment.

The two new segments of the realignment will be parallel to each other for about 80 to 90 percent of their length. Where they are parallel, PacifiCorp anticipates that the total right-of-way (ROW) for both segments will be about 300 feet wide. Where the two segments are not parallel, PacifiCorp anticipates that the ROW for each segment will be about 175 feet wide. Where the realigned 500 kV line crosses PacifiCorp's existing 69 kV line, located to the north of the energy facility site, PacifiCorp will modify, if necessary, the 69 kV line by changing its routing or its pole configuration.

PacifiCorp anticipates that eight new lattice tower structures will be needed for the 500 kV realignment. The towers will be free standing metal structures similar in design and appearance to those of the Meridian to Captain Jack 500 kV line. The basic tower design may be modified as necessary according to structural requirements at particular tower sites. The towers will vary in height from about 100 to 140 feet. The 500 kV interconnection will use an overhead three-phase alternating current line. Each phase will consist of a three conductor bundle, for a total of nine conductors. The conductors will be suspended from the towers by "V" string insulator assemblies. Figure 6 of the Request, which is attached to this order, shows a typical tower configuration.

#### D.2. Amendments to the Site Certificate

The City in its Request asks that the Amended Site Certificate include five specific provisions. The Office considered these provisions in the context of the August 1997 and April 1998 Final Orders, applicable statutes and Council rules. In general, the Office believed the requested provisions were appropriate and acceptable. However, the Office recommended some changes in the organization and language of the provisions. The Office also recommended several new or modified conditions. The Council, in this order, adopts each of the conditions recommended by the Office. The conditions are discussed

in this order in the context of the appropriate Council standards or requirements. Each of the conditions, including the new and revised conditions, are shown in “Amendment Number Two to the Site Certificate for the Klamath Cogeneration Project” which is attached to this order. The City has reviewed each of the conditions and has no objection.

#### E. Compliance with Council Standards: Findings and Conclusions

OAR 345-27-070(6) sets forth the Council’s general standard for review of a request by a certificate holder for an amendment:

“In evaluating a request for an amendment under this rule, the Council shall limit its consideration to the effects which may be produced by the proposed change or addition to the site or facility described in the request for amendment. In considering those effects, the Council shall apply state statutes, administrative rules, and local government ordinances in effect on the date the amended Site Certificate is executed.”

##### E.1. General Standard of Review

The Council’s General Standard of Review, OAR 345-22-000, has not changed since the Council approved the KCP in August 1997. However, ORS Chapter 469 was amended by the 1997 Legislative Assembly (HB 3283). Under the current ORS 469.503 (1997 edition) and OAR 345-22-000 the Council must find that:

- 1) The facility complies with the standards adopted by the Council under ORS 469.503. These are discussed in section E.
- 2) If the energy facility is a fossil-fueled power plant, it complies with any applicable carbon dioxide emissions standard adopted by the Council or enacted by statute. This is discussed in Section F.
- 3) Except as provided in ORS 469.504 and OAR 345-22-030 for land use compliance, and except for those statutes and rules for which the decision on compliance has been delegated by the federal government to a state agency other than the Council, the facility complies with all other Oregon statutes and administrative rules identified by the Project Order for the KCP as applicable to the issuance of a site certificate. These are discussed in Section F.
- 4) The facility complies with the statewide planning goals adopted by the Land Conservation and Development Commission. These are discussed in Section E.

##### E.2. Organizational, Managerial and Technical Expertise

The Council’s standard on the applicant’s organization and expertise, OAR 345-22-010, has not changed since the Council approved the KCP in August 1997. The standard requires that:

- 1) The Council find that applicant has the expertise to construct and operate the facility;
- 2) If the applicant will not itself obtain a state or local permit or approval for which the Council would ordinarily determine compliance, but will rely on permit or approval that is issued to a third party, the Council must determine that the third party has, or is likely to get, the necessary permit or approval, and that the applicant has, or is likely to enter into an agreement with the third party for the resource or service secured by the permit or approval; and
- 3) If the third party does not have the necessary permit or approval, the Council may impose a condition that the site holder may not begin construction or operation, as applicable, until the third party has obtained the permit or approval and the applicant has an agreement with the third party for access to the resource or service secured by the permit or approval.

#### E.2.1. Applicant's Expertise (OAR 345-22-010(1))

The Request involves a new 500 kV switchyard and a realignment of a portion of the Meridian to Captain Jack 500 kV transmission line that is owned and operated by PacifiCorp. The City, as applicant, intends to construct, own, operate and maintain the requested 500 kV switchyard. The City intends to enter into one or more agreements with PacifiCorp, in which PacifiCorp will design, construct, own, operate and maintain the requested realignment of the Meridian to Captain Jack 500 kV line.

The City has entered into a project development agreement with Pacific Klamath Energy, Inc.(PKE) in which PKE or its affiliates will provide services needed to develop, construct and operate the KCP, including the requested new 500 kV switchyard. PKE is a wholly-owned subsidiary of PacifiCorp. PacifiCorp is an established, diversified, northwest based utility which owns and operates over 15,000 miles of transmission line systems serving 1.3 million customers in seven western states.

The Council, in its April 1998 Final Order, found that the City, through its agreement with PKE, has the expertise needed to construct and operate the KCP. Construction, operation and maintenance of the requested 500 kV switchyard does not require significantly different expertise than that required for the approved 230 kV switchyard. Thus, the findings regarding the applicant's expertise in the April 1998 Final Order remain valid.

The City intends to enter into one or more agreements with PacifiCorp, in which PacifiCorp will design, construct, own, operate and maintain the requested realignment of the Meridian to Captain Jack 500 kV line. The City and PacifiCorp also intend to enter into one or more agreements relating to the KCP interconnection to PacifiCorp's Meridian to Captain Jack 500 kV transmission system, and operation of the requested 500 kV switchyard.

For these reasons, the Council finds that the City of Klamath Falls has the necessary expertise to construct and operate the amended facility.

#### E.2.2 Third Party Services and Permits (OAR 345-22-010(2) and (3))

The requested realignment of the Meridian to Captain Jack 500 kV line to interconnect with the requested 500 kV switchyard requires that PacifiCorp obtain a conditional use permit from Klamath County. This is a third party permit.

PacifiCorp has submitted to Klamath County an application for a conditional use permit authorizing the requested realigned segment of its Meridian to Captain Jack 500 kV line.

The 500 kV realignment is located on land zoned for heavy industrial use, is entirely on property owned by Collins Products or Columbia Plywood, and is on or adjacent to land already approved by the county for the KCP energy facility or its 230 kV transmission line. The distance to the nearest residence from the location of the realignment is about 700 feet.

For these reasons, the Council finds that PacifiCorp has a reasonable likelihood of obtaining a conditional use permit for the requested realignment.

The City anticipates that Klamath County will approve the request in December 1998.

PacifiCorp is aware of, and understands that PKE has requested an amendment to the Site Certificate for the 500 kV interconnection alternative. PacifiCorp intends to design, construct, own, operate and maintain a realignment of its Meridian to Captain Jack 500 kV line as described in the Request. PacifiCorp is currently preparing a transmission interconnection agreement to the existing Meridian to Captain Jack 500 kV transmission line that will provide for the requested interconnection with the KCP. This agreement with the City will relate to the KCP's interconnection to the 500 kV transmission system and operation of the KCP's requested 500 kV switchyard (letter dated Sept. 29, 1998 from PacifiCorp to OE).

For these reasons, the Council finds that the City of Klamath Falls has a reasonable likelihood of entering into the necessary agreements with PacifiCorp regarding the interconnection of the KCP with PacifiCorp's Meridian to Captain Jack 500 kV line.

#### Recommended New Conditions

Because PacifiCorp has not obtained a conditional use permit from Klamath County and because the City and PacifiCorp have not entered into an agreement for the 500 kV interconnection, the Council adopts the following new conditions in the Amended Site Certificate:

1. The City may not begin to construct a 500 kV switchyard until PacifiCorp has obtained from Klamath County a conditional use permit to realign the Meridian to Captain Jack 500 kV transmission line as described in the Final Order on the Request for Amendment No. 2.
2. The City may not begin to construct a 500 kV switchyard until the City and PacifiCorp have entered into one or more agreements concerning the 500 kV electrical interconnection of the KCP to the Meridian to Captain Jack 500 kV transmission system and operation of the KCP 500 kV switchyard.

### Conclusion

The Council concludes that the KCP as modified by this order, subject to the conditions in the Amended Site Certificate and the conditions stated in this order, complies with OAR 345-22-010.

### E.3. Financial Assurance

The Council's Financial Assurance standard, OAR 345-22-050 has not changed since the Council approved the KCP in August 1997. The standard requires that the Council find that the applicant has a reasonable likelihood of obtaining a bond or comparable security in an amount that is adequate to pay the costs to restore the site if the certificate holder:

- 1) Begins but does not complete construction of the facility; or
- 2) Permanently closes the facility before it establishes a financial means of assuring that funds will be available to retire the facility and restore the site to a useful, non-hazardous condition.

#### E.3.1. Estimated Cost to Restore the Site

The approved KCP is a combined-cycle, combustion turbine (CT) cogeneration facility, which may use one (single CT) or two (two CT) combustion turbines. The estimated cost to retire the single CT alternative and restore the site is \$5 million in 1996 dollars. The estimated cost to retire the two CT alternative and restore the site is \$6.85 million in 1997 dollars. Both these estimates include a contingency of about 25 percent.

The requested 500 kV interconnection includes both a 500 kV switchyard and a realignment of a segment of the Meridian to Captain Jack 500 kV line. The requested amendment would increase the energy facility site by about five acres to allow for the larger 500 kV switchyard. The larger switchyard would require similar, but more, and in some cases larger, equipment than the approved 230 kV switchyard.

The requested realignment of the 500 kV line would require the removal of about 800 feet (about 0.15 miles) of the Meridian to Captain Jack line and construction of about 6,500

feet (about 1.2 miles) of new line. It would require about eight new lattice tower structures which would occupy about 0.5 acres of land. The lattice tower structures would range in height from 100 to 140 feet. In contrast, the approved 230 kV interconnecting transmission line requires construction of about 4 miles of new line. It requires about 60 transmission line structures which will occupy about 0.8 acres. These will be primarily wood pole H-frame structures (about 75 feet tall), but may also include some single pole, steel or wood, structures, (about 95 feet tall).

PacifiCorp does not intend to retire (that is remove) the realigned segment of the Meridian to Captain Jack 500 kV transmission line after the KCP is retired. PacifiCorp intends that the realignment will be permanent (letter dated Sept. 29, 1988 from PacifiCorp to OE).

PKE estimates that the incremental (increased) cost to retire and restore the larger energy facility site (due to the additional five acres and the 500 kV switchyard) will be less than the cost to retire the approved four mile 230 kV transmission line and restore its site. As a result, PKE believes the 500 kV interconnection will not increase the total estimated cost to retire and restore site (letter dated Sept. 30, 1998 from PKE to OE).

For these reasons the Council finds that the Request does not increase the estimated cost of retiring the facility and restoring the site.

#### E.3.2. Financial Instrument

The Site Certificate as amended by the Council in April 1998 requires that the City maintain a Termination Fund Amount of \$5 million in 1996 dollars if it constructs the single CT alternative, and \$6.85 million in 1997 dollars if it constructs the two CT alternative.

The Council finds that the Request does not require any change to the conditions in the Amended Site Certificate, dated April 1998.

#### Conclusion

The Council concludes that the KCP as modified by this order, subject to the conditions in the Amended Site Certificate and the conditions stated in this order, complies with OAR 345-22-050.

#### E.4. Retirement

The Council's Retirement standard, OAR 345-22-130 has not changed since the Council approved the KCP in August 1997. The standard requires that the Council find that the certificate holder can restore the site to a useful, non-hazardous condition after it retires the facility.

The Request asks for five additional acres adjacent to the energy facility site on which to construct a 500 kV switchyard. This does not change the findings of fact regarding restoration of the energy facility site in Section IV.D.3. in the August 1997 Final Order. Specifically, the requested enlarged energy facility site is still on, and surrounded by, land zoned Heavy Industrial that has been cleared of vegetation, graded and disturbed by past and current manufacturing activity. The enlarged energy facility site is still on gently sloping land and construction at the enlarged site still requires only minor grading and filling. The new switchyard would not require long-term storage or on-site disposal of hazardous wastes, or on-site disposal of non-hazardous wastes. The new switchyard would not change the type of activities needed to restore the site to a useful, non-hazardous condition.

The Request also asks to realign a short portion of the existing Meridian to Captain Jack 500 kV line to interconnect with the requested new switchyard. The entire requested realignment would be on land that is owned by Collins Products or Columbia Plywood and is zoned Heavy Industrial. Much of the land has been cleared, graded or filled. Construction of the realignment would not require extensive cutting, filling or earth moving. Neither construction nor operation would require hazardous materials or generate hazardous wastes, other than those used or generated during typical construction activities.

For these reasons the Council finds that the site can be restored to a useful, non-hazardous condition after the facility has been retired.

### Conclusion

The Council concludes that the site, as modified by this order, taking into account mitigation and subject to the conditions in the Amended Site Certificate and the conditions stated in this order, complies with OAR 345-22-130.

### E.5. Land Use

The Council's Land Use standard, OAR 345-22-030, has not changed since the Council approved the KCP in August 1997. The standard requires that the Council find that the facility complies with the statewide planning goals adopted by the Land Conservation and Development Commission.

The City as certificate holder elected to satisfy this standard by obtaining all local land use approvals from affected local governments as provided by ORS 469.504(1)(a) and OAR 345-22-030(2)(a).

The requested enlarged energy facility site (to provide a larger 500 kV switchyard) requires that the City obtain an amendment to its conditional use permit from Klamath County for the KCP energy facility (CUP 29-95). The requested realignment of a portion

of the Meridian to Captain Jack 500 kV transmission line requires that PacifiCorp obtain a separate conditional use permit from Klamath County.

The City has submitted a request to Klamath County to amend CUP 29-95. PacifiCorp has submitted a request to Klamath County for a conditional use permit to allow the realignment. The City anticipates that Klamath County will approve these requests in December 1998.

#### New Recommended Condition

Because PacifiCorp and the City have not obtained their respective county permits, the Council adopts the following new condition in the Amended Site Certificate:

1. The City may not begin to construct a 500 kV switchyard until the City has obtained from Klamath County a conditional use permit to expand the energy facility site as described in the Final Order on the Request for Amendment No. 2.

#### Conclusion

The Council concludes that the KCP as modified by this order, subject to the conditions in the Amended Site Certificate and the conditions stated in this order, complies with OAR 345-22-030.

#### E.6. Structural Standard

The Council's Structural Standard, OAR 345-22-020, has not changed since the Council approved the KCP in August 1997. The standard requires that the Council find that the applicant has adequately characterized the site in terms of seismic zone and hazards, and that the facility can be designed, engineered and constructed to avoid potential dangers to human safety given those seismic hazards.

The requested 500 kV interconnection including both the 500 kV switchyard and the 500 kV realignment does not change the findings of fact regarding geologic or seismic conditions in section IV.D.2. of the August 1997 Final Order. In that order the Council found that the predicted seismic hazards at the energy facility site are consistent with those considered in the Uniform Building Code (UBC) requirements, and that compliance with those requirements should be sufficient to avoid potential dangers to human safety posed by the seismic hazards that could affect the site. In addition, the Council found that the preliminary geotechnical and seismic evaluation did not indicate any major geologic or seismic hazard that would significantly impact the development of the KCP, and that potential impacts would be relatively minor and could be mitigated by standard geotechnical engineering practices. The requested 500 kV switchyard and requested realignment of the Meridian to Captain Jack 500 line do not require any significant change to these findings of fact.

PacifiCorp will design and construct the realigned segment of the 500 kV transmission line in conformance with the National Electric Safety Code (NESC). The code establishes standards to protect against hazards from the installation, operation and maintenance of transmission lines. PacifiCorp also intends to design and construct the realignment to comply with its own design criteria for strength and clearances. These meet or exceed the requirements of the code. PacifiCorp's transmission lines are designed to withstand heavy wind and ice loads. These loads generally exceed those forces created by seismic loads. PacifiCorp intends to design and construct the realigned segment in the same manner, and using the same type of towers, as used in PacifiCorp's existing 500 kV transmission line (letter dated Sept. 29, 1998 from PacifiCorp to OE). PacifiCorp's existing 500 kV transmission line is about 550 miles in length, and has operated safely since the early 1980s. The 500 kV line, to the best of PacifiCorp's knowledge, has not experienced any damage as a result of ground shaking from earthquakes, including the 1993 earthquakes in the Klamath Falls area. PacifiCorp or the applicant will conduct additional detailed geotechnical work to ensure that tower foundations are designed with consideration given to the specific geologic conditions. PacifiCorp or the applicant will address possible secondary effects from earthquakes, such as landslides, rock falls or ground faults, during the siting of each individual tower structure to avoid potential damage to tower structures (letter dated Sept. 30, 1998 from PKE to OE).

The City will ensure that the requested 500 kV switchyard is designed to meet the requirements of the UBC, the Oregon Structural Specialty Code, and applicable industry standards, including American Society of Civil Engineers (ASCE) 7-95 (Minimum Design Loads for Buildings and Other Structures) and Institute of Electrical and Electronics Engineers (IEEE) Standard 693 (Recommended Practices for Seismic Design of Substations). Hazards to human health and safety and the survivability of the switchyard are of primary importance in the design of the foundations, structures and buswork within the switchyard. Accordingly, the City will ensure that the equipment selected for the switchyard conforms to the performance criteria provided in IEEE 693 (letter dated Sept. 30, 1998 from PKE to OE).

The City will ensure that additional detailed geotechnical analyses are performed prior to final design of the 500 kV switchyard. This work will ensure that the foundations for the 500 kV line termination structures and major switchyard equipment are designed with consideration given to the specific geological conditions including the effects of reasonably anticipated seismic events for the energy facility site (letter dated Sept. 30, 1998 from PKE to OE).

The City will also implement an inspection and maintenance program. The program will include scheduled visual inspections of electrical connections, structural components and switchyard apparatus, and periodic testing of breakers, switches and mechanical equipment. The program will enable the City or its representative to identify and correct mechanical and structural failures that may have resulted from seismic events, or which

could result from reasonably anticipated seismic events for the energy facility site (letter dated Sept. 30, 1998 from PKE to OE).

In addition, the requested 500 kV switchyard and 500 kV line realignment are located on property owned by Collins Products or Columbia Plywood which is fenced and is not accessible to the general public without permission. The requested 500 kV realignment does not cross any public highway or waterway, and the 500 kV switchyard will be surrounded by a fence and will not be accessible to the public.

For these reasons the Council finds that the requested 500 kV switchyard and realigned segment of the Meridian to Captain Jack 500 kV transmission line can be designed and constructed to avoid dangers to human safety from seismic hazards that are expected to result from reasonably probable seismic events.

#### Recommended New Conditions

OAR 345-27-020(11) requires that a site certificate include as conditions those representations from a request for amendment and supporting record that the Council believes to be binding commitments on the part of the applicant. Therefore, the Council adopts the following new conditions in the Amended Site Certificate:

1. If the City selects the 500 kV interconnection alternative, the City shall ensure that the 500 kV switchyard is designed to meet the requirements of the Uniform Building Code, the Oregon Structural Specialty Code, and applicable industry standards, including American Society of Civil Engineers (ASCE) 7-95 (Minimum Design Loads for Buildings and Other Structures) and Institute of Electrical and Electronics Engineers (IEEE) Standard 693 (Recommended Practices for Seismic Design of Substations). The City shall ensure that the equipment selected for the 500 kV switchyard conforms to the performance criteria provided in IEEE 693. (letter dated Sept. 30, 1998 from PKE to OE)
2. If the City selects the 500 kV interconnection alternative, the City shall ensure that additional detailed geotechnical analyses are performed as necessary for the switchyard site prior to final design of the 500 kV switchyard. The City shall ensure that foundations for the 500 kV line termination structures and major switchyard equipment are designed with consideration given to the specific geological conditions including the effects of reasonably anticipated seismic events for the energy facility site. (letter dated Sept. 30, 1998 from PKE to OE)
3. If the City selects the 500 kV interconnection alternative, the City shall implement an inspection and maintenance program for the 500 kV switchyard. The program shall include scheduled visual inspections of electrical connections, structural components and switchyard apparatus, and periodic testing of breakers, switches and mechanical equipment. The program shall be designed to enable the City or its representative to identify and correct mechanical and structural failures that may have resulted from

seismic events, or which could result from reasonably anticipated seismic events for the energy facility site. (letter dated Sept. 30, 1998 from PKE to OE)

4. If the City selects the 500 kV interconnection alternative, the City shall ensure that the realigned segment of the Meridian to Captain Jack 500 kV transmission line is designed and constructed substantially as described in the third paragraph of Section E.6. of the Final Order for Amendment No. 2. (letter dated Sept. 30, 1998 from PKE to OE)

#### Conclusion

The Council concludes that the KCP as modified by this order, taking into account mitigation and subject to the conditions in the Amended Site Certificate and the conditions stated in this order, complies with OAR 345-22-020.

#### E.7. Soil Protection

The Council's Soil Protection standard, OAR 345-22-022, has not changed since the Council approved the KCP in August 1997. The standard requires that the Council find that the facility is not likely to result in a significant adverse impact to soils.

The requested 500 kV interconnection including both the 500 kV switchyard and the 500 kV realignment does not significantly change the findings of fact regarding soil protection in section IV.E.1 of the August 1997 Final Order. Specifically, it would not affect soil types or cause potential impacts to soils that were not addressed in the August 1997 Final Order. The additional five acres required for the 500 kV switchyard is land zoned heavy industrial (IH). It is on property owned by Collins Products and has been heavily disturbed by industrial activity. The location of the requested 500 kV realignment is also on land zoned heavy industrial (IH) and owned by Collins Products or Columbia Plywood. PacifiCorp estimates construction of the realignment would temporarily disturb six and one-half acres and the new tower structures would occupy a total of about one-half acre. Much of this land has been disturbed by past industrial activity. The remainder consists of an open, dry slope that supports native and introduced grasses and scattered juniper trees and does not provide unusual plant or wildlife habitat or productive timber or farm land. Moreover, construction of the requested realignment will not require large scale cut or fill activities.

For these reasons the Council finds that construction and operation of the 500 kV switchyard and the realigned portion of the 500 kV transmission line will not cause a significant adverse impact to soils.

#### Conclusion

The Council concludes that the design, construction and operation of the KCP as modified by this order, taking into account mitigation and subject to the conditions in the

Amended Site Certificate and the condition stated in this order, complies with OAR 345-22-022.

## E.8. Fish and Wildlife Habitat

The Council's Fish and Wildlife Habitat standard, OAR 345-22-060, has not changed since the Council approved the KCP in August 1997. The standard requires that the Council determine that the facility is consistent with the Oregon Department of Fish and Wildlife (ODFW) habitat mitigation goals and standards in OAR 635-415-030. OAR 635-415-030 describes four categories of habitat and their importance to fish and wildlife. The rule establishes mitigation goals and corresponding implementation standards for each habitat category.

### E.8.1. Construction-Related Impacts

The approved site for the KCP energy facility requires 15 acres of Habitat Category 4, which is habitat that is of low value to fish and wildlife. As part of the mitigation for the KCP, the Amended Site Certificate that is currently in force requires the City to provide up to \$15,000 in 1998 dollars to repair Haymaker Dike located in the Klamath Wildlife Area. The wildlife area is managed by the Oregon Department of Fish and Wildlife and is across the Klamath River from the energy facility site.

The requested 500 kV switchyard requires an additional five acres of Habitat Category 4 and increases the size of the energy facility site from 15 to 20 acres. The City in its Request proposes to increase from \$15,000 to \$20,000 (in 1998 dollars) the funds it has agreed to provide to assist the Oregon Department of Fish and Wildlife to repair Haymaker Dike at the Klamath Wildlife Area. This is consistent with the ODFW habitat mitigation goals and standards.

### Recommended Revised Condition

The City in its Request proposes to delete current Condition IV.J.5. in the Amended Site Certificate and replace it with the following:

1. "If the City selects the 230 kV interconnection alternative, the City shall, as soon as practicable after Project financing, and before the completion of construction, provide the funds necessary, not to exceed \$15,000 in 1998 dollars, to repair the Haymaker Dike located in the ODFW Klamath Wildlife Area. The City shall coordinate this funding with the ODFW."

If the City selects the 500 kV interconnection alternative, the City shall, as soon as practicable after Project financing, and before the completion of construction, provide the funds necessary, not to exceed \$20,000 in 1998 dollars, to repair the Haymaker Dike located in the ODFW Klamath Wildlife Area. The City shall coordinate this funding with the ODFW."

The Council adopt this condition in the Amended Site Certificate.

The requested 500 kV realignment would require a total of about one-half an acre of Habitat Category 3 for the new tower structures. The City, in its Request, proposes to mitigate for the loss of Category 3 habitat by creating comparable habitat or restoring lost habitat at a ratio of 1:1 as required in Condition IV.J.4. of the April 1998 Amended Site Certificate. Habitat Category 3 is habitat of high to medium value. The goal is "no net loss". The implementation, or mitigation, standard is avoidance of impact or, where that is not possible, mitigation using "in-kind" or "out-of-kind" methods that may be either on or off-site so as to achieve no net loss of the original habitat. The City's proposed mitigation is consistent with the ODFW habitat mitigation goals and standards.

#### E.8.2. Operation-related Impacts

The August 1997 and April 1998 Final Orders, each evaluate the following potential impacts that might result from operation of the KCP: noise, traffic, chemical spills, cooling tower operation, the related 230 kV transmission line, water consumption and wastewater discharge. With the exception of noise and the related transmission line, the requested 500 kV interconnection would not change these potential impacts, and does not require changing the findings of fact in Section IV.E.3 of the August 1997 Final Order or Section VI.I. of the April 1998 Final Order.

**Noise.** The requested 500 kV interconnection could result in higher noise levels at the energy facility site and immediate vicinity as a result of the larger 500 kV switchyard and the realignment of a portion Meridian to Captain Jack 500 kV line.

The energy facility site and its immediate vicinity do not support important or unusual wildlife habitat. The closest significant wildlife habitat is at the ODFW-managed Klamath Wildlife Refuge which is across the Klamath River from the energy facility site.

The primary noise sources and noise levels in the vicinity of the energy facility site are Collins Products plant operations, traffic on U.S. Highway 97, nearby railroad operations and aircraft operations associated with the Klamath Falls Airport which is about five miles from the energy facility site. Ambient noise levels at the northern edge of the Klamath Wildlife Refuge, about 700 meters or about 2300 feet from the energy facility site, range from about 48 to 54 decibels (dBA, L50), as determined during the initial review of the KCP in 1996 and 1997 (August 1997 Final Order, p.45).

PKE, as part of its Request, analyzed the noise from the energy facility with the requested 500 kV interconnection. Under dry weather conditions the L50 noise levels due to operation of the KCP are estimated to be less than 46 dBA at the Klamath Wildlife Refuge. Under wet (foggy or rainy) weather conditions the L50 noise levels are estimated to be no more than about 46.5 dBA at the nearest point in the refuge. The predicted noise levels from the energy facility site with the 500 kV interconnection are anticipated to increase the background noise levels (during the quietest background conditions) along

the closest edge of the refuge by about two to three dBA, L50. This level of increase would be barely perceptible to the human ear. Moreover, noise from the KCP would be constant rather than erratic and unpredictable. For these reasons, the Council finds that noise from the KCP with the 500 kV interconnection would not result in a significant adverse impact to wildlife or wildlife habitat.

Transmission Line. The requested 500 kV interconnection includes a realignment of a segment of the existing Meridian to Captain Jack 500 kV line to interconnect with the requested 500 kV switchyard at the energy facility site.

The 500 kV realignment would be substantially shorter than the approved 230 kV line: about 6500 feet in length compared to the approved 230 kV line which is about four miles in length.

The entire route of the realignment is in close proximity to the KCP energy facility site, and is between the energy facility site and the existing Meridian to Captain Jack 500 kV line which is about 3500 feet to the northeast of the energy facility site. The entire realignment is on land owned by Collins Products or Columbia Plywood and is zoned for heavy industrial use.

The realignment generally follows the route of a portion of the approved 230 kV line. The route of the approved 230 kV line is not within the dense fog zone or primary flyways which tend to follow the Klamath River. The ODFW reviewed the Request and indicated it found no issues that the it considered significant (ODFW Agency Response Form, Sept. 15, 1998).

For these reasons, the Council finds that the requested 500 kV interconnection alternative would not result in a significant adverse impact to fish or wildlife and is consistent with the ODFW habitat mitigation goals and standards in OAR 635-415-030.

## Conclusion

The Council concludes that the design, construction, operation and retirement of the KCP, as modified by this order, taking into account mitigation and subject to the conditions in the Amended Site Certificate and the condition stated in this order, complies with OAR 345-22-060.

### E.9. Threatened and Endangered Species

The Council's Threatened and Endangered Species standard, OAR 345-22-070, has not changed since the Council approved the KCP in August 1997. The standard requires that the Council find that:

- 1) The facility is consistent with any applicable conservation program adopted under ORS 496.172(3) (wildlife) or ORS 564.105(3) (plants); or

2) If no conservation program applies, the facility does not have the potential to significantly reduce the likelihood of the survival or recovery of any threatened or endangered species listed under ORS 496.172 or ORS 564.105.

#### E.9.1. Plants

No new species of plants that occur in the Klamath Basin have been designated as threatened or endangered by the State of Oregon under ORS 564.105 since the August 1997 Final Order (Meinke, ODA, pers. comm. to Meehan, OE, Sept. 13, 1998).

The Request does not involve construction activity or other ground disturbance of any land that was not evaluated for state-listed threatened or endangered plants during the Council's review of the approved KCP. The requested 500 kV switchyard is next to the approved energy facility site, on land that has been cleared, bulldozed and is covered by rock and debris fill material. No state-listed threatened or endangered plants were found in this area during the surveys conducted for the KCP in 1995. The route of the requested 500 kV realignment is on, crosses, or is near the approved route for the 230 kV line. No state-listed threatened or endangered plants were found along the transmission line route during surveys in 1995. Therefore, the Request does not require changing the finding of fact regarding state-listed threatened or endangered plants in Section IV.E.4. of the Council's August 1997 Final Order.

#### E.9.2. Wildlife

No new species of wildlife that occur in the Klamath Basin have been designated as threatened or endangered by the State of Oregon under ORS 496.172 since the August 1997 Final Order (Nugent, ODFW, pers. comm. to Meehan, OE, Sept. 10, 1998).

Four species of state-listed threatened or endangered wildlife are known to occur in the facility area: bald eagle (*Haliaeetus leucocephalus*), American peregrine falcon (*Falco peregrinus anatum*), shortnose sucker (*Chamistes brevirostris*) and Lost River sucker (*Deltistes luxatus*). There is no state conservation program for any of these species (August 1997 Final Order).

The Request does not involve any disturbance to wetlands or to the Klamath River. It does not change the operation of the KCP, including the KCP's water requirements or wastewater discharge. Thus, it does not require any change to the findings of fact in Section IV.E.4. of the August 1997 Final Order or in Section VI.J. of the April 1998 Final Order regarding the shortnose sucker or the Lost River sucker.

The Request does not affect important bald eagle or peregrine falcon habitat. Predicted noise levels from KCP operation with the 500 kV interconnection are slightly higher than those with the 230 kV interconnection. However, they are still within the range of current ambient levels and would be barely perceptible to the human ear across the Klamath River at the Klamath Wildlife Refuge. It is unlikely this small increase, especially as it

would be essentially constant, would adversely affect bald eagle or peregrine falcon use of the facility area. The 500 kV realignment requires taller tower structures than the 230 kV line. However, the 500 kV realignment would be located in the same area as the approved route of the 230 kV line. This route was selected in consultation with the ODFW biologists to reduce the likelihood of avian collisions by routing the line away from high use areas and areas with heavy fog which tend to occur along the Klamath River. Moreover, the 500 kV alternative is substantially shorter than the 230 kV alternative (6500 feet compared to about four miles). The ODFW reviewed the Request and indicated it found no issues that the agency considered significant (ODFW Agency Response Form, Sept. 15, 1998).

For these reasons the Council finds the 500 kV interconnection alternative will not result in a significant adverse impact to any state-listed threatened or endangered species.

#### Recommended Revised Condition

General Condition IV. A. 15 in the Amended Site Certificate requires that the approved 230 kV transmission line “incorporate design features to prevent electrocution of raptors.” This provision is also appropriate for and should apply to the requested 500 kV realignment. Therefore, the Council adopts the following condition in the Amended Site Certificate:

1. If the City selects the 500 kV interconnection alternative, the City shall ensure that the realigned segment of the Meridian to Captain Jack 500 kV transmission line incorporates design features to prevent electrocution of raptors, such as those recommended in “Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 1996” (Avian Power Line Interaction Committee. 1996. Edison Electric Institute/Raptor Research Foundation, Washington, D.C.).

#### Conclusion

The Council concludes that no conservation program applies and conclude that the design, construction, operation and retirement of the KCP as modified by this order, taking into account mitigation and subject to the conditions in the Amended Site Certificate and the conditions stated in this order, complies with OAR 345-022-070.

#### E.10. Scenic and Aesthetic Values

The Council’s Scenic and Aesthetic Values standard, OAR 345-22-080, has not changed since the Council approved the KCP in August 1997. The standard requires that the Council find the facility is not likely to result in significant adverse impact to scenic and aesthetic values identified as significant or important in a federal land management plan or a local land use plan for the site or its vicinity.

The August 1997 Final Order identifies the City of Klamath Falls' comprehensive land use plan, Klamath County's comprehensive land use plan , and a number of federal land management plans as the applicable plans for this standard. The City's plan identifies Moore Mountain and six other scenic vantage points that are all located in the downtown area, as important. The county plan does not identify any scenic or aesthetic values that are applicable to the KCP. The federal land management plans are for lands that are generally 15 or more miles from the energy facility site. The closest lands are the Bear Valley National Wildlife Refuge which is about 10 miles southwest of the site, and the Lower Klamath Wildlife Refuge which is about 10 miles south of the site.

The Request asks for a larger 500 kV switchyard and the realignment of a portion of the Meridian to Captain Jack 500 kV transmission line. The switchyard would increase the size of the energy facility site from 15 to 20 acres. It would also include structures, such as 500 kV tie-in termination structures, that are taller than those in the approved 230 kV switchyard. However, for the reasons below, the Council finds that these would not result in significant adverse impact to important scenic or aesthetic values.

The realignment would require about eight new lattice towers structures that would range from 100 to 140 feet above the ground. These structures would be taller than those in the approved 230 kV transmission line which are about 75 to 95 feet all. However, the Council finds that these would not result in a significant adverse impact to important scenic or aesthetic values for the reasons below.

First, the requested changes would have a small incremental change on the visible character of the approved facility. The approved energy facility includes one or two emission stacks that are about 150 feet tall, an auxiliary boiler exhaust stack that is about 125 feet tall, and one or two heat recovery steam generators that are about 110 feet tall. The entire realigned portion of the 500 kV line will be in close proximity (within 3500 feet) to the approved energy facility. The new tower structures will be the same basic design and appearance as those in the existing Meridian to Captain Jack 500 kV line that runs along a ridge about 3500 feet north of the energy facility site. The 500 kV realignment is shorter than the approved 230kV line, which is about four miles long. The requested changes would have no effect on the size, shape or frequency of the cooling tower plume, which is likely to be the most visible feature of the facility from a distance.

Second, the energy facility site and the entire realignment would be on, and surrounded by, land zoned Heavy Industrial (IH) which is owned by Collins Products or Columbia Plywood and used for manufacturing wood products. The energy facility site is within about one-half mile of Collins' manufacturing facilities to the west, and those of Columbia Plywood to the northeast. The realignment would be located between the existing Collins and Columbia facilities. Moreover, the majority of the realignment would be on ground that is downslope from the existing Meridian to Captain Jack 500 kV line which passes to the north of the energy facility site.

Third, the site of the switchyard and the realignment is about three and one-half miles from Moore Mountain and over four miles to each of the other scenic vantage points identified in the City's plan. The site is not clearly visible from Moore Mountain due to intervening topography. The facility, including the larger 500 kV switchyard and realigned portion of the 500 kV line, would not result in significant adverse impact to views of areas such as Mt. Shasta to the southwest, Stukel Mountain to the southeast, Hogback Mountain and Basin View Ridgeline to the northeast or the Cascade Mountains to the west. Likewise, the requested changes would have an insignificant effect on scenic or aesthetic values on federal lands because the energy facility site is not clearly visible from federal lands due to its distance and the intervening topography.

#### Recommended Revised Condition

General Condition IV. A. 15 in the Amended Site Certificate requires that the approved 230 kV transmission line use steel pole structures with a non-reflective surface. This provision is also appropriate for and should apply to the requested 500 kV realignment. Therefore, the Council adopts the following condition in the Amended Site Certificate:

1. If the City selects the 500 kV interconnection alternative, the City shall ensure that the realigned segment of the Meridian to Captain Jack 500 kV transmission line utilizes lattice tower structures with a dull surface to reduce reflectivity.

#### Conclusion

The Council concludes that conclude that the design, construction, operation and retirement of the KCP as modified by this order, taking into account mitigation and subject to the conditions in the Amended Site Certificate, and the conditions stated in this order, complies with OAR 345-022-080.

#### E.11. Historic, Cultural and Archaeological Resources

The Council's Historic, Cultural and Archaeological Resources standard, OAR 345-22-090, has not changed since the Council approved the KCP in August 1997. The standard requires that the Council find that facility is not likely to result in significant adverse impact to sites that have been listed on, or would likely be listed on the National Register of Historic Places, or to archaeological sites or objects as defined in ORS 358.905.

The Request does not involve construction activity or other ground disturbance of any land that was not evaluated for cultural resources during the Council's review of the approved KCP. The requested 500 kV switchyard is next to the approved energy facility site, on land that has been cleared, bulldozed and is covered by rock and debris fill material. No archaeological objects were found in this area during the cultural surveys conducted for the KCP in 1995. The route of the requested realignment is on, crosses, or is next to, the approved route for the 230 kV line. No archaeological objects or sites were found along this part of the transmission line route during surveys in 1995. Likewise, no

prehistoric (Native American or tribal) cultural resources were found at the energy facility site area or along the approved 230 kV transmission line route during the 1995 investigations. The Request does not require changing the findings of fact regarding historic, cultural or archaeological resources in Section IV.E.6. of the Council's August 1997 Final Order.

For these reasons, the Council finds the 500 kV interconnection alternative will not result in a significant adverse impact to historic, cultural or archaeological resources.

#### Conclusion

The Council concludes that the construction, operation and retirement of the KCP as modified by this order, taking into account mitigation and subject to the conditions in the Amended Site Certificate and the conditions stated in this order, complies with OAR 345-022-090.

#### E.12. Recreation

The Council's Recreation standard, OAR 345-22-100, has not changed since the Council approved the KCP in August 1997. The standard requires that the Council find that the facility is not likely to result in a significant adverse impact to important recreational opportunities in the impact area.

The Request does not change the recreation opportunities in the impact area. It does not change the type or magnitude of potential impacts to recreation that were considered in the August 1997 Final Order. The estimated duration of construction (27 months) would remain the same as that evaluated in the August 1997 and April 1998 Final Orders. The estimated average and maximum workforce levels for construction increase by up to 10 and 25 direct workers, respectively, from those evaluated in the Final Orders. The estimated operation workforce remains the same as that evaluated in the Final Orders. Traffic impacts associated with construction and operation would remain about the same as that evaluated in the Final Orders. Construction activities for the requested 500 kV realignment would be limited to the vicinity of the energy facility site and would take place entirely on land owned by Collins Products or Columbia Plywood rather than along the four mile route of the approved 230 kV line. Predicted noise levels from project operation increase slightly. However, they would remain insignificant at important recreation sites such as Moore Park or the OC&E Rail Trail due to their distances from the energy facility site.

#### Conclusion

The Council concludes that the design, construction and operation of the KCP as modified by this order, taking into account mitigation and subject to the conditions in the Amended Site Certificate and the conditions stated in this order, complies with OAR 345-022-100.

### E.13. Socio-Economic Impacts

The Council's Socio-Economic Impacts standard, OAR 345-22-110, has not changed since the Council approved the KCP in August 1997. The standard requires that the Council find that the facility is not likely to result in significant adverse impact to the ability of communities in the study area to provide sewers and sewage treatment, water, stormwater drainage, solid waste management, housing, traffic safety, police and fire protection, health care and schools.

The Request does not change the study area, communities within the study area, the duration of construction, the size of the operation workforce, or the manner in which the energy facility will operate.

The Request may require an increase in the maximum number of direct construction workers during periods of peak construction by up to 25 workers (from 250 for the approved facility with a 230 kV interconnection to 275 for the 500 kV interconnection). The Request may also increase the average number of direct construction workers by up to 10 workers (from 110 for the 230 kV interconnection to 120 for the 500 kV interconnection)(letter dated Sept. 30, 1998 from PKE to OE). These revised estimates in the construction workforce result in an estimated increase in the population of Klamath County, during construction, by about 185 to 229 people (compared to about 168 to 208 people for the approved 230 kV alternative). This is about one percent of the population of the City of Klamath Falls, and less than one-half of one percent of the population of Klamath County.

These changes in construction workforce do not materially change the impacts considered by the Council in its August 1997 or April 1998 Final Orders or require significant change to the findings of fact regarding socio-economic impacts in Section IV.E.8. or Section VI. N. of these orders, respectively.

### Conclusion

The Council concludes that the construction and operation of the KCP as modified by this order, taking into account mitigation and subject to the conditions in the Amended Site Certificate and the conditions stated in this order, complies with OAR 345-022-110.

### E.14. Waste Minimization

The Council's Waste Minimization standard, OAR 345-22-120, has not changed since the Council approved the KCP in August 1997. The standard requires that the Council find that: 1) the site holder, to the extent reasonably practicable, shall minimize the generation of solid waste and wastewater from the facility, and recycle and reuse such wastes; and 2) the accumulation, storage, disposal and transportation of waste from the facility shall have minimal adverse impact on surrounding and adjacent areas.

The Request will not significantly change the need for, or types of, materials required during construction or operation. It will not significantly change the amount or types of waste generated during construction or operation, or the manner in which wastes are managed or disposed.

For these reasons, the findings of fact and conclusions of law in Section IV.E.9. of the Council's August 1997 Final Order are not affected and remain the same.

#### Conclusion

The Council conclude that the construction, operation and retirement of the KCP as modified by this order, taking into account mitigation and subject to the conditions in the Amended Site Certificate and the conditions stated in this order, complies with OAR 345-022-120.

#### E.15. Protected Areas

The Council's Protected Areas standard, OAR 345-22-040, has not changed since the Council approved the KCP in August 1997. The standard prohibits a facility from being built in a "protected area" as set forth in the standard. The standard further requires that the Council find that a facility proposed to be built outside a protected area is not likely to result in significant adverse impact to a protected area.

The August 1997 Final Order lists ten protected areas within a 20-mile radius of the energy facility site. The closest of these is the ODFW-managed Klamath Wildlife Refuge which is across the Klamath River from the energy facility site. The next nearest protected area is Oregon State University's Klamath Experiment Station which is about two and one-half miles to the east of the energy facility site. The remaining protected areas are each more than six miles from the energy facility site.

The August 1997 and April 1998 Final Orders each evaluate the following potential impacts that might result from construction or operation of the KCP: noise; traffic; visual impacts from air emissions; visual impacts and salt drift from cooling tower operation; consumptive water use; and wastewater discharge. With the exception of noise, the requested 500 kV interconnection would not change these potential impacts, and does not require changing the findings of fact in Section IV.E.2 of the August 1997 Final Order or Section VI.H. of the April 1998 Final Order.

Noise. The requested 500 kV interconnection could result in higher noise levels at the energy facility site and immediate vicinity as a result of the larger 500 kV switchyard and the realignment of a segment of the Meridian to Captain Jack 500 kV line.

The primary noise sources and noise levels in the vicinity of the energy facility site are Collins Products' plant operations, traffic on U.S. Highway 97, nearby railroad operations and aircraft operations associated with the Klamath Falls Airport which is about five

miles from the energy facility site. Ambient noise levels at the northern edge of the Klamath Wildlife Refuge, about 700 meters or about 2300 feet from the energy facility site, range from about 48 to 54 decibels (dBA, L50), as determined during the initial review of the KCP in 1996 and 1997 (August 1997 Final Order, p. 45).

PKE, as part of its Request, analyzed the noise from the energy facility with the requested 500 kV interconnection. Under dry weather conditions the L50 noise levels due to operation of the KCP are estimated to be less than 46 dBA at the Klamath Wildlife Refuge. Under wet (foggy or rainy) weather conditions the L50 noise levels are estimated to be no more than about 46.5 dBA at the nearest point in the refuge. The predicted noise levels from the energy facility site with the 500 kV interconnection are anticipated to increase the background noise levels (during the quietest background conditions) along the closest edge of the refuge by about two to three dBA, L50. This level of increase would be barely perceptible to the human ear. Moreover, noise from the KCP would be constant rather than erratic and unpredictable.

For these reasons, the Council finds that noise from the KCP with the 500 kV interconnection would not result in a significant adverse impact to the Klamath Wildlife Refuge or to any other protected area, all of which are more distant.

## Conclusion

The Council concludes that the KCP as modified by this order is not located in a protected area as defined in OAR 345-022-040(1), and that the design, construction and operation of the KCP as modified by this order, taking into account mitigation and subject to the conditions in the Amended Site Certificate and the conditions stated in this order, complies with OAR 345-022-040.

## F. Compliance with Other Applicable Requirements: Findings and Conclusions

### F.1. Requirements Under Council Jurisdiction

Under ORS 469.503(3), the Council must determine that a proposed facility “complies with all other Oregon statutes and administrative rules identified in the project order, as amended, as applicable to the issuance of a site certificate for the proposed facility.”

Applicable Oregon statutes and administrative rules identified in the project order which are not addressed elsewhere in this Order are: Department of Environmental Quality (DEQ) noise control regulations; Division of State Lands (DSL) regulations for disturbance to wetlands; Water Resources Department (WRD) regulations for appropriating groundwater; Council statutory authority to consider protection of public health and safety; and the statutory standard for carbon dioxide emissions from fossil-fueled power plants.

#### F.1.1. Noise (OAR 340-35-035)

The applicable noise requirements, OAR 340-35-035(1)(b), have not changed since the Council approved the KCP in August 1997.

The requirements set maximum daytime and nighttime noise levels (L50), as measured at residential receptors, of 55 dBA and 50 dBA, respectively.

The nearest noise sensitive receptors have not changed since the Council approved the KCP in August 1997. They are the residences in West Klamath, the nearest of which is about 700 feet from the proposed route of the 500 kV transmission line realignment.

The primary noise sources and noise levels in the vicinity of the energy facility site are Collins Products' plant operations, traffic on U.S. Highway 97, nearby railroad operations and aircraft operations associated with the Klamath Falls Airport which is about five miles from the energy facility site. Ambient noise levels at the nearest sensitive residential property, as determined during the Council's initial review of the KCP in 1996 and 1997 ranged from about 46 to 58 dBA (L10) and 43 to 55 dBA (L50).

The amended facility would allow a 500 kV interconnection as an alternative to the approved 230 kV electrical interconnection. The 500 kV interconnection would include a larger, 500 kV electrical switchyard on the west end of the energy facility site and realignment of a portion the existing Meridian to Captain Jack 500 kV line. PKE, as part of its Request, analyzed the noise from the energy facility with the requested 500 kV interconnection.

Under dry weather conditions the L50 noise levels are estimated to be less than 46 dBA at the nearest residence in West Klamath. Under wet (foggy or rainy) weather conditions the L50 noise levels are estimated to be about 49.5 dBA at the nearest residence in West Klamath. These noise levels are within the limits set by the applicable regulations.

#### Recommended Revised Condition

Noise Condition 6, Section IV. Q. of the Amended Site Certificate, requires that the "City shall design, construct and operate the 230 kV transmission line so as to comply with applicable noise regulations in OAR 340-035-035(1)(b)." This provision is also appropriate for and should apply to the requested 500 kV realignment. Therefore, the Council adopts the following condition in the Amended Site Certificate:

1. If the City selects the 500 kV interconnection alternative, the City shall ensure that the realigned segment of the Meridian to Captain Jack 500 kV transmission line is designed and constructed so as to comply with the applicable noise regulations in OAR 340-35-035(1)(b).

## Conclusion

The Council concludes that the KCP, as modified by this order, taking into account mitigation and subject to the conditions in the Amended Site Certificate and the conditions stated in this order, complies with applicable noise control standards in OAR 340-35-035(1)(b).

### F.1.2. Wetlands (ORS 196.800 to 196.990)

No wetlands occur on or near the proposed energy facility site, or on or near the proposed route of the realigned portion of the Meridian to Captain Jack 500 kV line. The nearest wetland is about one-quarter mile to the southeast of the energy facility site near the Klamath River. Neither construction or operation of the requested 500 kV switchyard or 500 kV line realignment would require removal of material from, filling, or alteration of a wetland.

## Conclusion

The Council concludes that the KCP, as modified by this order, does not require a state Removal-Fill Permit.

### F.1.3. Water Rights (ORS 537.505 to 537.796)

The Request does not require any change to the findings of fact regarding water rights in Section V.A.3. of the 1997 Final Order. The Request does not change the amount of steam that the KCP must provide to off-site industrial use, the location at which the KCP will make the steam, the source of water to make steam, the amount of water that will be required, or the amount of condensed steam and make-up water that Collins will provide to the KCP to make steam.

## Conclusion

The Council concludes that the KCP, as modified by this order, taking into account and subject to the conditions in the Amended Site Certificate, continues to comply with the Ground Water Act of 1955 and the applicable rules of the Water Resources Department.

### F.1.4. Public Health and Safety (ORS 469.310; 469.401(2))

The Council's authority and responsibility regarding public health and safety have not changed since the Council approved the KCP in August 1997. The August 1997 Final Order and the April 1998 Final Order address three areas of public health and safety: 1) potential hazards from cooling tower fogging and icing; 2) potential health hazards from the reuse of wastewater in the cooling tower; and 3) potential health effects from electric and magnetic fields.

The Request does not affect the operation of the KCP's cooling tower. Therefore, the Request does not require any changes to the findings of fact regarding cooling tower fogging, icing or wastewater reuse in Section V.A.4. of the August 1997 Final Order or in Section VII.A.4. of the April 1998 Final Order.

The Request asks for a 500 kV electrical interconnection as an alternative to the approved 230 kV interconnection. In its Request, the City re-evaluated the expected electric and magnetic fields that would result from the requested 500 kV interconnection.

The Council's standard for electric fields has not changed since the Council approved the KCP in August 1997. The standard is nine kilovolts (kV) per meter in areas that are accessible to the public (OAR 345-24-090(2)).

The estimated maximum electric field associated with the 500 kV interconnection is about 7.4 kV per meter. This level would occur within the right-of-way of the realigned portion of the Meridian to Captain Jack 500 kV line. The estimated field at the edge of the realigned portion of the right-of-way is about 2.5 kV per meter (150 feet from the center of the right-of-way and 87.5 feet from the centerline of each of two segments of the realigned transmission line)(Request, Figure 7; Ferris, PacifiCorp, pers. comm. to Meehan, OE, Sept. 10, 1998). These levels are within the Council's standard.

The Council has not adopted a standard for magnetic field levels for electric transmission lines under its jurisdiction. However, the Council has adopted a policy that transmission lines under its jurisdiction should use appropriate measures to reduce or manage public exposure to magnetic fields from such lines (see Section V.A.4, August 1997 Final Order and Section VII.A.4, April 1998 Final Order).

The proposed realignment is entirely on property that is owned by Collins Products or Columbia Plywood, is zoned Heavy Industrial and has restricted public access. It does not cross any public highway, waterway or other land with unrestricted public access. The nearest residence is in West Klamath and is about 700 feet from the proposed location of the realignment.

For these reasons, the Council finds that the requested 500 kV interconnection is consistent with the Council's policy on exposure to magnetic fields.

## Conclusion

The Council concludes that the KCP, as modified by this order, taking into account and subject to the conditions in the Amended Site Certificate and the conditions stated in this order, is consistent with the protection of public health and safety.

#### F.1.5. Carbon Dioxide Emissions (ORS 469.503(2))

ORS 469.503, as revised by the 1997 legislature, requires that in order to issue a site certificate the Council must conclude that "... (2) If the energy facility is a fossil-fueled power plant, the energy facility complies with any applicable carbon dioxide emissions standard adopted by the council or enacted by statute."

The approved KCP is a fossil-fueled power plant because it will burn natural gas as fuel. The Council has previously determined that the KCP complies with ORS 469.503(2) in its August 1997 Final Order (Section IV.B.) and its April 1998 Final Order (Section V.).

The Request does not affect the generation capacity of the KCP, the type or amount of fuel that it would consume, or the carbon dioxide emissions that it would produce. The Request does not require any changes to the findings of fact in either Final Order that were the basis of the Council's determination that the KCP complies with ORS 469.503(2).

#### Conclusion

The Council concludes that the KCP, as modified by this Order, taking into account and subject to the conditions in the Amended Site Certificate, complies with ORS 469.503(2).

#### F.2. Requirements Which Are Not Under Council Jurisdiction

Under ORS 469.503(3), the Council does not have jurisdiction for determining compliance for those statutes and rules for which the decision on compliance has been delegated by the federal government to a state agency other than the Council. In its August 1997 Final Order, the Council concluded that certain programs are not within its jurisdiction because they are federally delegated programs. The Request does not require any change to this conclusion. Each of those programs is still a federally delegated program.

Under ORS 469.401(4), the Council does not have jurisdiction for determining compliance with state and local government programs that address design-specific construction or operating standards and practices that do not relate to siting. In its August 1997 Final Order, the Council concluded that, for the KCP, certain state and local government programs are not within its jurisdiction because the programs address design-specific construction or operating standards and practices that do not relate to siting. The Request does not require any change to this conclusion.

#### G. General Conclusion

In order to issue or amend a site certificate, the Council must determine that the preponderance of the evidence on the record supports the following conclusions (ORS 469.503):

“(1) The facility complies with the standards adopted by the council pursuant to ORS 469.501...”

“(2) If the energy facility is a fossil-fueled power plant, the energy facility complies with any applicable carbon dioxide emissions standard adopted by the council or enacted by statute...”

“(3) ...the facility complies with all other Oregon statutes and administrative rules identified in the project order, as amended, as applicable to the issuance of a site certificate for the proposed facility...”

“(4) The facility complies with the statewide planning goals adopted by the Land Conservation and Development Commission.”

Based on the findings of fact, reasoning and conclusions of law in this order, the Council concludes that these requirements are met, and that the Council should amend the Amended Site Certificate for the Klamath Cogeneration Project, as described in this order.

#### H. Order

The Council therefore approves an amendment as described in this order and directs its chairperson to execute “Amendment Number Two to the Site Certificate for the Klamath Cogeneration Project” which is attached to this order.

Issued this 17 day of December, 1998.

By Terry Edvalson  
Terry Edvalson, Chair  
Energy Facility Siting Council

#### Notice of Right to Request Judicial Review

Any party to the contested case proceeding on this site certificate amendment request may appeal the Council’s decision on this matter. Judicial review may be obtained by filing a petition for review with the Oregon Supreme Court within 60 days after the date of service of this order. Judicial review shall be as provided in ORS 469.403.