BEFORE THE ENERGY FACILITY SITING COUNCIL
OF THE
STATE OF OREGON

IN THE MATTER OF THE APPLICATION	**)**	
FOR A SITE CERTIFICATE FOR THE	**)**	**FINAL ORDER**
PORT WESTWARD GENERATING PROJECT	**)**	

ISSUED BY

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FINAL ORDER
PORT WESTWARD GENERATING PROJECT

A. INTRODUCTION

The Oregon Energy Facility Siting Council (the "Council") issues this Final Order ("Order") pursuant to Oregon Revised Statutes ("ORS") 469.370. This Order addresses the Application for a Site Certificate ("ASC" or "application") for the construction and operation of a proposed natural gas-fired combustion turbine/combined-cycle energy facility. The net electric power output of the energy facility would be about 560 megawatts ("MW"). It would use power augmentation, i.e., duct burning, that would allow it to achieve a net electric power output of about 650 MW for a limited number of hours annually. The facility is located in Columbia County about seven miles by road northeast of the City of Clatskanie, Oregon. The proposed facility is known as the Port Westward Generating Project ("PWGP" or "Project").

Portland General Electric Company ("PGE") submitted the application. PGE, an Oregon corporation, is a wholly-owned subsidiary of Enron Corp.

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

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

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

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

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

The Council reviewed the application and the comments of reviewing agencies and affected local governments and tribes identified in accordance with Oregon Administrative Rules ("OAR") 345-021-0050. It also reviewed public comments.

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

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

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

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

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

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

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

B. PROCEDURAL HISTORY

2001

- February 28, the Office Of Energy ("Office") received a Notice of Intent ("NOI") from PGE
- March 16, the Office mailed notice to public of the NOI
- April 2, the Office held an information meeting on the NOI in Clatskanie, Oregon
- April 30, close of comment on the NOI
- June 28, the Office issued a Project Order
- August 2, the Council appointed Columbia County to a Special Advisory Group ("SAG")
- August 16, the Office received an ASC
- August 29-31, PGE distributed the ASC, with cover letter from the Office
- September 14, the Council appointed the City of Rainier to the SAG
- September 24, close of public and agency comment on completeness

- October 5, the Office notified PGE that the ASC was not complete
- November 5, the Office issued the First Amended Project Order

2002

- March 26, PGE submitted a revised ASC in response to information requests from the Office, followed by additional materials
- April 11, the Office filed the complete ASC
- April 12, PGE distributed the filed ASC to agencies, with a cover letter from the Office, which stated that close of comment would be May 24
- April 12, the Office mailed public notice of the filed ASC and its request for comments by May 24
- April 12, the Office mailed the filed ASC to the Council
- April 15, the Office mailed notice of the filed ASC to an updated list of property owners
- April 15, PGE distributed the filed ASC to Columbia County, City of Rainier, and local libraries
- April 15, the Office distributed the filed ASC to the Council
- April 15, the Office published notice of the filed ASC in "The [Longview] Daily News"
- April 17, the Office published notice of the filed ASC in the "St. Helens Chronicle"
- April 18, the Office published notice of the filed ASC in the "Clatskanie Chief"
- April 25, PGE provided Appendix J-5, the wetland delineation for the "southern option" for the BPA Allston Substation to the Trojan Nuclear Plant ("Trojan") corridor
- May 8, PGE updated the list of names of property owners for Exhibit F
- May 8, the Office mailed notice of the filed ASC to additional property owners with an extended close of comment date of June 3
- May 29, the Office sent Appendix J-5 to the Council
- June 6, the Office received a Revised Appendix J-3
- June 6, the Office sent revisions of Appendix J-3 to the Council
- June 12, the Office sent revisions of Appendix J-3 and PGE's responses to information request no. 7 to the public libraries for inclusion with the ASC available to the public
- June 26, the Office published the Draft Proposed Order
- June 28, the Office submitted notice of the Draft Proposed Order and public hearing to the "The Daily News," the "St. Helens Chronicle," and the "Clatskanie Chief"
- July 1, the Office posted the Draft Proposed Order and notice of the public hearing on its web site
- July 1 and 2, the Office mailed notice of the public hearing on the Draft Proposed Order to the appropriate mailing lists
- July 8, "The Daily News" published notice of the Draft Proposed Order and public hearing
- July 10, the "St. Helens Chronicle" published notice of the Draft Proposed Order and public hearing
- July 11, "The Clatskanie Chief" published notice of the Draft Proposed Order and public hearing.
- July 12, the Council appointed Jeffrey Chicoine as hearing officer
- August 1, the hearing officer held a public hearing on Draft Proposed Order in Clatskanie
- August 16, the Council reviewed the Draft Proposed Order at its meeting in Portland

- August 23, the Office published the Proposed Order
- August 26, the Office sent the Proposed Order and notice of the contested case to all persons who appeared in person or in writing at the public hearing
- September 8 and 9, three individuals submitted petitions for party status
- September 17, the hearing officer held a pre-hearing conference for the contested case proceeding
- September 18, the hearing officer issued a pre-hearing order for the contested case proceeding
- October 14, the hearing officer held a contested case hearing
- October 18, the hearing officer issued his Proposed Order and transferred his original record of the contested case proceeding to the Executive Secretary of the Council
- October 23, Mr. Otto Moosburner mailed exceptions to the Hearing Officer's Proposed Order
- October 24, the hearing officer issued a Corrected Hearing Officer's Proposed Order to correct an editing error
- October 29, the hearing officer issued a notice of argument
- November 1, PGE responded to Mr. Moosburner's exceptions and the Office joined in PGE's response
- November 5, the hearing officer issued the Hearing Officer's Comments on Exceptions
- November 8, the Council heard oral argument and adopted the Corrected Hearing Officer's Proposed Order and Comments on Exceptions and approved the ASC

B.1 COMMENTS ON APPLICATION

The following discussion groups comments by those submitted by the general public and those submitted by state or local government agencies.

Public Comments

Mr. Donald Edmondson. In a letter dated May 21, 2002, Mr. Edmondson identified himself as a landowner along one of the proposed rights-of-way from the BPA Allston Substation to Trojan. He commented on several issues, particularly as they related to the corridor identified as Alternate 4 (also "Alignment 4") between the BPA Allston Substation and its intersection with the Alignment 1 corridor to Trojan. He opposed construction of the transmission line on his property and recommended other routes as having less environmental impact. He stated that one alternative corridor would cross the South Fork of Beaver Creek on his property. He was concerned about damage to wetlands and wildlife habitat and about the removal of trees. He mentioned the possibility of damage to endangered species in the area, but did not identify the species or where they were located relate to the proposed line.

He asked that the Council consider routes other than Alternate 4. However, the Council must determine whether proposed alternatives meet its standards. For those alternatives that meet its standards, it does not choose among them. The certificate holder chooses the final corridor from among those authorized.

The Order addresses wetland, fish and wildlife habitat, and threatened and endangered species for all proposed corridors. The Council finds that PGE would meet the Council's standards on

all issues that Mr. Edmondson raised. PGE has considered and proposed other alternate routes, as Mr. Edmondson requested. As indicated in a letter dated June 7, 2002, from PGE's attorney, Mr. Richard Allan, PGE proposed Alternate 4 after discussion with the Bonneville Power Administration ("BPA") about interconnection of the Summit/Westward Project (the "Summit Project") with the BPA Allston Substation and the continuation of PWGP's line from the BPA Allston Substation to Trojan.

Mr. Edmondson mentioned practices of other companies in maintaining rights-of-way. PGE is the sole applicant. The Council does not consider practices of other companies in maintaining similar properties. Furthermore, the Council imposes conditions on the construction and operation of the transmission line. The Council finds that Alternate 4 (Alignment 4) is an appropriate corridor, as discussed elsewhere in this Order in relation to specific standards.

Twenty-five Washington Petitioners from Washington ("Washington Petitioners"). In a letter dated May 17, 2002, the Washington Petitioners stated that they live on the Washington side of the Columbia River within 1.75 miles of the proposed facility and that most are within sight of the proposed facility. They are concerned about noise. They noted that in addition to the proposed PWGP, there are already two other generating plants nearby and another energy facility proposed; and, they were concerned about the cumulative effects of noise from the four facilities.

Washington Petitioners noted that PGE owns two of the facilities and is proposing to construct and operate PWGP. They ask the Council to regulate all three PGE facilities for noise and to impose a year of continuous noise monitoring. They also stated that the PWGP analysis only addresses PWGP without consideration of the other two PGE facilities.

Washington Petitioners raise two issues: (1) the scope of Council regulation of other facilities and (2) PWGP's compliance with noise regulations. The Council does not have authority to regulate either the Beaver Generating Plant ("Beaver") or the 24.9 MW generating plant ("Beaver 8") adjacent to it. ORS 469.320(2)(a) exempts Beaver from Council jurisdiction unless it increases its fuel use. Likewise, Beaver 8 is smaller than the threshold for Council jurisdiction. Therefore, the Council cannot impose conditions on the operation of those facilities in this Order.

In the case of Beaver, that plant was in operation on its site prior to January 1, 1975, so the noise radiating from the plant is regulated by the Department of Environmental Quality ("DEQ") noise control regulation for an existing noise source ("the maximum allowable noise rule"). In the case of Beaver 8, PGE constructed that plant on the same site occupied by Beaver, so Beaver 8, under the DEQ noise control regulation, would be considered a new noise source located on a "previously used" industrial site. It also would be regulated by the "maximum allowable noise rule."

Under OAR 340-035-0035(1)(B), a new noise source is not allowed to generate noise levels that increase the ambient noise levels more than 10 dBA nor to exceed the maximum allowable noise levels. In effect, the more restrictive limit of the two is the limit that controls the noise source. OAR 340-035-0035(1)(B) is often referred to as the "ambient noise degradation rule."

In the case of PWGP, the energy facility will be located on a site that has not been used by an industrial or commercial noise source within the last 20 years. It will be regulated by the "ambient noise degradation rule" or the "maximum allowable noise rule," whichever is more restrictive.

The noise study PGE conducted for PWGP included an ambient noise degradation study. The ambient noise levels measured during the ambient noise degradation study included noise from Beaver and, in effect, noise from Beaver 8, because the noise study showed that the noise from Beaver 8 is too low to influence the ambient noise levels at receivers in Washington. The noise study showed that summation of the noise from Beaver, Beaver 8, and PWGP would result in, at most, a 2 dBA change in the noise levels found at residences in Oregon and on the Washington side of the Columbia River.

At the request of the Office, PGE included in the noise study report a discussion of the issue of the cumulative effect of the noise from the proposed Summit Project, PWGP, Beaver, and Beaver 8. The results in the noise study report showed that, if the noise from the Summit Project were held to the same criteria as found for PWGP, the net effect would be that the noise levels at residences in Washington would be at most about 3 dBA higher than they would be without the Summit Project. Thus, with all four power plants considered, the resulting noise levels at residences in Washington could be 0 dBA to 3 dBA louder than that currently found, but they would typically be no more than 2 dBA higher. A 1 dBA to 3 dBA change in noise levels would be undetectable by most people, and if it were detectable by anyone, it would be perceived as only a very slight change in noise level.

PGE's noise study report indicated that during the ambient noise measurements only part of the generators were operating at Beaver. Because of this fact, the ambient noise levels used to apply the DEQ criteria to PWGP were most likely a little lower than they could have been if all the generators had been operating. Thus, the DEQ criteria resulting from those levels are a little more protective than could have been required under the DEQ rule because there was lower ambient noise during the test than there might have been.

In all scenarios, the anticipated noise from PWGP meets both the Oregon and Washington noise standards. As a result, the Council finds, based on the results presented in PGE's noise study report and further discussion in Section 1.E.a of this Order, residents in Washington will be sufficiently protected from excessive noise levels from the operation of PWGP.

The Washington Petitioners proposed a condition to require "one year continuous compliance" with Oregon's noise standard for all three PGE facilities. As explained above, the Council does not have jurisdiction over the other two PGE facilities. It appears that the Washington Petitioners were proposing continuous monitoring of noise levels for a one-year period. If that is the case, that degree of monitoring is neither practical nor necessary.

First, the facility will have to remain in compliance with Oregon noise standards throughout its operational life, not just for the first year. Second, when continuous noise measurements are

made over a long period, such as that proposed by the Washington Petitioners, the measurements are usually made without the presence of an observer. Noise data without the corroboration of the source of the sound are insufficient to determine if a source in question is in or out of compliance with a criterion.

In Section E.1.a of this Order, the Council adopts conditions to limit noise during construction and to test the noise level of the facility within the first six months of its operation. The certificate holder will conduct that test when environmental conditions are expected to result in maximum sound propagation between the source and the receivers and when the power plant is operating in a mode that produces maximum noise levels. In addition, the measurements will be conducted with observers present who can determine the source of the noise being measured and can report the contribution of the source in question to the measured levels. These tests would be made at two sites in Washington as well as sites in Oregon. The conditions in the site certificate will be practical and provide for an accurate evaluation of the noise generated by PWGP.

Mr. Otto Moosburner. In a letter dated May 20, 2002, Mr. Moosburner also stated his concern about noise. His home is in Washington, about 5,700 feet from the proposed energy facility site. He requested that noise data be collected under various conditions to establish a better base case. He was concerned that the ASC did not discuss specific design, orientation and operational measures PGE would take to minimize noise. He also stated that the ASC did not discuss mitigation measures if the operating facility failed to meet the projected noise levels. He requested that Office encourage PGE to build the facility with a "noise-friendly design" and that there be a "realistic monitoring plan."

According to the ASC, the specific design measure that will attenuate noise is the enclosure of the gas turbine. The immediately preceding discussion addresses monitoring protocols. Section E.1.a discusses the findings of compliance with DEQ noise standards and adopts conditions to limit and monitor noise. The Council finds that the discussion and conditions in Section E.1.a of this Order sufficiently address the issues raised by Mr. Moosburner.

W. G. Dragich. W. G. Dragich and the Office corresponded via e-mail between April 17, and April 24, 2002, about the proposed changes to the Kelso-Beaver Pipeline compressor station in Washington to supply natural gas to PWGP and about pipeline safety. The Office explained that interstate gas pipelines are not within the Council's jurisdiction and provided information about how to contact the regional Federal Energy Regulatory Commission office, which has jurisdiction over the Kelso-Beaver Pipeline.

Mr. Rick Nelson. In a letter dated May 4, 2002, Mr. Nelson commented on three issues: (1) electromagnetic fields, (2) the need for the facility and transmission line, and (3) the effect of the transmission line on property values.

Electromagnetic Fields. Regarding the health effects of electromagnetic fields, Mr. Nelson discussed reports that magnetic fields may cause diseases in humans. The literature on the health effects of magnetic fields often refers to electric and magnetic fields ("EMF"), even though it is primarily, or only, magnetic fields that are of concern. Electric fields can induce a voltage in

objects that, when touched, may cause an injurious or annoying electric shock. The Council has a standard relating to electrical fields, OAR 345-024-0090. In contrast, some reviewers suspect human exposure to magnetic fields may cause various forms of cancer and other diseases.

Background on Magnetic Fields. There is a more detailed discussion of the health impacts of EMF from the proposed Project in Section E.1.c. of this Order, but some background discussion is necessary at this point to frame the issues Mr. Nelson raised. EMF emitted by power lines is classified as extremely low-frequency ("ELF") fields. ELF refers to frequencies below 3,000 cycles per second (Hertz) and includes the predominantly 60-Hz fields caused by transmission of alternating current electricity. In contrast, the earth's magnetic field is a static field. The health risks of static EMF are likely to differ from those of ELF EMF. The remainder of this discussion applies only to ELF EMF.

The unit of measurement of magnetic field strength is the Gauss. Field strengths are commonly expressed as milli-Gauss (mG, or thousandths of a Gauss). The maximum magnetic field strength at the edge of any of the proposed ROW in the ASC is less than 150 mG. By comparison, the following magnetic field strengths have been found to be typical of various transportation systems (Dietrich, F. M., and W.L. Jacobs, *Survey and Assessment of Electric and Magnetic Field (EMF) Public Exposure in the Transportation Environment*, prepared for DOT (U.S. Department of Transportation) - RSPA, Contract No. DTRS-57-96-C-00073, March 1999).

Commuter Train (AC Electric)	49 mG
Conventional Transit Bus	17 mG
Jetliner	13 mG
Conventional Cars and Light Trucks	6 mG

The California Public Utilities Commission ("CPUC") Decision No 93-11-013 includes the following magnetic field strengths (in mG) for a variety of common sources.

Appliance	**Distance from Source to Point of Measurement**		
	1.2 inches	**12 inches**	**39 inches**
Electric Blanket	2 – 80	- -	- -
Clothes Washer	8 – 400	2 – 30	0.1 – 2
Television	25 – 500	0.4 – 2	0.1 – 2
Electric Range	60 – 2000	4 – 40	0.1 – 1
Microwave Oven	750 – 2000	40 – 80	3 – 8
Electric Shaver	150 – 15,000	1 – 90	0.1 – 3
Fluorescent Lamp	400 – 4,000	4 – 20	0.1 – 3
Hair Dryer	60 – 20,000	1 – 70	0.1 – 3

National Institutes of Environmental Health Sciences ("NIEHS") Report. In evaluating health impacts of EMF in Section E.1.c of this Order, the Council relied primarily on an assessment issued by the U.S. National Institute of Environmental Health Sciences (NIEHS) in 1998. As explained more fully in Section E.1.c, the NIEHS concluded that EMF cannot be recognized as

entirely safe, but that the evidence for health risks due to exposure to EMF is weak. The NIEHS concluded that a policy of "passive regulatory action" is warranted. This is consistent with the Council's current policy of "prudent avoidance." CPUC currently applies a policy of "no-cost and low-cost steps to reduce EMF levels." All three terms refer to a similar set of policies in which regulatory actions limit the risk of EMF, but do not significantly interfere with, or increase the cost of providing, electric service.

International Agency for Research on Cancer ("IARC") Findings. The IARC is part of the World Health Organization. It has prepared a series of monographs in which numerous substances and exposure practices are evaluated and categorized. The IARC uses the following categories to characterize the cancer risk of various substances. Examples of substances and exposure practices are included for context.

Group	Definition	Common Examples
1	Carcinogenic to humans	- Alcoholic beverages - Tobacco Smoke - Chinese-style salted fish - Wood dust - Aluminum production
2A	Probably carcinogenic to humans	- Hairdresser or barber (occupational exposure) - Use of sunlamps - Diesel engine exhaust - Formaldehyde
2B	Possibly carcinogenic to humans	- Coffee (bladder cancer. Some protection against bowel cancer may be provided) - Infection with HIV - Pickled vegetables (traditional in Asia) - Gasoline engine exhaust
3	Not classifiable as to carcinogenicity in humans	- Printing inks - Tea - Various petroleum fuels - Logging and sawmill industries
4	Probably not carcinogenic to humans	

The IARC categorizes ELF magnetic fields in Group 2B – possibly carcinogenic to humans. This evaluation was issued on March 7, 2002. Specifically, the IARC found the following.

1. There is limited evidence in humans for the carcinogenicity of ELF magnetic fields in relation to childhood leukemia.

2. There is inadequate evidence in humans for the carcinogenicity of ELF magnetic fields in relation to all other cancers.

3. There is inadequate evidence in humans for the carcinogenicity of static electric or magnetic fields and ELF electric fields.

4. There is inadequate evidence in experimental animals for the carcinogenicity of ELF magnetic fields.

The IARC findings of March 2002, are generally consistent with the conclusions of the NIEHS in 1998 and with the findings in Section E.1.c of this Order.

Summary of Mr. Nelson's Concerns. In his letter, Mr. Nelson's claims the following.

1. "Scientific evidence now demonstrates beyond reasonable doubt EMF adversely effects (sic) human health."

2. "In particular, there is now information that ties moderate levels of EMF to childhood leukemia, ALS, and, now, spontaneous abortions."

3. [A study by the CPUC] "showed EMF "likely caused" childhood and adult leukemia, adult brain cancer, ALS, and spontaneous abortions."

4. [The study also] "showed that EMF "possibly caused" childhood brain cancer, female and male breast cancer, Alzleimer's (sic) disease, suicide, and heart problems."

5. "The California EMF project noted that even momentary exposure to magnetic fields greater than 16 mG can lead to a 6-fold increase in the risk of spontaneous abortions."

6. [Other studies show] "there is a clear and consistent pattern of significant risks for average exposure above 4 mG."

Mr. Nelson did not identify the specific reports and studies to which he referred in his letter; but it is clear that he relied heavily upon the California Electric and Magnetic Fields Program.

The California EMF Program. The CPUC initiated the California EMF Program by CPUC Decision 93-11-013. The CPUC decision directed the California Department of Health Services (CDHS) to begin a research and education program in 1994. That program resulted in numerous studies and educational materials that are accessible on the program's web site, www.dhs.ca.gov/ps/deodc/ehib/emf/index.html.

The most thorough assessment of potential risks from magnetic fields resulting from the California EMF Program appears to be a report entitled "An Evaluation of the Possible Risks from Electric and Magnetic Fields (EMFs) from Power Lines, Internal Wiring, Electrical Occupations and Appliances"(hereinafter referred to as the "Risk Evaluation"). Draft 3 of this report was dated March, 2001. It was issued for public comment with the caveat, "DO NOT CITE OR QUOTE." The date the final report will be issued is uncertain.

Another major product of the California EMF Program is a report titled "Policy Options in the Face of Possible Risk from Power Frequency Electric and Magnetic Fields (EMF)" (hereinafter referred to as the "Policy Options"). This report was issued in April 2001, with the caveat, "DO NOT CITE OR QUOTE." The date the final report will be issued is uncertain.

The California EMF Program web page cites the NIEHS report, discussed above, and notes that the NIEHS report is emphasized in its draft Risk Evaluation.

The California EMF Program web site contains two "fact sheets" that provide summaries of the issue of health risks from magnetic fields. The summaries are generally consistent with the NIEHS report described above. The more detailed fact sheet specifically notes that it is a summary of the state-of-knowledge in 2000. Because Mr. Nelson has apparently relied on the California EMF Program documents to support his comments, a complete response to Mr. Nelson's concerns must include consideration of those reports. However, in preparing the following analysis, the Council is mindful of the California EMF Program's admonition against quoting or citing the documents.

The California EMF Program Risk Evaluation Report. The Risk Evaluation considers numerous studies, some of which have conflicting or inconsistent results. The authors of the Risk Evaluation were required to weigh the evidence to reach a balanced assessment. Results of a single study, taken alone, may be misleading. To represent accurately the authors' conclusions, the complete "Statement for the General Public" from the Risk Evaluation (Draft 3) is copied verbatim below.

> "On behalf of the California Public Utilities Commission (PUC), three scientists who work for the California Department of Health Services (DHS) were asked to review the studies about possible health problems from electric and magnetic fields (EMFs) from power lines, wiring in buildings, certain jobs, and appliances. The PUC request for review did not include radio frequency EMFs from cell phones and radio towers. The three reviewers agree that statistical studies in the human population suggest there might be a problem, while, for the most part, studies in animals do not. While there are important differences in the numbers the reviewers selected to represent their degrees of confidence that a problem might exist, the following statements properly capture the range of their judgments:
>
> > "It is 'more than 50% possible' that EMFs at home or at work could cause a very small increased lifetime risk of childhood leukemia, adult brain cancer, and amyotrophic lateral sclerosis (ALS, Lou Gehrig's Disease). As this phrase implies, there is a chance that EMFs have no effect at all.
> >
> > "It is 'more than 50% possible' that EMFs at home or at work could cause a 5-10% added risk of miscarriage, and again, as this phrase implies, there is a chance that EMFs have no effect at all.

"It is '10-50% possible' that residential or occupational EMFs could be responsible for a small increased lifetime risk of male breast cancer, childhood brain cancer, suicide, Alzheimer's disease, or sudden cardiac death. As this phrase implies, there is a chance that EMFs have no effect at all.

"It is 'very unlikely (2-10% possible) but not impossible' that residential or occupational EMFs could be responsible for even a small fraction of birth defects, low birth weight, neonatal deaths, or cancer generally.

"All of the three reviewers give a degree of confidence of at least '10-50% possible' that residential or occupational EMFs could be responsible for a small increased lifetime risk of adult leukemia or female breast cancer, and one gave a degree of confidence that was higher.

"The reviewers compared the size of possible risks from EMFs to the size of possible risks from chemical and physical agents now being regulated. They agreed that:

"With the exception of miscarriage, the added risk (if any) of even a highly EMF-exposed individual getting any of these rare diseases would be such that the vast majority of highly exposed individuals (95%-99.9%) would not get them. Calculations suggest that the fraction of all cases of these conditions for which EMF might be responsible would be very low. However, if EMFs really contribute to the cause of these conditions, even these low individual risks and the low fractions of cases could be of concern to regulators. Indeed, when deemed real, theoretical risks smaller than these have triggered regulatory evaluation and sometimes, regulatory control of chemical agents. The uncommon, accumulated high EMF exposures implicated by the evidence on these conditions come from home wiring, nearby power lines, and electrical occupations. There are ways to avoid these uncommon accumulated exposures."

The Risk Evaluation uses a "degree of confidence" classification system. The IARC uses a "quality of evidence" classification system. This difference in classification methods can lead to confusion. How, for example, should one compare the draft Risk Evaluation conclusion that it is "more than 50% possible" that EMF could cause childhood leukemia to the IARC conclusion that EMF is a "possible" cause of childhood leukemia? To alleviate this confusion, the draft Risk Evaluation applied the IARC classification guidelines and summarized the results in the Scientific Abstract of Executive Summary of the Risk Evaluation, as follows.

Classification by California Reviewers Using the IARC Guidelines:

"*Possible Human Carcinogen to Human Carcinogen*: childhood and adult Leukemia

"*Possible Cause*: adult brain cancer, miscarriage, Lou Gehrig's disease

"*Inadequate evidence*: male breast cancer, female breast cancer, childhood brain cancer, suicide, Alzheimer's disease, acute myocardial infarction, general cancer risk, birth defects, low birth weight or neonatal deaths, depression and electrical sensitivity."

The draft California Risk Evaluation and the IARC are in agreement that EMF is at least a possible cause of childhood leukemia (i.e., IARC Group 2B), but the draft Risk Assessment includes the possibility that the appropriate IARC ranking may be Group 2A (probably carcinogenic to humans) or Group 1 (carcinogenic to humans). There were three reviewers for the Risk Evaluation and their assessments differed in some respects. It is not clear whether the range of classifications described here is a result of differing opinions between reviewers or a result of uncertainty on the part of individual reviewers. The California Risk Evaluation does not present clear and unequivocal support for Mr. Nelson's claims regarding the dangers of EMF.

The California PUC Process. In preparing a response to Mr. Nelson's comments, the Office contacted the CPUC's project manager for the EMF Program, Ms. Wendy Maria Phelps. Ms. Phelps explained that, after the Risk Evaluation and Policy Options reports are submitted to the CPUC at the end of June, 2002, the CPUC will consider how to proceed. It may or may not accept the conclusions of the Risk Evaluation. It may initiate its own investigation. It may or may not modify its guidelines and rules regarding the siting of transmission lines. The sense that the Office received from Ms. Phelps is that the CPUC will not immediately use the conclusions of the Risk Evaluation to modify significantly the standards for siting or designing transmission lines.

Council's Summary. Overall, the California EMF Program's draft Risk Evaluation expresses a greater level of concern for the possible adverse health effects of EMF than do the 1998 NEIHS report and the 2002 IARC assessment. However, as of the date of publication of this Order, the California EMF Program's Risk Evaluation is not final. The Council believes it is not appropriate to cite it or to use its conclusions in Section E.1.c where the Council makes findings regarding EMF. Furthermore, based on Draft 3 of the Risk Evaluation, the Council finds that the Risk Evaluation does not justify changes in the findings in Section E.1.c. The conclusions of three reviewers who prepared the California Risk Evaluation do not present compelling evidence regarding the effects of EMF and should not over-ride the conclusions of the NIEHS and the IARC.

Need for the Facility. Regarding the need for the facility and the transmission line, ORS 469.501(1)(L) prohibits the Council from adopting a standard that requires generating facilities to demonstrate need. Likewise, because the proposed transmission lines are related or supporting facility to generating facilities, there is no separate need standard for them. Therefore, the Council does not have authority to consider the need for the facility as Mr. Nelson requested.

Property Values. Mr. Nelson also requested that the Council consider the potential impact of proposed transmission line on surrounding property values. This issue is not related to a Council standard or to public health and safety; therefore, the Council cannot consider it in its evaluation of the ASC.

Agency Comments

Department of Aviation. In a letter dated April 22, 2002, the Oregon Department of Aviation noted that PGE will need to submit a Federal Aviation Administration Form 7460-1. This is a federal form that is not under the Council's jurisdiction, so there is no action the Council needs to take.

Department of Environmental Quality. In a letter dated April 16, 2002, the Department of Environmental Quality commented on procedural matters relating to the Air Contaminant Discharge Permit ("ACDP") to clarify the permit process described in the ASC. However, the ACDP is a federally-delegated permit that is not under the Council's jurisdiction, so there is no action the Council needs to take.

Office of Historic Preservation. In a letter that the Office received on April 17, 2002, the Office of Historic Preservation, Oregon State Parks and Recreation Department, noted that tests had found no cultural resources on the energy facility site.

Department of Forestry. In a letter dated April 26, 2002, the Department of Forestry noted that the ASC correctly identifies the potential need for permits pursuant to the Oregon Forest Practices Act. These are operational permits, rather than siting-related permits, so there is no action the Council needs to take.

Water Resources Department. In a letter dated May 15, 2002, the Water Resources Department ("WRD") noted that it had reviewed the Port of St. Helens' permit for municipal water use and found that the use and amounts that PGE requested are within the limits of the permit and use categories.

Columbia County. In a letter dated May 21, 2002, the Planning Division of the Columbia County Department of Land Development Services offered comments and recommended conditions. In a letter dated June 18, 2002, Columbia County provided additional information about the implementation of its agreement with PGE concerning transportation improvements. The Order discusses these in Section D.4 (Land Use), Attachment D, and Section D.13 (Public Services), below.

B.2 PUBLIC HEARING ON DRAFT PROPOSED ORDER

B.2.a Comments

Mr. Jeffrey Chicoine, the hearing officer, held a public hearing on the Draft Proposed Order ("DPO") in Clatskanie, Oregon, at 7:00 PM on August 1, 2002. Thirty-three people or organizations made written or oral comments at the public hearing or provided written comments to the Office before 5:00 PM on August 2. Fifty-two people signed the registry at the public hearing, and the Office estimated a greater number in attendance. This section summarizes the public comments in a bullet format in alphabetical order by last name or organization.

Jan Bays

- Supported the project because of economic development.
- Hoped PGE can address issues prospectively.
- Current power plants are quiet.
- Concerned about noise, endorsed earlier speakers who raised the issue.
- Recommended the Council require no increase in ambient noise; but, temporary increases are understandable.
- Concerned about light pollution; hoped current view of stars is preserved.

Clatskanie Chamber of Commerce

- Expressed general support.
- Expressed specific support for the DPO recommendations concerning noise, traffic, and transmission lines.

Columbia County Board of Commissioners

- Expressed general support.

George Dennis

- ASC doesn't discuss cumulative noise impacts from Beaver, Beaver 8, and Summit.
- He lives in Washington less than a mile from the site.
- Consider 70 homes that will be impacted by noise.
- Site certificate should require all three PGE plants jointly to comply with DEQ noise standards.
- There should be testing for one year for compliance with DEQ noise standard.

Arya Behbehani-Divers, PGE

- PGE is willing to work with residents on fair market value for property within the easements PGE will need.
- The project would help economic development in the County
- It would take $360 million to built the project
- PGE is a financially sound operating unit.

Kirk Deal, Pacific Northwest Regional Council of Carpenters

- Spoke for pile drivers in his union.
- Supported for project because it would provide jobs. PGE hires locally, which benefits the community.
- PGE's track record of local hires goes beyond the requirements of the Public Services standard.

Paul Ebert

- This is a valuable opportunity for young people who want to learn the trades.

Joe Esmonde, International Brotherhood of Electrical Workers ("IBEW") Local 48

- Supported the project because it will provide local jobs; PGE provides family wage jobs.

- Endorsed comments by Mr. Williamson from the Port.

Willard Evenson for Evenson Timber Land Agency

- The BPA corridor from the BPA Allston Substation to Trojan is ample for another transmission line.
- Objected to taking out any additional timberlands for a right-of-way for a transmission line.
- Any additional right-of-way would take most of his tree farm and remaining Douglas fir trees.

Jean and Paul Giepel

- Questioned why PGE did not use the BPA line or right of way from Allston Substation to Trojan.
- Supported positions of Mr. Evenson and Mr. Scott.

Pat Hodges

- The project will bring benefit to local economy.
- Real noise problem is jet boats and jet skis on the river.
- He has lived near power plants built in the 1980s and they weren't a noise problem.

The Honorable Betsy Johnson, State Representative, Oregon House District 31

- Expressed general support of project and PGE.

Elmer Kallio

- Supported the project because it will provide local jobs.

Ken Kern

- Supported economic benefits from project
- As a resident who lives near the site, he is concerned about noise, road improvements, safety, rail use, and property values.
- Supported the noise concerns raised by others at the public hearing.
- The $3+ million that the County has identified in needed repairs is not adequate.
- Concerned about the impact on adjacent property owners of widening roads.
- The DPO did not address the ability of the dike under Kallunki Road to withstand the weight of construction vehicles.
- Concerned about pedestrian safety during construction and about the speed of vehicles on Kallunki Road.
- Concerned about the noise impact of construction vehicles using the road and how that may affect property values.
- Concerned about how an increase in rail traffic will affect neighbors.
- Wondered whether the development would have a positive or negative effect on property values.

Jamie Maygra

- Neutral for now, but will oppose it if PGE builds it with non-union, out-of-state workers.

Tammy Maygra

- Supported hiring local union workers.

Rich McCauley

- Concerned about noise, damage to roads and other local impacts.
- Encouraged PGE to hire local union workers.

Bill Miller, IBEW Local 125

- Expressed general support

Otto Moosburner

- Agreed with proposed noise conditions 1, 2, 3, and 5.
- Noise condition 4 is inadequate because it leaves too much discretion to PGE. There is no verification that plant was operating at maximum output or that testing would be done under appropriate conditions.
- Council should require continuous monitoring at one site in Oregon and one site in Washington.
- Council should require independent monitoring.
- Ambient monitoring was inadequate.
- PGE should notify the Office and public stakeholders of "upcoming plans."
- The monitoring plan and the results of monitoring should be available to the public.
- Submitted his letter of May 20, 2002, which this Order addresses in Section B.1 under his name.

Jerry Moss

- Represents plumbers and steam fitters
- PGE has a good reputation.
- Wanted to make sure PGE hires local workers.
- PGE needs to work with other developers, SWP and Cascade Grain, to ensure they hire local workers so that PGE doesn't "suffer."
- Building trades would like to sit down with all three developers.

Greg Nordin

- Supported project because it will provide local jobs, a reliable energy source and a benefit to the community.
- Noted that speakers at the hearing raised reasonable concerns.
- PGE would work with community.

Gerald Rasmussen

- Concerned with cumulative impact of four power plants.

- Concerned that there be an adequate monitoring program during construction and initial operation to ensure compliance with the DEQ noise standard.
- Submitted letter of May 17, 2002, which this Order addresses in Section B.1 in regard to "Washington Petitioners."
- Ask why location has moved from previously identified location. Could PGE move back to earlier spots it considered?
- The noise from three power plants and peaker will be cumulative and will travel over water and bounce off cliffs.
- Could the Council require SWP and PWGP to operate at the same rpms to cancel out each other's noise? Is that in the models?
- Can the Council assure him that noise and steam from the plants won't overload the environment?
- Requested notification of modifications to the plant after it is built.
- There should be conditions relating to color and landscaping to ensure it blends into the environment.
- Noise standards require continuous monitoring to assure modeling was done correctly.
- Requested a copy of all noise monitoring reports.

Paul Riggs

- Supported project for local economic benefit.
- PGE has a good record of hiring locally, but ENRON does not.
- Requested that the Council require PGE hire local workers.

Douglas Ruby

- Supported project because it would provide jobs and help local economy despite short-term construction impacts
- Wanted to ensure that PGE would hire local workers; local workers will do higher quality work than out of state contractors.
- Hoped the Office and PGE can address concerns others have raised.

Edward C. Scott, in person and represented with Mary Scott in a letter by Robert VanNatta, attorney

- Council lacks jurisdiction to approve the BPA Allston Substation to Trojan Transmission Line option because that segment is not a "related or supporting facility" because it is not an "associated transmission line."
- The DPO did not properly consider the application of ORS 215.283(1)(d).
- The water quality findings in the DPO for the Rainier Watershed zone are inadequate.
- The BPA Allston Substation Transmission Line doesn't meet the requirement for a Goal 4 exception.
- Agreed with the objections raised by Mr. Evenson.

Mike Seely

- DPO did not address interference with global positioning systems and communication equipment that he uses to farm directly under power lines.

- BPA Allston Substation to Trojan Transmission Line isn't needed; existing BPA line can handle PWGP output. PGE is just trying to save money. It should work with BPA.
- County doesn't have the money to improve roads.
- DPO did not adequately address road impacts on Hermo Road, which he believes will be used to serve the plant in the future.
- Agreement with County does not provide enough money for roads; one mile of Quincy Mayger Road was rebuilt in 1986 for $780,000.
- Hermo Road needs $8-10 million in improvements.
- DPO did not address hydrostatic impacts of improving any roads and how it will affect homes alongside. Improved roads will push up the soils.
- DPO did not adequately evaluate speed.
- Road improvements should include guardrails; roads need to be wider to accommodate 24- foot-wide combines. Hermo Road is only 18 feet wide.
- NPDES should require Port to maintain 68-degree water temp at discharge.
- Road analysis in DPO is not adequate to address safety issues for Kallunki and Quincy-Mayger roads.
- DPO needs additional analysis of cathodic protection that might be needed for gas lines, water lines, and lines from propane tanks.
- Road studies have not evaluated culverts on Hermo Road to see if they could withstand loads caused by power plant. They are inadequately signed.

Dale Shores

- Supported the project for its employment impacts.

Ron Sisco

- PGE has a great reputation in the community.
- Proposed project is clean and environmentally sound.
- Good location.

Robert Stevens

- His residence is closer than other sites monitored in Washington.
- There should be continuous and perpetual noise monitoring.
- Proposed power plant does not leave much land for marine-related industrial use, which may be in violation of Port's purchase agreement with from the Federal government, as described in Peter Williamson's testimony.
- Proposed use was not consistent with his expectations when he bought his property.
- Concurred with Mr. Rasmussen and Mr. Moosburner.
- PGE should contact residents regularly about noise.
- Site certificate conditions should require that there be a noise contact person at the plant that residents can contact for objectionable noise.
- PGE has been responsive to dealing with noise problems at Beaver.
- Offered his place as a monitoring spot.
- Objected to moving project from the first proposed site.

Doug Terrill

- Supported the project because it would bring jobs to the county.

Joshua Thomas

- Concerned about future damage to his property from operations in existing easement from Port Westward to BPA Allston Substation.
- Claimed that PGE had told him there would not be another transmission line in the easement.
- There has been recent damage to his property from recent work in the easement; would like the property respected.

Peter Williamson, Port of St. Helens

- Supported the project.
- Provided history of the Port's control of Port Westward industrial area, a summary of its agreement with PGE, and specific reasons why it believes PWGP would be appropriate for the site.
- Submitted marketing agreement and consulting and leasing agent agreement for the property that PGE leases from Port.

B.2.b Response To Comments On the Draft Proposed Order

A. <u>BPA Allston to Trojan Transmission Line</u>

1. Edward Scott, represented with Mary Scott by Robert VanNatta, attorney, raised the following concerns:

(a) Is the proposed segment of the transmission line from the BPA Allston Substation to Trojan a related or supporting facility to PWGP?

Mr. Scott argued that the proposed transmission line segment between the BPA Allston Substation to Trojan is not a related or supporting facility because it is not an "associated transmission line" and is therefore not within the Council's jurisdiction in this proceeding. The term "associated transmission line" is defined in ORS 469.300(4) to mean:

> "…new transmission lines constructed to connect an energy facility to the *first point of junction* of such transmission line or lines with either a power distribution system or an interconnected primary transmission system or both or to the Northwest Power Grid." [Emphasis added.]

Mr. Scott stated that "first point of junction" imposes an obligation on PGE to connect at the nearest possible opportunity for a point of junction, which he argued would be the BPA Allston Substation. This is a misreading of the definition of "associated transmission lines" and an incomplete reading of the definition of "related or supporting facilities."

There are two aspects of the definitions that shed light on the issue raised by Mr. Scott. First, there is the purpose of the provision, which is to identify the terminus of the related or supporting facility. It limits the Council's siting authority beyond that point. The Council has jurisdiction to the point at which the transmission line actually joins or connects to the distribution system or grid. It would make no sense for the Council's jurisdiction to be measured to a hypothetical connection or the closest conceivable connection if a connection was not actually made there. The Legislature's use of the term "junction" is instructive in this regard. A "junction" refers to "the condition of being joined" or "a place where two things join or meet." The first point of junction is where the line first joins the system or grid. The Legislature did not constrain the Council's jurisdiction to the "nearest conceivable" or "first possible" point of junction, but rather the "first" point of junction. Mr. Scott's reading requires that the Council rewrite the statute to add words the Legislature left out. It is inconsistent with both the text and purpose of the provision.

Second, it is incumbent upon the applicant to propose where it wishes to connect. This is evident from the definition of a "related or supporting facility." ORS 469.300(24). That "first" does not mean "nearest" is reinforced by the fact that the statute gives the applicant the discretion to propose any legitimate point of connection. After the applicant has done so, the Council is then responsible for evaluating the proposed corridor(s) to that point by application of the Council's standards. While application of those standards may favor or dictate connection at one point or another, that constraint is not found in the definitions of "related and supporting facility" or "associated transmission lines." The Council does not change its findings.

Mr. Scott also asserted that if the BPA Allston Substation to Trojan transmission line is not a related and supporting facility, PGE would be required to demonstrate the need for it as an independent transmission line. That point is moot, given that the transmission line is a related or supporting facility for a generating plant.

(b) Has the DPO properly considered ORS 215.275 and ORS 215.283(1)(d)?

Mr. Scott asserted that PGE has not satisfied ORS 215.275. As Mr. Scott correctly asserted, "utility facilities necessary for public service" allowed under ORS 215.283(1)(d) must satisfy the requirements of ORS 215.275. The requirements of ORS 215.275 are, however, applicable only on EFU-zoned land.

The proposed transmission line crosses only one section of EFU-zoned land. That land is zoned Primary Agriculture-38 (PA-38) and is located immediately adjacent to the RIPD zone at Port Westward. The existing Beaver to BPA Allston Substation transmission line corridor passes through the PA-38 zone.

The transmission line corridor options from the BPA Allston Substation to Trojan do not pass through EFU-zoned land. Thus, ORS 215.283 and ORS 215.275 are inapplicable to those proposed corridors. PGE has satisfied ORS 215.275.

Mr. Scott referred to a "punch list" that is found in ORS 215.275(2). That section requires the applicant to demonstrate that it is necessary to locate the proposed utility facility on farmland based on "one or more" factors listed in that section. PGE has established that the utility facility is necessary based on the factors in both (2)(b) (locational dependence) and (2)(d) (use of existing rights-of-way). The Port Westward industrial area is surrounded by land zoned PA-38. To leave Port Westward, a transmission line would need to cross this zone regardless of the route. The proposed route takes advantage of the space within an existing transmission corridor. The Council does not change its findings.

(c) Are the water quality findings in the DPO for the Rainier Watershed zone adequate?

Mr. Scott noted that Appendix D, Land Use Analysis, states that placement of the transmission line in the City of Rainier's Watershed zone would have "no impact on water quality." He characterized the proposed corridor as leading to "deforestation of a significant segment" of the watershed. He noted recent restoration efforts for Fox Creek in the watershed.

Within the Watershed zone, the proposed corridor would be 125 feet wide and about 1.5 miles long. It would comprise about 23 acres. It would not represent a significant portion of the watershed. (Figure C-2 shows about 1,000 acres of the Watershed zone; and, that is not the full extent of the zone.)

There are several factors that would protect the watershed: (1) the certificate holder would be required to comply with a federal NPDES 1200-C permit for construction impacts regarding storm water and erosion control; (2) conditions would require the certificate holder to protect the soils in the area during construction; and, (3) conditions would require the certificate holder to revegetate the area. The Removal/Fill permit would also protect wetlands and waterways. Furthermore, Fox Creek is located several hundred feet east of the transmission line. The finding of no impact to water quality is justified. The Council does not change its finding.

(d) Does the proposed BPA Allston to Trojan transmission line corridor meet the requirement for a Goal 4 exception in order to clear an easement 25 feet wider than Goal 4 rules allow?

Goal 4 relates to forest resources. Goal 4 states "Maximum utilization of utility rights of way should be required before permitting new ones." For safety reasons, PGE proposed to build a transmission line corridor through forest zones that is 25 feet wider than allowed under Goal 4.

The key question that Mr. Scott raised is whether PGE has demonstrated that the transmission line is needed or whether it could use the one of the two existing BPA

230 kV transmission lines that run between the BPA Allston Substation and Trojan. During the public hearing, others stated that they believed that the PGE could use the existing BPA corridor or the existing BPA transmission lines. Therefore, there are two questions regarding maximum use of utility rights of way: (1) Is there room for another transmission line in the BPA corridor, or (2) is there capacity on the BPA line for the output of PWGP?

The right-of-way for the BPA transmission line between the BPA Allston Substation and Trojan is 125 feet wide. The towers contain two 230 kV circuits. There is no room for another transmission line in that corridor.

The question of whether a new line is needed for PWGP between the Allston Substation and Trojan is more complicated. In addition to this response, this Order contains a more complete description of the need for the proposed transmission line in Appendix D than provided in the DPO.

BPA has not notified PGE if BPA will permit PGE to terminate its transmission line from PWGP at the BPA Allston Substation. It may be many months before PGE knows whether it could terminate its line at the BPA Allston Substation. However, PGE has requested that the Council approve PGE's proposed alternative to build the BPA Allston to Trojan segment regardless of BPA's determination of whether PGE could use the BPA Allston Substation.

In support of its ASC, PGE submitted a report entitled "Programmatic System Impact Study for Generators and Canadian Import in the I-5 Corridor," dated March 2002, and prepared for BPA by Power World Corporation. The study analyzes the capacity of the BPA transmission system to serve new load as new power plants come on line, including Summit and PWGP. A fundamental focus of the study is the reliability of the system and how it would respond to the failure of a major transmission line, i.e. a "contingency." The study necessarily makes assumptions about the sequence of new generating plants and transmission system upgrades. The Council relied on that study.

The Office had TriAxis, an independent engineering firm that specializes in transmission line engineering, evaluate the BPA study. The engineering firm stated that the BPA study demonstrated that a new line from the BPA Allston Substation to Trojan would be needed, even without PWGP. The BPA study finds no practical alternative construction or Remedial Action Scheme, e.g. taking generation off-line, to solve the grid overload problems predicted by the analysis.

Even if PWGP connected to the regional transmission system at the BPA Allston Substation, either BPA or PGE would need to build another transmission line between the BPA Allston Substation and Trojan. So, while the Council must make a decision about the transmission line from the BPA Allston Substation to Trojan without knowing if PWGP could have terminated at the BPA Allston Substation, the segment from the BPA Allston Substation to Trojan would likely be built in any case.

The Council must make its decision in the face of some uncertainty. Because of the complexity of factors affecting the needs of the regional transmission grid, it is not feasible for the Council to write a condition based on simple decision criteria that delays the decision about allowing the construction of the BPA Allston Substation to Trojan transmission line segment until PWGP begins construction. The Council cannot defer parts of its decision for later consideration, but must make its decision based on the best available information it has before it in the record. That evidence indicates that PGE will probably need to build the line to connect to the energy facility to the grid. The Council has a basis for finding that the line is needed and that an exception to Goal 4 is justified.

(2) Does the Council consider the economic impact on property owners of removing trees for the transmission corridor?

The Council does not generally consider the economic impacts of a project. Nor does the Council become involved in negotiations over compensation for an easement for a right-of-way. Nor does Council action regarding a Goal 4 exception affect PGE's authority as a regulated utility to condemn property.

The Council's review of the requested Goal 4 exception does, however, require a finding that "the significant environmental, economic, social and energy consequences anticipated as a result of the proposed facility have been identified and adverse impacts will be mitigated in accordance with rules of the Council applicable to the siting of the proposed facility." The DPO recognized that the primary adverse economic impact would be a loss of potential timber harvest in the right-of-way allowed by the exception request. It further finds that Oregon law adequately accounts for such impacts in the condemnation of utility right-of-way. The Council does not change its findings.

B. Transportation Concerns

1. Should PGE provide funds for improvements to Hermo Road?

There were extensive comments about needed improvements on Hermo Road. However, construction and operation of PWGP will not affect Hermo Road, which dead ends some distance from the proposed energy facility site. While the County may have long-range plans to improve Hermo Road, PGE does not propose to use Hermo Road in its construction of the facility, nor does it rely on it for operation of the energy facility. The fact that Hermo Road may later become an access route that the operating energy facility might use is not critical to this proceeding.

2. Are the proposed transportation improvements detailed in Table D.13-1 adequate to address the highway impacts of constructing PWGP?

Columbia County, PGE, and Summit Westward negotiated an agreement based on the road improvements listed in Table D.13-1. The listed improvements were developed based on transportation studies prepared for the applicant and other Port Westward

developers. The improvements and PGE's financial responsibilities for those improvements are discussed in Section D.13 of the DPO. Proposed conditions make the agreement binding on the site certificate holder for PWGP, whether it be PGE or someone else. Columbia County has determined that the transportation infrastructure improvements are adequate, and that determination is supported by evidence in the record. The Council does not change its findings.

3. Will widening roads affect neighboring structures and property values?

Columbia County will be making the road improvements as part of a larger road improvement scheme. The County will design those improvements. It is appropriate for the County to address how those designs might affect adjoining structures. The potential impact on property values from road improvements could be positive or negative, but in any case it is not related to a Council standard. It is, in effect, a third-party decision. The Council does not change its findings.

4. Can the dike under Kallunki Road withstand construction traffic?

Public Services Condition 7 requires PGE to use barges and rail to the extent practicable to delivery bulk materials. Furthermore, the list of improvements includes funds to improve Kallunki Road, as the County deems necessary. This Order adequately addresses the concern. The Council does not change its findings.

5. Did the DPO adequately address pedestrian safety and speed along Kallunki Road during construction?

Fish and Wildlife Habitat Condition 1(a) requires PGE to post speed signs. That will protect both humans and animals. There is no evidence in the record about pedestrian use of Kallunki Road. The Council does not change its findings.

6. Did the DPO adequately address safety on Kallunki and Quincy-Mayger Roads?

The DPO did address safety, specifically in the list of proposed improvements in Table D.13-1. It is not possible to respond to a general charge that the DPO was inadequate. The Council does not change its findings.

7. Should the Council address the noise of construction vehicles and rail traffic?

There are no standards that relate to noise from construction vehicles or rail traffic. However, Public Services Condition 7 in the DPO does require the certificate holder to use barge and railroad deliveries to the extent practicable to minimize the number of freight truck deliveries on local roads. The Council does not change its findings.

C. Noise

1. Did modeling consider noise of all four generating projects?

Yes. See Section B1 of the DPO.

2. Is it appropriate to require a multiple instances of noise monitoring, up to a year of continuous monitoring, or perpetual monitoring?

Section B.1 gives an explanation of why continuous or multiple monitoring is not appropriate. Furthermore, there is an important distinction between (1) the Council's determination that a facility can likely meet the Department of Environmental Quality's ("DEQ") noise requirements and (2) DEQ's role in enforcing its rules. Those who propose continuous monitoring are proposing that the Council inappropriately assume DEQ's responsibilities for enforcement. The Council does not change its findings.

3. Should the project meet a criterion of no increase in ambient noise?

No. DEQ rules allow up to a 10 dBA increase in ambient noise for new sources.

4. Should the site certificate require PGE to have a point of contact for noise?

Noise Condition 3 in Section E.1.a requires the certificate holder to establish a noise complaint system at the construction manager's office during construction. The DPO does not recommend that there be a separate condition that requires the certificate holder identify a specific contact during operation because the energy facility will have a small staff. Contacting the plant manager would suffice. The Council does not change its findings.

5. Should there be noise monitoring during construction?

There are conditions that will help minimize noise during construction, but there is no DEQ standard for construction activities. With no standard, there is no basis for requiring monitoring. The Council does not change its findings.

6. Should PGE be required to notify area residents of "up-coming plans" or modifications?

No. The Council's site certificate amendment process and notification will suffice. The Council does not change its findings.

7. Will monitoring plan and results be available to the public?

Yes. PGE will submit them to the Office, where they will be available on request.

8. Should PGE be required to mail noise study results to certain parties?

No. They will be available from the Office. The Council does not change its findings.

9. Can the Council require PGE to move the energy facility site to an earlier identified location farther away from houses in Washington?

No. The Council evaluates the project as proposed by the applicant. PGE considered a site to the south of Beaver, but geotechnical investigations revealed that the soils at that site were unsuitable for a power plant. PGE did not propose in its ASC to use that site.

10. Can the Council require PWGP and Summit to operate at identical revolutions per minute to cancel noise?

The Council requires that each project meet the DEQ noise standard. The model for noise impacts for PWGP and Summit assumed the facilities would operate independently. However, all generating plants connected to the grid must operate at 60 Hertz, so to that degree they are synchronized. In any case, the four plants at Port Westward would jointly have at most a 3 dBA increase, which is lower than the impact allowed for a single facility. Also, it is not appropriate for the Council to specify detailed operational parameters. Furthermore, the person stating the concern did not show how the speed of generators relates to overall noise levels and that it is the determining factor. The Council does not change its findings.

11. Should Condition (4) require PGE to verify that it tested noise when the plant was operating at maximum output and under appropriate conditions?

The testing procedure is specified by DEQ rules. Noise Condition (4) requires that the certificate holder use a qualified noise specialist. The Office will review the results to ensure that the certificate holder tested the facility under the appropriate conditions. The Council does not change its findings.

12. Should site certificate for PWGP bind Beaver and Beaver 8 as well regarding noise?

No. The Council cannot bind facilities that are not under its jurisdiction. See Section B.1 of the DPO.

13. Should PGE monitor sites in Washington other than # 5 and # 6?

PGE chose Sites # 5 and # 6 in consultation with local citizens in Washington as representative of what the impact from PWGP would be in Washington, even though it only has to show compliance with the DEQ standard at the closest sensitive receptor in Oregon. The modeled results show that there should be no significant increase in noise at the Washington sites, even with two new facilities.

The Office's noise consultant re-analyzed the noise data the ASC in order to estimate the ambient noise level and the likely noise impacts at the closest Washington residences from PWGP alone and from PWGP and Summit together with Beaver and Beaver 8. The consultant was able to use data from the sites that had been tested. While Site # 6 is not the closest Washington residence to PWGP, residences that are closer are about the same distance from State Route 4 ("SR 4") as Site # 6. SR 4 is a major source of ambient noise for the Washington sites during the day. Therefore, noise from SR 4 at Site # 6 would be about the same level as that at the nearest residences in Washington during the day. The nearest residences are also about the same distance from Beaver as the Site # 6. Beaver is the major source of ambient noise at night. Therefore, it is likely that the results for Site # 6 are also applicable to the closer sites in Washington. The Office's noise consultant estimated that the closer sites would likely see a 2 dBA increase in ambient noise at night from PWGP alone and, at most, an increase of 3 dBA from the operation of both PWGP and Summit simultaneously. These numbers are well within the DEQ ambient noise degradation regulation parameters.

The Council's consideration of noise impacts in Washington comes from PGE's voluntary response to the concerns of Washington residents. PGE has made a reasonable response to those concerns as well in the conditions it recommended to the Council. Also, one Washington resident at the public hearing reported that PGE had voluntarily reduced noise levels at Beaver when he had a concern about 10 years ago.[1]

Data suggest there should not be a problem with noise in Washington; the Council will impose conditions to test noise at two Washington sites; and, PGE has a record of working with local residents to address noise problems. The site certificate imposes reasonable conditions to address the concerns of Washington residents about noise. The Council does not change its findings.

D. Other Concerns

1. Should there be additional analysis for cathodic protection of gas, propane and water lines near the transmission line?

Magnetic fields can induce current in buried pipes and other metal structures, thereby promoting corrosion. Section E.1.c, Public Health and Safety, in the DPO was confused in its discussion of the requirement that the certificate holder design the transmission lines so that induced currents as low as reasonably achievable. The discussion has been clarified in that section.

Standard utility practices include designing transmission lines to keep both induced voltages and induced currents below specified levels. Furthermore, CFR 49, Part 192 requires that the certificate holder ensure that cathodic protection systems installed on transmission lines must not interfere with other existing facilities. Public Health and

[1] The Council has imposed noise conditions based on the analysis that PGE voluntarily provided in the ASC regarding noise levels at Sites # 5 and # 6. This Order does not take a position regarding the Council's authority to impose conditions based on compliance with Oregon's noise regulations in Washington.

Safety Condition (9) addresses CFR 49, Part 192. Condition (8) requires coordination with the Oregon Public Utility Commission, which will ensure that the certificate holder will address cathodic protection.

In addition, OAR 345-024-0090(2) requires that the Council find that the applicant "can design, construct and operate the proposed transmission line so that induced currents form the transmission line and related or supporting facilities will be as low as reasonably achievable." However, there was no condition in the DPO that explicitly incorporated that rule. Public Health and Safety Condition (3) is modified to add a reference to induced currents, pursuant to the rule.

2. Should the Council address interference from the transmission lines for global positioning systems and communication equipment when operating equipment directly under the lines?

Any such interference is a matter of negotiation in the easement agreement between the property owner and PGE. It does not substantially limit farming practices. The Council does not change its findings.

3. Should the Council address conditions for the NPDES permit for which the Port of St. Helens is applying?

That is a Federal permit not within the Council's jurisdiction, so the comments are not relevant to this proceeding.

4. Should the Council impose conditions relating to color of the plant?

Scenic and Aesthetic Values Condition (6) requires the certificate holder to paint the plant in matte colors appropriate for the site.

5. Should the Council impose conditions relating to landscaping?

Land Use Condition (1) in Section D.4 requires the certificate holder to submit a landscaping plan to the County for its approval.

6. Should the Council impose conditions limiting the glare from lights?

Land Use Conditions (3), (4), and (5) address minimizing glare during the construction and operation of the facility.

7. Should the Council address hiring practices?

Several persons wanted the Council to ensure that PGE hires local labor. Some specified that PGE should hire union labor. Neither Council standards nor other state permit requirements address hiring practices.

8. *Is the use of land in the Port Westward industrial area for power production consistent with the Port of St. Helen's purchase agreement through which it acquired the land from the Federal government?*

In his testimony on August 1, 2002, Peter Williamson, executive director of the Port of St. Helens, summarized the history of the Port Westward industrial area. He noted that the purpose for which the Port bought the property was to provide "marine dependent" industrial sites. The Land Use Analysis, Attachment D, demonstrates that the proposed energy facility is a conditional use within the Resource Industrial Planned Development zone of the property the Port purchased from the Federal government. It discusses how the project would use barges for delivery of heavy equipment during construction and how it would use water from the river during its operation. Given that the project is a conditional use and that it will take advantage of certain marine-related aspects of the site, the proposed use is consistent with the intended uses of the site. The Council does not change its findings.

9. Statements of support.

While people raised concerns, as noted above, 20 of the 34 persons who spoke or provided written comments supported the project. Those 20 persons included some who also had concerns about specific elements of the project.

B.3 COUNCIL REVIEW OF THE DRAFT PROPOSED ORDER

At its August 16, 2002, meeting in Portland, the Council reviewed the DPO, pursuant to OAR 345-015-0230. The Council did not identify any new issues that the Proposed Order should address.

B.4 CONTESTED CASE PROCEEDING

On August 26, 2002, the Office of Energy issued a Notice of Contested Case Proceeding ("Notice") with a Proposed Order dated August 23, 2002. The Notice contained deadlines for petitioning for party status and dates for the prehearing conference and hearing for the contested proceeding.

On September 8 and 9, 2002, three individuals submitted petitions for party status: Otto Moosburner, Robert Stevens, and Gerald M. Rasmussen, through his attorney Eric J. TenBrook.

On September 10, 2002, Samuel Sadler, project manager with the Office of Energy submitted an Affidavit with the List of Documents Upon Which Office of Energy Relied in Drafting the Proposed Order.

On September 11, 2002, the hearing officer issued a document labeled Service of Petition for Party Status and Prehearing Conference Agenda. Pursuant to OAR 137-003-005(4), the hearing officer served a copy of each petition for party status to the other petitioners, the applicant and the Office of Energy.

The hearing officer received no objections to the request for party status from any party. The hearing officer did, however, receive Portland General Electric Company's Proposed Statement of Issues to be Decided at Contested Case Hearing dated September 13, 2002. In response, the hearing officer also received Petitioner Gerald M Rasmussen's Proposed Statement of Issues to be Decided at Contested Case Hearing, which was dated September 16, 2002, and a letter from Janet Prewitt, Oregon Department of Justice, addressing the Office of Energy's Statement of Issues, which was dated September 16, 2002.

On September 17, 2002, the hearing officer held a pre-hearing conference as scheduled in the Notice. Attending were the applicant, the Department of Justice, the Office of Energy, Gerald Rasmussen, through his attorney, and Otto Moosburner, *pro se*. Petitioner Stevens did not attend. The pre-hearing conference was stenographically recorded, and a transcript was prepared and made part of the record. The hearing officer prepared and issued a Pre-hearing Order on September 19, 2002, reporting on all rulings made, including:

(1) A ruling that permitted Mr. Stevens to continue to participate despite his absence;

(2) Rulings that two issues raised by the petitioners related to monitoring of noise from operations were preserved for hearing;

(3) A ruling that one proposed issue related to construction noise was reserved for later decision, subject to additional briefing by the parties;

(4) A scheduling order for written direct testimony and setting new hearing dates for live testimony;

(5) Directives on the order of presentation of evidence; and,

(6) Directives regarding service of papers.

On September 20, 2002, supplemental written briefing was received on whether noise from construction was properly preserved for a hearing from the applicant, Office of Energy and Gerald Rasmussen. On September 23, 2002, the hearing officer issued an Order on Issues for Hearing, ruling that the issue of noise from construction was preserved for hearing. Thus, the three issues preserved for a contested case proceeding were:

1. Whether the condition requiring one-time monitoring during the first six months of operation to ensure compliance with applicable DEQ and noise operating standards is adequate.

2. Whether the lack of a requirement of a continuous monitoring plan by the applicant, PGE is adequate.

3. Whether monitoring during construction is needed to demonstrate actual compliance with noise regulations.

On September 27, 2002, a stipulation was submitted by the applicant, the Office of Energy and Gerald Rasmussen. In the stipulation, the parties agreed to settle the issues raised by Mr. Rasmussen on the following terms, by agreeing to include a condition in the site certificate in the form found within this Order in condition E.1.a(4)(d) and by Mr. Rasmussen withdrawing his Petition for Party Status, waiving his right to a contested case proceeding, and waiving any right to appeal a Final Order that is consistent with this Stipulation.

On October 8, 2002, Robert Stevens submitted a letter notifying the hearing officer that he was withdrawing from further participation in the contested case proceeding. The hearing officer sent a copy of the letter to each remaining participant in the contested case proceeding.

On October 8, 2002, the applicant filed Written Direct Testimony of Albert G. Duble, P.E. and the Office of Energy filed Written Direct Testimony of Kerrie G. Standlee, P.E.

On October 14, 2002, the hearing officer convened a contested case hearing. The hearing was stenographically reported, and a transcript prepared and is part of the record of this case. Attending were the Department of Justice, the Office of Energy, the applicant and Otto Moosburner. The hearing was opened with a review of the participants' hearing rights pursuant to ORS 183.413. Official notice was taken of the Application for Site Certificate, the Notice of Contested Case Proceeding, and the Draft Proposed Order of the Office of Energy. Marked and received into evidence as the part of the record was Mr. Duble's statement of qualifications (PGE-1), a report prepared by Mr. Duble dated July 2001 (PGE-2), written direct testimony of Mr. Duble (PGE-3), written direct testimony of Mr. Standlee (OOE-1), Resume of Kerrie Standlee (OOE-2), and Memorandum from Kerrie Standlee to Samuel Sadler dated June 13, 2002 and October 8, 2002 (carrying two dates) (OOE-3).

Mr. Standlee and Mr. Duble testified live and were qualified as experts without any objection from any of the parties. Each of the parties had the opportunity to undertake live cross-examination or redirect examination of Mr. Standlee and Mr. Duble. Mr. Moosburner also presented testimony and argument. At Moosburner's request, the hearing officer ruled that he was incorporating into his testimony Mr. Moosburner's letters to the Office of Energy dated May 20, 2002 and July 31, 2002, and his live testimony at the public hearing in this case on August 1, 2002.

The hearing officer asked the parties if they had additional evidence to present or if an adjournment was required to obtain additional evidence. The parties responded that they had no additional evidence or a need to for an adjournment. Closing arguments were received from the applicant, the Office of Energy and Mr. Moosburner.

At the hearing, the hearing officer with agreement from the parties set the following post-hearing schedule:

- October 18, 2002, hearing officer issues Proposed Order

- October 25, 2002, exceptions due to hearing officer's Proposed Order.

- November 1, 2002, responses to exceptions due to hearing officer's Proposed Order

The parties were directed to serve any such documents pursuant to the service directive contained in the pre-hearing order, consisting of service by e-mail no later than 5 p.m. of the due date with mailing of a hard copy, original that same day.

The hearing officer then closed the evidentiary record concluded the hearing.

On October 23, 2002, Mr. Otto Moosburner mailed to the Council a statement of exceptions to the hearing officer's Proposed Order. He challenged certain findings of fact and the conclusion that compliance with the 10dBA limit for increase in ambient noise levels could be demonstrated by a single testing event, as provided in the conditions in the Office's Proposed Order.

On October 24, 2002, the hearing officer issued a Corrected Proposed Order to correct a paragraph from which text had been inadvertently deleted. The corrected version did not alter the substance of the Proposed Order.

On October 29, 2002, the hearing officer issued a notice of argument for the Council's meeting on November 8, 2002.

On November 1, 2002, PGE responded to the exceptions. It requested that the Council reject Mr. Moosburner's exceptions based on the evidence in the record from the expert witnesses in the contested case. On that date, the Office separately joined in PGE's response.

On November 5, 2002, the hearing officer issued the Hearing Officer's Comments on Exceptions. The hearing officer did not recommend any substantive changes to his Corrected Proposed Order or conditions for the site certificate. However, he noted that the Corrected Proposed Order contained duplicate findings of fact and recommended that the duplications be deleted.

On November 8, 2002, the Council considered the Hearing Officer's Corrected Proposed Order and the Hearing Officer's Comments on Exceptions, the exceptions, the responses, and oral arguments. The Council adopted the Hearing Officer's Corrected Proposed Order and Comments on Exceptions.

Findings of facts and conclusions of law from the contested case proceeding are reported in the section of this Order addressing noise standards (Section E.1.a.) because the contested case proceeding was limited to issues over noise standards.

B.5 COUNCIL ACTION ON ASC

The Council approved issuing a site certificate for the Port Westward Generating Project to PGE at its meeting in Tigard, Oregon, on November 8, 2002.

C. GENERAL FINDINGS

C.1. DESCRIPTION OF THE FACILITY

C.1.a. The Energy Facility

Major Structures and Equipment. The net electric power output of the energy facility would be about 560 MW. It would use power augmentation, i.e., duct burning, that would allow it to achieve a net electric power output of about 650 MW for a limited number of hours annually on average.

The energy facility would consist of two essentially identical combustion turbine generators (General Electric Frame 7FB's or comparable combustion turbines), two heat recovery steam generators ("HRSG"), and two steam generators. It would burn natural gas in the combustion turbines and duct burners. Expanding gases from combustion would turn rotors within the turbines that are connected to electric generators. The hot gases exhausted from the combustion turbines and duct burners would be used to raise steam in the HRSGs. Steam from the HRSGs would be expanded through the steam turbines. Each steam turbine would drive its own electric generator.

The combustion turbines would be housed in a turbine building that provides thermal insulation, acoustical attenuation and fire extinguishing media containment. The turbine building, occupying a footprint measuring about 230 feet by 560 feet and standing about 90 feet high, would also house the steam turbine generators, condensers, balance of plant equipment, control room, and administrative offices. The enclosure would allow access for routine inspection and maintenance.

Each of the two HRSGs would occupy a footprint measuring about 50 feet by 150 feet and would stand about 110 feet high. A stack would be provided for each combustion turbine's HRSG. The two stacks would be about 15 to 25 feet in diameter and 200 feet high.

Four transformers would step-up the combustion turbine and steam turbine generator voltages to the substation voltage of 230 kilovolts ("kV"). Two auxiliary transformers would supply power for plant auxiliary loads.

Most of the structures comprising the energy facility, including the combustion and steam turbines and generators, the main step-up transformers, the HRSG, and the control rooms, would be contained within an area measuring about 400 feet by 560 feet.

Two mechanical-draft cooling towers would be used to remove the waste heat from each main condenser and the plant auxiliary heat exchangers. The cooling towers and circulating water pumps would cover an area of about 75 feet by 650 feet and would stand about 50 feet high.

A switchyard would interconnect the plant's output to the 230-kV transmission network. The switchyard footprint would measure about 300 feet by 500 feet.

Additional facilities would include: a plant services/warehouse building; two boiler feed pump buildings; a fire water pump building; a water treatment building; a clarifier; a settling basin; a condensate tank, a fire water/service water storage tank and a demineralized water storage tank (each with 440,000-gallon capacity); a natural gas metering station; and, an aqueous ammonia storage tank (with 100,000-gallon capacity and equipped with containment).

Natural gas would not be stored at the energy facility site. Diesel fuel for the fire pumps would be stored in an aboveground tank. Water treatment chemicals would be stored in permanent aboveground storage tanks or portable plastic tanks (totes). To prevent storm water runoff from chemical storage, all fuel and chemical storage would be inside buildings or under cover in paved areas with a curb. All individual spill containment areas would be designed to hold at least 110 percent of the volume of liquids stored within them.

A complete fire protection system would be installed within the buildings and yard areas at the energy facility site. The system would be designed to meet the requirements of the Uniform Fire Code, as amended by Oregon and the National Fire Protection Association, and all other applicable fire protection standards. The fire protection system would include a fire water system, a dry chemical extinguishing system, a carbon dioxide ("CO_2") extinguishing system, and portable fire extinguishers. The road system within the energy facility site would be designed for access by large trucks needed for equipment and material deliveries. (These trucks are larger than typical fire trucks.) The minimum turning inside radius for roads would be 40 feet.

The fire water system would include a fire water supply loop, fire hydrants, sprinkler systems, and hoses placed at appropriate locations. Reserved capacity in the 180,000-gallon fire water/service water storage tank would serve as the firewater source.

The combustion turbine enclosures would be protected by foam or CO_2 systems. If the systems were to activate, an alarm would sound and/or a visual indicator would light up on the gas turbine control panel.

Portable fire extinguishers would be placed at key locations within the energy facility site. The type and number of portable fire extinguishers would conform to applicable code requirements.

Output. The energy facility would have a net electric power output of about 560 MW at an average annual site condition of 51 degrees Fahrenheit, 14.691 pounds per square inch barometric pressure, and 78 percent relative humidity. The new and clean heat rate would be about 6,790 Btu (higher heating value).

With power augmentation technologies (duct burning), the energy facility would have a net electric power output of about 650 MW and a new and clean heat rate of about 7,100 Btu (higher

heating value). PGE proposes to operate the energy facility with power augmentation technologies for 3,000 hours annually on average.

Fuel Use. The energy facility would use natural gas as the only fuel to power the turbines and the power augmentation technologies. It would use 4,600 MM Btu per hour of natural gas at full load with the duct burners in operation at the average annual site condition.

Water Use. The energy facility would obtain water to generate steam and to cool the steam process from an existing PGE intake structure on the Bradbury Slough of the Columbia River. PGE would enter into a contract with the Port of St. Helens, which has an existing water permit, to obtain water sufficient for operation of the energy facility.

Average water demand at the energy facility would be about 2,800 gallons per minute ("gpm"), or 4.0 million gallons per day ("gpd"). Peak water demand would be about 3,700 gpm, 5.4 million gpd, or 8.3 cubic feet per second ("cfs").

The energy facility would require no new state-administered water right, water rights transfer, or surface water right permit for water supply. The Port of St. Helens has an existing municipal water use permit for 30 cfs.

The water right has a permitted point of diversion, where existing withdrawals occur and the energy facility withdrawals would occur. PGE owns and operates the existing point of diversion. To serve the energy facility, PGE would place additional pumps within the existing intake facility. PGE would employ fish screens compliant with National Marine Fisheries Service ("NMFS") screening criteria and Oregon Department of Fish and Wildlife ("ODFW") criteria.

Wastewater. Process blowdown is washdown water, filter backwash or other non-sanitary liquid waste produced within the energy facility. The average volume of process blowdown would be about 190 gpm. Cooling system blowdown is water withdrawn from the cooling system to control the buildup of dissolved salts. The average volume of cooling system blowdown would be about 460 gpm, but it could vary depending on the quality of the river water supply. The energy facility would discharge its process and cooling system blowdown to the Columbia River under a National Pollution Discharge Elimination System ("NPDES") permit that the Port of St. Helens has requested from DEQ.

PGE would discharge sanitary sewage to an engineered septic tank and drain field at a rate of about 500 gallons per day, as permitted by a Water Pollution Control Facilities permit. PGE would route storm water from roofs and paved areas to pervious areas to percolate into the shallow groundwater.

C.1.b. Related or Supporting Facilities

The energy facility would include the following related or supporting facilities:

Natural Gas Pipeline. Natural gas would fuel the combustion turbine generators and duct burners. The energy facility would be served by the Kelso-Beaver Pipeline, an existing FERC-

regulated interstate pipeline with a current capacity of 193,000 decatherms per day. PGE owns the pipeline jointly with two other parties. To create the additional capacity that would be required to serve the energy facility, PGE would add 4,000 to 15,000 compressor horsepower to the Kelso-Beaver Pipeline. All work on the existing pipeline would be subject to FERC approval. The addition of compressor horsepower is intended to ensure 415 to 520 psig gas pressure at the Port Westward Industrial Area with total capacity of 310 million standard cubic feet/day.

The interconnecting pipeline, about 18 inches in diameter, between the existing Kelso-Beaver Pipeline and the energy facility would be about 1,000 feet long and would be installed below grade with appropriate cathodic protection.

Water Supply Pipeline. Water supply for the energy facility would be drawn from Bradbury Slough at about River Mile 53.8 of the Columbia River from an existing PGE intake facility. The pump capacity of the existing intake facility would be expanded. No major structural improvements or modifications to the intake facility would be required. However, PGE will upgrade the fish screens to comply with NMFS and ODFW criteria regardless of whether it builds the Port Westward Generating Project. PGE would install a water supply pipeline about 20 inches in diameter and 6,000 feet long to convey water from the intake facility to the energy facility. The water supply pipeline would traverse upland areas and would avoid wetlands.

Reclaimed Wastewater Pipeline. Process and cooling wastewater discharged from the energy facility would be collected in a settling basin and returned to the Columbia River about one-half mile northwest of the energy facility, pursuant to the Port of St. Helens' NPDES permit.

Electric Transmission Line. The energy facility would deliver electric power to the regional grid by means of a new transmission line consisting of one 230 kV circuit on monopole towers (up to 120 feet high) routed along existing power line easements. There are two transmission line alternatives routes under consideration, with two other short alternative segments in the vicinity of the BPA Allston Substation:

> Alternative One. The first alternative would entail routing the transmission line from the energy facility to the Bonneville Power Administration ("BPA") Allston Substation near Alston, Oregon (a distance of about 10 miles).
>
> Alternative Two. The second alternative would entail routing the transmission line from the energy facility to the PGE Trojan Substation near Goble, Oregon (a distance of about 20 miles).

PWGP and the Summit Project present a unique situation regarding the transmission lines for their facilities. The two proposed energy projects would be located close to each other and would use the same existing transmission corridor and the same towers from Port Westward to the vicinity of the BPA Allston Substation, Alternative One. The towers would be double-circuited, with PWGP on one side and the Summit Project on the other.

The Portland General Electric Transmission Group would build the transmission lines for either or both projects, depending on which energy facilities are eventually constructed. The transmission line for each project is a related or supporting facility for that project, and therefore, must be built to Council standards. However, because the Council is reviewing the applications for both projects simultaneously, because they would use the same towers, and because the same company would build and operate the transmission lines, the Council has consolidated the reviews within the PWGP proceeding and is placing conditions for the transmission lines in the site certificate for the Port Westward Generating Project.

Some conditions account for the possibility that the certificate holder may construct the Port Westward to BPA Allston Substation Transmission Line may separately from constructing the energy facility. Additionally, if the certificate holder for PWGP does not construct the energy facility within the time specified in its site certificate or if it terminates its site certificate, the Council intends that the certificate holder of the Summit Project must amend its site certificate to include the 230 kV transmission line from the Summit Project to the BPA Allston Substation.

C.2. LOCATION OF THE FACILITY

C.2.a. The Energy Facility Site

The energy facility would be located about seven miles by road northeast of the city of Clatskanie in Columbia County, Oregon. The energy facility site would be located on an approximately 852-acre parcel leased to PGE by the Port of St. Helens in Section 15, Township 8 North, Range 4 West, Willamette Meridian. The energy facility site would be fenced and would comprise about 19 acres of the larger parcel.

Bradbury Slough of the Columbia River lies to the northeast of the energy facility site. Access to the energy facility site would be by traveling about 1.5 miles north on Kallunki Road from its intersection with Alston-Mayger Road. The existing PGE Beaver Generating Plant is located about one-half mile southwest of the energy facility site.

C.2.b. Related or Supporting Facility Sites

Natural Gas Pipeline Corridor. The proposed natural gas pipeline would be about 18 inches in diameter and would interconnect with the existing Kelso-Beaver Pipeline about 1,000 feet west of the energy facility site. The natural gas pipeline corridor would lie within the 852-acre parcel leased to PGE by the Port of St. Helens and situated within Section 15, Township 8 North, Range 4 West, Willamette Meridian.

Water Supply Pipeline Corridor. The proposed water supply pipeline would supply raw water to the energy facility from the existing PGE Beaver Generating Plant water intake structure in Bradbury Slough of the Columbia River. The pipeline right-of-way would be about 50 feet wide and 6,000 feet long, would cover an area of about 7 acres, and would lie within the 852-acre parcel leased to PGE by the Port of St. Helens and situated within Section 15, Township 8 North, Range 4 West, Willamette Meridian.

Reclaimed Wastewater Pipeline Corridor. Water discharged from the energy facility would be returned to the Columbia River about one-half mile northwest of the energy facility. The reclaimed water pipeline corridor would be about 100 feet wide and 2,400 feet long, would cover an area of about 6 acres, and would lie primarily within the 852-acre parcel leased to PGE by the Port of St. Helens and situated within Section 15 and 16, Township 8 North, Range 4 West, Willamette Meridian.

Transmission Line Corridor. The transmission line would follow one of two alternative routes:

Alternative One. Under this alternative, the energy facility would deliver electric power to the BPA Allston Substation near Alston, Oregon, by means of a new 230-kV circuit on monopole steel structures, except where it would have to cross the existing BPA lines. A separate 230 kV circuit would carry the output of the Summit Project on the same structures, as noted above. The new transmission line would be routed on an existing PGE right-of-way that is 250 feet wide, except at the BPA Allston Substation where a new right-of-way may be required. The structures would be placed on or near the centerline of the unused north half of the right-of-way. The transmission line corridor would be about 125 feet wide and 10 miles long, would occupy an area of about 300 acres, and would pass through Sections 15, 22, 23, 26, 35 and 36, Township 8 North, Range 4 West, and Sections 31, 5, 6, 4, 3 and 10, Township 7 North, Range 3 West, Willamette Meridian.

Alternative Two. Under this alternative, the energy facility would deliver electric power to Trojan near Goble, Oregon, by means of a new 230-kV circuit on monopole steel structures. Between PWGP and the BPA Allston Substation, the new transmission line would be routed on an existing PGE right-of-way 250 feet wide as described in Alternative One. The structures would be placed on or near the centerline of the unused north half of the right-of-way. Between the BPA Allston Substation and Trojan, the new transmission line would run parallel to an existing BPA transmission line. This section of the transmission line corridor would be about 125 feet wide and ten miles long, would occupy an area of about 300 acres, and would pass through Sections 10, 11, 15, 14, 23 and 24, Township 7 North, Range 3 West, and Sections 19, 30, 29, 28, 33 and 34, Township 7 North, Range 2 West, and Sections 3 and 2, Township 6 North, Range 2 West, Willamette Meridian.

Alternates 3 and 4. These short alternate segments are in the vicinity of the BPA Allston Substation. They provide flexibility for interconnecting with the substation.

Unanalyzed Options. As shown on Figure C-2 of the ASC, and in particular the enlarged detail of the BPA Allston Substation, there is a segment of Alignment 1 identified as "2nd (future) circuit." This Order does not address that proposed segment of Alignment 1.

D. COUNCIL FACILITY SITING STANDARDS

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

(1) To issue a site certificate for a proposed facility or to amend a site certificate, the Council shall determine that the preponderance of evidence on the record supports the following conclusions:

(a) The facility complies with the requirements of the Oregon Energy Facility Siting statutes, ORS 469.300 to ORS 469.570 and 469.590 to 469.619, and the standards adopted by the Council pursuant to ORS 469.501 or the overall public benefits of the facility outweigh the damage to the resources protected by the standards the facility does not meet as described in section (2);

(b) Except as provided in OAR 345-022-0030 for land use compliance and except for those statutes and rules for which the decision on compliance has been delegated by the federal government to a state agency other than the Council, the facility complies with all other Oregon statutes and administrative rules identified in the project order, as amended, as applicable to the issuance of a site certificate for the proposed facility. If the Council finds that applicable Oregon statutes and rules, other than those involving federally delegated programs, would impose conflicting requirements, the Council shall resolve the conflict consistent with the public interest. In resolving the conflict, the council cannot waive any applicable state statute.

(2) The Council may issue or amend a site certificate for a facility that does not meet the standards adopted under ORS 469.501 if the Council determines that the overall public benefits of the facility at the proposed site outweigh the damage to the resource that is protected by the standard the facility does not meet***.

(3) Notwithstanding section (2) of this rule, the Council shall not issue or amend a site certificate for a proposed facility that does not meet the standards of OAR 345-022-0040 if the statutes or administrative rules governing the management of the protected area prohibit location of the proposed facility in that area.

(4) In making determinations regarding compliance with statutes, rules and ordinances normally administered by other agencies or compliance with requirements of the Council statutes if other agencies have special expertise, the Office of Energy shall consult with such other agencies during the notice of intent, site certificate application and site certificate amendment processes. Nothing in these rules is intended to interfere with the state's implementation of programs delegated to it by the federal government.

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

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

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

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

Discussion

PGE was incorporated in Oregon on July 25, 1930. PGE is a wholly-owned subsidiary of Enron Corp. (Before PGE submitted its ASC, NW Natural Gas Company offered to purchase PGE from Enron. NW Natural Gas subsequently withdrew its offer to purchase PGE.) The Council finds that it can rely on the experience and expertise of PGE for the purposes of this Order as long as PGE remains an independent operating entity.

PGE has significant experience in managing the construction of electric generating projects. Recent examples include: Beaver 8, a 24.9-megawatt simple-cycle gas turbine project located at Beaver and completed in July 2001; and, Coyote Springs Unit 1, a 240-megawatt combined-cycle combustion turbine located in Boardman, Oregon, and placed in service in 1995. PGE prepared and negotiated all the contracts for the design and construction of Coyote Springs Unit 1, supervised its construction, and performed many of the engineering functions in support of the design and construction work. In addition, in 1999 and 2000, PGE prepared draft engineering, procurement and construction documents in conjunction with the development of Coyote Springs Unit 2 before selling the right to develop that project to an unaffiliated third-party. PGE employees have extensive engineering and project management experience associated with electric generating projects.

PGE currently operates thermal generating facilities producing over 1,400 megawatts and has a contract to operate the 280-megawatt Coyote Springs Unit 2 when it comes on line. PGE constructed and operates Coyote Springs Unit 1 and the Boardman Coal Plant in compliance with site certificate conditions. In addition to thermal generating facilities, PGE operates major hydroelectric facilities producing an additional 575 megawatts. Table D.2 shows the major projects that PGE operates.

PGE conducted interviews with its plant managers and reported that PGE has not experienced any monetary penalty or fine associated with regulation of any thermal generating facility operated by PGE within the past five years. PGE has not received a monetary penalty or fine for regulatory violations at Beaver since it began operation in 1974 or at Coyote Springs Unit 1 since it began operation in 1995. PGE reported that it has received notices of violation and has self-reported instances of non-compliance with regulatory requirements, but none of these instances involved monetary penalties. PGE reported that all problems were minor or not serious and all were settled to the satisfaction of the affected regulatory authority.

Table D.2
MAJOR ELECTRIC GENERATING PROJECTS CONSTRUCTED AND CURRENTLY OPERATED BY PGE

Project Commercial Operation Date	Technology	Approximate Size (MW)
Beaver Generating Plant (1974)	Gas Combined-Cycle Combustion Turbine	534
Beaver 8 (2001)	Gas Simple-Cycle Combustion Turbine	25
Coyote Springs Unit 1 (1995)	Gas Combined-Cycle Combustion Turbine	241
Boardman Coal Plant (1980)	Coal	600
Round Butte (1964)	Hydro	300
Pelton (1957)	Hydro	108
Oak Grove (1924)	Hydro	44
North Fork (1958)	Hydro	54
Faraday (1907 / 1958)	Hydro	44
River Mill (1911 / 1952)	Hydro	25

PGE owns the Trojan Nuclear Plant. The plant ceased operation in 1993 and is now in the decommissioning process. Within the past five years, PGE was assessed monetary penalties for two citations issued to Trojan: one from the U.S. Coast Guard for $250 for one pint of hydraulic fluid spilled into the Columbia River, and the other from DEQ for $3,000 for chemical container violations. PGE received no other citations involving monetary penalties at Trojan during the past five years. It operated and is now decommissioning the plant in compliance with site certificate conditions. PGE has considerable experience with facility retirement as a direct consequence of decommissioning Trojan.

Other matters concerning retirement are addressed in Section D.3 of this Order. Other matters concerning protection of public health and safety are addressed throughout this Order.

PGE has not selected a prime contractor for the proposed facility. PGE would enter into turnkey engineering, procurement and construction contracts (each one an "EPC" contract) with one or more qualified and credit-worthy contractors; different elements of the facility may be contracted to different EPC contractors. PGE would draft an EPC contract that would serve as the basis for negotiations with vendors. PGE could execute separate contracts, for example, for the energy facility and the transmission lines. PGE plans to provide a Design Basis & Technical Specifications document in conjunction with a draft EPC contract. PGE has extensive experience in the process of preparing and negotiating such documents and in selecting EPC contractors.

PGE has not selected a combustion turbine vendor for the facility, but expects that General Electric, Siemens Westinghouse, MHI, ABB or equivalent would supply the equipment.

The Council adopts the following conditions in the site certificate:

(1) The Certificate Holder shall report to the Office of Energy ("Office") in a timely manner any change in the ownership of Portland General Electric Company ("PGE").

(2) Before beginning construction of the energy facility, the Port Westward to Bonneville Power Administration ("BPA") Allston Substation Transmission Line, or other related or supporting facilities, the Certificate Holder shall identify to the Energy Facility Siting Council ("Council") whom it has chosen to act in the role of the engineering, procurement and construction ("EPC") contractor(s) for specific portions of the work.

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

(4) Any matter of non-compliance under this Site Certificate shall be the responsibility of the Certificate Holder. Any notice of violation issued under the Site Certificate will be issued to the Certificate Holder. Any civil penalties levied shall be levied on the Certificate Holder.

(5) The Certificate Holder shall contractually require the EPC contractor(s) and all independent contractors and subcontractors involved in the construction and operation of the facility to comply with all applicable laws and regulations and with the terms and conditions of the Site Certificate. Such contractual provision shall not operate to relieve the Certificate Holder of responsibility under the Site Certificate.

(6) The Certificate Holder shall obtain necessary state and local permits or approvals required for the construction, operation and retirement of the facility or ensure that its contractors obtain the necessary state and local permits or approvals.

The Council finds PGE has demonstrated the ability to design, construct and operate the proposed facility in compliance with site certificate conditions and in a manner that protects public health and safety and the ability to restore the site to a useful, non-hazardous condition.

Conclusion

The Council finds that PGE meets the requirements of OAR 345-022-0010(1).

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

The Council may base its findings under section (1) on a rebuttable presumption that an applicant has organizational, managerial and technical expertise, if the applicant has an ISO 9000 or ISO 14000 certified program and proposes to design, construct and operate the facility according to that program.

Discussion

PGE did not submit evidence of ISO certification.

Conclusion

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

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

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

Discussion

Raw Water Supply. PGE would obtain water for operation of the energy facility from the Port of St. Helens. The Port of St. Helens has a Permit to Appropriate the Public Waters (Permit #53677), issued April 24, 2000, allowing for the appropriation of water from the Columbia River at the rate of up to 30.0 cubic feet per second ("cfs"). PGE states the energy facility would use water at the rate of about 8.3 cfs. By letter to PGE dated July 26, 2001, the Port of St. Helens has stated that it " believes it is reasonably likely that the Port and PGE will be able to enter into a contract to provide water to the Port Westward Generating project" at the rate of up to 10.0 cfs.

Conclusion

The Council finds that PGE meets the requirements of OAR 345-022-0010(3).

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

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

contract or other arrangement for access to the resource or service secured by that permit or approval.

Discussion

Reclaimed Wastewater Disposal. PGE would discharge non-sanitary wastewater from the energy facility site by means of a wastewater treatment facility to be constructed by the Port of St. Helens under an NPDES permit that the Port has yet to obtain from DEQ. The purpose of the NPDES permit would be to allow for the discharge of all wastewater, except sanitary wastewater, from facilities within the boundary of the Port Westward Industrial Area that contract with the Port to discharge wastewater under the Port's NPDES permit. By letter to PGE dated July 26, 2001, the Port of St. Helens has stated the "Port believes that it is reasonably likely that we will be able to enter into a contract with Portland General Electric to allow PGE to use the wastewater discharge facilities developed under the NPDES permit."

By letter to the Port of St. Helens dated February 27, 2002, DEQ acknowledged it had received the Port's application for an NPDES permit (Application No. 986433) and that review of the application would proceed on a normal schedule.

The Council finds that it needs to impose additional site certificate conditions relating to obtaining third-party permits because:

(a) There is no contractual agreement between PGE and the Port of St. Helens whereby PGE may use up to 10 cfs of the Port of St. Helens' water right.

(b) DEQ has not issued the NPDES permit to allow for the discharge of all wastewater except sanitary wastewater from facilities within the boundary of the Port Westward Industrial Area.

(c) There is no contractual agreement between PGE and the Port of St. Helens whereby PGE may discharge wastewater from the energy facility by means of the NPDES permit issued to the Port of St. Helens.

The Council adopts the following conditions in the site certificate:

(7) Before beginning construction of the energy facility, the Certificate Holder shall deliver to the Office a copy of the agreement between the Certificate Holder and the Port of St. Helens that provides that the Certificate Holder may use at least 8.3 cubic feet per second of the water right held by the Port of St. Helens under Permit to Appropriate the Public Waters, issued by the State of Oregon, Water Resources Department, Permit No. 53677.

(8) Before beginning construction of the energy facility, the Certificate Holder shall deliver to the Office evidence that the Oregon Department of Environmental Quality has issued to the Port of St. Helens a National Pollutant Discharge Elimination System ("NPDES") permit that provides for the discharge of non-sanitary wastewater from the Port Westward Industrial Site, including all non-sanitary wastewater produced by the energy facility.

(9) Before beginning construction of the energy facility, the Certificate Holder shall deliver to the Office a copy of the agreement between the Certificate Holder and the Port of St. Helens that provides for discharge of non-sanitary wastewater from the energy facility by means of the NPDES permit issued to the Port of St. Helens.

Conclusion

The Council finds that PGE meets the requirements of OAR 345-022-0010(4).

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

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

(1) The site, taking into account mitigation, can be restored adequately to a useful, non-hazardous condition following permanent cessation of construction or operation of the facility.

(2) The applicant has a reasonable likelihood of obtaining a bond or letter of credit in a form and amount satisfactory to the Council to restore the site to a useful, non-hazardous condition.

Discussion

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

Retirement. For the purposes of the retirement and financial assurance standard, a "useful, non-hazardous condition" is a condition consistent with the applicable local comprehensive land use plan and land use regulations. The energy facility site is currently zoned for Resource Industrial-Planned Development uses. The transmission line corridors are zoned for Primary Agriculture-38, Forest Agriculture-19, Primary Forest-76, Rural Residential-5, and Watershed uses.

The estimated useful life of the energy facility is 30 years. However, PGE proposes to operate the energy facility for as long as a market exists for the electrical energy that it produces. At the end of its useful life, PGE would retire the energy facility in accordance with the approved retirement plan and in compliance with all laws and regulations in effect at the time of retirement.

Among the related or supporting facilities is the transmission line between Port Westward and the BPA Allston Substation. This transmission line would serve both the Port Westward Generating Project and the Summit Project. In the event that Westward Energy, LLC, ("Summit/Westward") proceeds with construction of the Summit Project in advance of PGE's beginning construction of the energy facility of the Port Westward Generating Project, PGE would have to proceed with construction of the Port Westward to BPA Allston Substation Transmission Line separate and apart from construction of its energy facility. Therefore, in

several instances this Order and the site certificate distinguish between conditions that relate to construction, operation, and retirement of the energy facility, those that relate to the Port Westward to BPA Allston Substation Transmission Line, and those that relate to other related or supporting facilities. For example, the distinction between the Port Westward to BPA Allston Substation Transmission Line and the energy facility is relevant to the retirement and financial assurance standard, as explained below.

Site restoration would consist primarily of the dismantling and the removal of unneeded equipment and structures. Electric, gas and water transmission lines would be retained, as appropriate, to serve any new industrial uses at the site. Two years before the date on which PGE expects to permanently shut down the proposed energy facility, or the Port Westward to BPA Allston Substation Transmission Line, as appropriate, it would develop and submit a site restoration plan to the Council for its approval.

The Council adopts the following conditions in the site certificate:

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

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

(a) A plan for retirement that provides for completion of retirement within two years of permanent cessation of operation of the energy facility and that protects the public health and safety and the environment;

(b) A description of actions the Certificate Holder proposes to take to restore the site to a useful, non-hazardous condition; and,

(c) A detailed cost estimate, a comparison of that estimate with the dollar amount secured by a bond or letter of credit and any amount contained in a retirement fund, and a plan for assuring the availability of adequate funds for completion of retirement.

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

(4) Notwithstanding Conditions (1), (2), and (3), if the Certificate Holder begins construction of the Port Westward to BPA Allston Substation Transmission Line before beginning construction of the energy facility and other related or supporting facilities, Conditions (1), (2), and (3) shall apply to that transmission line separately for as long as it is under construction or operation independent of the energy facility; and, a retirement plan that the Certificate Holder submits may provide that the Port Westward to BPA Allston Substation Transmission Line remains in operation to serve other energy facilities.

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

Financial Assurance. PGE estimated the cost of removal of all equipment and structures from the site would not exceed $8.64 million. PGE developed the $8.64 million estimate by estimating the book cost of the different elements of the project, including but not limited to structures, buildings and equipment, and multiplying the cost by a restoration rate (salvage rate). The restoration rates used for each element are consistent with the restoration rates used for Coyote Springs Unit 1 in PGE's UE-115 rate case approved by the Oregon Public Utility Commission in the fall of 2001.

In the event that PGE were to proceed with construction of the Port Westward to BPA Allston Substation transmission line in advance of beginning construction of the energy facility, PGE estimated the cost of removal of all equipment and structures from the Port Westward to BPA Allston Substation Transmission Line would be $394,000.

The Council finds that these estimates are within the range of accuracy for estimates of this type. Accordingly, the Council finds that the amount of the retirement fund applicable to the facility is $8.64 million (in 2002 dollars as of the second quarter) and the amount of the retirement fund applicable to the Port Westward to BPA Allston Substation Transmission Line is $0.394 million (in 2002 dollars as of the second quarter).

If a plant is not well-operated, leaks, spills, and improper materials handling over a period of several years could contaminate large amounts of soil, particularly if the spills had access to cracks in concrete or asphalt cover or did not occur over an impermeable surface. In the absence of an effective materials management and monitoring plan, careless practices could result in much higher site remediation costs.

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

can be covered by bond or letter of credit then in place, the Council requires the certificate holder to increase its bond or letter of credit to cover the higher costs.

PGE provided a letter from ABN AMRO Bank N.V. ("ABN AMRO") with which it has a long-standing business relationship, whereby ABN AMRO stated it would be willing to furnish or arrange a letter of credit in an amount up to $10 million for a period not to exceed four years for the purpose of ensuring that the site of the proposed energy facility can be restored to a useful, non-hazardous condition. Because the estimated useful life of the energy facility is 30 years, the term of the required bond or letter of credit would be greater than the term for which ABN AMRO has extended its commitment. However, a bond or letter of credit is usually issued for one or two years at a time and the certificate holder would be required to maintain a bond or letter of credit in effect at all times.

A bond or letter of credit is financial assurance to the State of Oregon that funds will be available to the State should it have to restore the site because of default by the site certificate holder. It is a last resort; it is not the primary mechanism for restoring the site. It is the responsibility of the site certificate holder to have funds or other financial resources available to it sufficient to restore the site.

The Council does not have a standard that specifies that a certificate holder must maintain its own retirement fund, but the existence and adequacy of such a fund is of concern to the Council. The Council assumes that a certificate holder would create some fund or other mechanism. Therefore, the Council requires that the certificate holder report annually on the status of its retirement fund or whatever mechanism it uses to ensure it will have adequate funds for site restoration.

The Council adopts the following conditions in the site certificate:

(5) Before beginning construction of the energy facility, the Certificate Holder shall submit to the State of Oregon, through the Council, a bond or letter of credit in the amount of $8,640,000 (in 2002 dollars as of the second quarter) naming the State of Oregon, acting by and through the Council, as beneficiary or payee.

(a) In the event the Certificate Holder begins construction of the Port Westward to BPA Allston Substation Transmission Line before beginning construction of the energy facility, the Certificate Holder shall submit to the State of Oregon, through the Council, a bond or letter of credit in the amount of $394,000 (in 2002 dollars as of the second quarter).

(b) If the Certificate Holder has previously begun construction of the Port Westward to BPA Allston Substation Transmission Line, the Certificate Holder shall increase the amount of such bond or letter of

credit to $8,640,000 (in 2002 dollars as of the second quarter) before beginning construction of the energy facility.

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

(d) The Certificate Holder shall maintain a bond or letter of credit in effect at all times until the energy facility or the Port Westward to BPA Allston Substation Transmission Line has been retired, as appropriate.

(e) The calculation of 2002 dollars shall be made using the U.S. Gross Domestic Product Implicit Price Deflator, Chain-Weight, as published in the Oregon Department of Administrative Services' "Oregon Economic and Revenue Forecast," or by any successor agency (the "Index"). If at any time the Index is no longer published, the Council shall select a comparable calculation of 2002 dollars.

(f) The amount of the bond or letter of credit account shall increase annually by the percentage increase in the Index.

(g) The Certificate Holder shall not revoke or reduce the bond or letter of credit before retirement of the facility without approval by the Council.

(6) The Certificate Holder shall describe in the annual report submitted to the Council, pursuant to OAR 345-026-0080, the status of the retirement fund or other instrument to ensure it has adequate funds to restore the site.

(7) Before beginning construction of the energy facility, the Certificate Holder shall prepare and submit to the Office a materials management and monitoring plan that addresses the handling of hazardous substances, the measures it will implement to prevent site contamination, and how it will document implementation of the plan during construction. The materials management and monitoring plan shall be subject to approval by the Office. For the purpose of this condition and Conditions (8), (10), (11), and (12) below, the terms "release" and "hazardous substances" shall have the meanings set forth at ORS 465.200.

(8) Before beginning operation of the energy facility, the Certificate Holder shall prepare and submit to the Office a materials management and monitoring plan that addresses the handling of hazardous substances, the measures it will implement to prevent site contamination, and how it will document implementation of the plan during operation. The materials management and monitoring plan shall be subject to approval by the Office.

(9) Not later than 10 years after the date of commercial operation of the energy facility, and each 10 years thereafter during the life of the energy facility, the Certificate Holder shall complete an independent Phase I Environmental Site Assessment of the energy facility site. Within 30 days after its completion, the Certificate Holder shall deliver the Phase I Environmental Site Assessment report to the Office.

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

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

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

(a) Upon approval of an estimate by the Council, the Certificate Holder shall increase the amount of its bond or letter of credit by the amount of the estimate.

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

(13) All funds received by the Certificate Holder from the salvage of equipment and buildings shall be committed to the restoration of the energy facility site to the extent necessary to fund the approved site restoration and remediation.

(14) The Certificate Holder shall pay the actual cost to restore the site to a useful, non-hazardous condition at the time of retirement, notwithstanding the Council's approval in the Site Certificate of an estimated amount required to restore the site.

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

(a) If the Certificate Holder does not submit a proposed final retirement plan by the specified date or if the Council rejects the retirement plan that the Certificate Holder submits, the Council may direct the Office to prepare a proposed a final retirement plan for the Council's approval.

(b) Upon the Council's approval of the final retirement plan prepared pursuant to subsection (a), the Council may draw on the bond or letter of credit described in Condition (5) and shall use the funds to restore the site to a useful, non-hazardous condition according to the final retirement plan, in addition to any penalties the Council may impose under OAR Chapter 345, Division 29.

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

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

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

Conclusion

The Council finds that PGE meets the retirement and financial assurance standard, OAR 345-022-0050.

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

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

Discussion

Pursuant to ORS 469.504(1)(b), PGE elected to ask the Council to determine that the proposed facility complies with OAR 345-0022-0030(1). OAR 345-022-0030(2)(b) *et seq*. provides:

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

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

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

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

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

(3) As used in this rule, the "applicable substantive criteria" are criteria from the affected local government's acknowledged comprehensive plan and land use ordinances that are required by the statewide planning goals and that are in effect on the date the applicant submits the application. If the special advisory group recommends applicable substantive criteria, as described under OAR 345-021-0050, the Council shall apply them. If the special advisory group does not recommend applicable substantive criteria, the Council shall decide either to make its own determination of the applicable substantive criteria and apply them or to evaluate the proposed facility against the statewide planning goals.

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

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

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

(c) The following standards are met:

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

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

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

(5) If the Council finds that applicable substantive local criteria and applicable statutes and state administrative rules would impose conflicting requirements, the Council shall resolve the conflict consistent with the public interest. In resolving the conflict, the Council cannot waive any applicable state statute.

(6) If the special advisory group recommends applicable substantive criteria for an energy facility described in ORS 469.300(9)(a)(C) to (E) or for a related or supporting facility that does not pass through more than one local government jurisdiction or more than three zones in any one jurisdiction, the Council shall apply the criteria recommended by the special advisory group. If the special advisory group recommends applicable substantive criteria for an energy facility described in ORS 469.300(9)(a)(C) to (E) or a related or supporting facility that passes through more than one jurisdiction or more than three zones in any one jurisdiction, the Council shall review the recommended criteria and decide whether to evaluate the proposed facility against the applicable substantive criteria recommended by the special advisory group, against the statewide planning goals or against a combination of the applicable substantive criteria and statewide planning goals. In making the decision, the Council shall consult with the special advisory group, and shall consider:

(a) The number of jurisdictions and zones in question;

(b) The degree to which the applicable substantive criteria reflect local government consideration of energy facilities in the planning process; and

(c) The level of consistence of the applicable substantive criteria from the various zones and jurisdictions.

Discussion

Attachment D to this Order, Land Use Standard Analysis, provides the findings and conclusions to demonstrate compliance with the land use standard.

In a letter dated May 21, 2002, the Planning Division of the Columbia County Department of Land Development Services recommended conditions. The City of Rainier did not comment on the ASC.

The County proposed that it retain final approval of conditions relating to transportation. However, as discussed in Section D.13 (Public Services) below, the Council must include all conditions in the site certificate that it issues. It cannot defer to later County actions. The Council has incorporated specific recommended conditions from County's agreement with PGE and other transportation-related issues into several conditions that it adopts in Section D.13. The Council believes that it has been responsive to the substance of the County's request.

The County recommended a condition relating to an outdoor lighting plan. The Council adopts the substance of that condition in Condition (5) in Section D.10 (Scenic and Aesthetic Values).

The County recommended that the Council adopt conditions relating to the site plan, landscape plan and parking lot plan. The Council has edited the County's recommended conditions to be consistent in style with this Order; and, it adopts the following conditions in the site certificate:

(1) Before beginning construction of the energy facility, the Certificate Holder shall submit a landscaping plan for the energy facility to Columbia County as part of its building permit application for the energy facility. The landscaping plan shall be subject to County approval, provided that the plan is consistent with this Site Certificate and the Final Order. The Certificate Holder shall implement the landscaping plan.

(2) Before beginning construction of the energy facility, the Certificate Holder shall submit a site plan to Columbia County as part of its building permit application.

(3) Before beginning construction of the energy facility, the Certificate Holder shall submit to Columbia County as part of its building permit application for the energy facility a final parking lot plan that complies with Section 1400 of the Columbia County Zoning Ordinance. The parking plan shall be consistent with this Site Certificate and Attachment D of the Final Order. The Certificate Holder shall implement the parking lot plan.

The Council also adopts the following land use conditions that are not otherwise addressed in the County's recommendations:

(4) Before beginning construction of the energy facility or the Port Westward to BPA Allston Substation Transmission Line, as appropriate, the Certificate Holder shall apply for and obtain all appropriate land use permits from Columbia County and the City of Rainier.

(5) Before beginning construction of the energy facility, the Certificate Holder shall enter into a written contract with Columbia County that recognizes the rights of land owners who are adjacent to and nearby the corridor for the transmission line from the BPA Allston Substation to the Trojan Nuclear Plant where it crosses PF-76 and FA-19 zones to conduct forest operations consistent with the Forest Practices Act and Rules for uses authorized in OAR 660-006-0025, subsections (4)(e), (m), (s), (t), and (w).

Based on the analysis in Attachment D and subject to conditions, the Council finds that an exception to statewide planning Goal 4 is justified and that PGE has demonstrated compliance with the applicable criteria in Columbia County's and the City of Rainier's acknowledged comprehensive plans and land use regulations that are required by the statewide planning goals and were in effect on the date PGE submitted the application, as well as the statewide planning goals, LCDC administrative rules and any land use statutes directly applicable to the proposed facilities under ORS 197.646(3).

Conclusion

The Council finds that PGE complies with the land use standard, OAR 345-0022-0030.

D.5. STRUCTURAL STANDARD, OAR 345-022-0020

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

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

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

(c) The applicant, through appropriate site-specific study, has adequately characterized the potential geological and soils hazards of the site and its vicinity that could, in the absence of a seismic event, adversely affect, or be aggravated by, the construction and operation of the proposed facility; and

[2] In this and other conditions that begin with a reference to "sections (2) and (3)," those sections refer to renewable energy facilities and special criteria facilities.

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

Discussion

Site Characterization¾Seismic Hazards

The energy facility site would be located in Seismic Zone 3, as defined by the 1997 Uniform Building Code ("UBC"). Based on preliminary subsurface explorations, the soil profile at the energy facility site corresponds to UBC soil type SF because of the presence of potentially liquefiable soils.

The proposed related or supporting transmission line would follow the Port Westward to BPA Allston Substation to Trojan transmission line corridors. The existing transmission line corridors are located in Seismic Zone 3**,** as defined by the 1997 Uniform Building Code. The geology through the corridor consists of basalts and inter-bedded marine sediments, with decomposed overburden soil of variable thickness. The corridors cross several streams and traverse moderate to steeply sloping terrain.

Two principal types of earthquake sources that are capable of generating ground motions at the facility site are the Cascadia Subduction Zone ("CSZ") and local crustal faults. The CSZ results from the Juan de Fuca tectonic plate subducting (sliding) beneath the North American continental tectonic plate.

Both the CSZ and the local crustal faults can be subdivided into two subsets.

- The CSZ can be subdivided into (1) earthquakes that occur between the Juan de Fuca and North American plates, called "interface" earthquakes, and (2) earthquakes occurring solely within the subducting Juan de Fuca plate, called "intraslab" earthquakes.

- Within the North American plate, the crustal fault sources can be subdivided into (1) earthquakes occurring on known, mapped faults, and (2) earthquakes occurring on unknown, buried, or random faults.

With respect to potential crustal sources, PGE has stated that the random crustal Maximum Credible Event ("MCE") would have a magnitude in the range of M6.0 to M6.6[3]. If the event occurred within 25 kilometers of the site, it could cause ground motions of up to 0.26g mean peak acceleration. Other crustal sources in western Oregon and Washington are located too far

[3] In assessing seismic hazards, the applicant must identify and characterize all earthquake sources capable of generating median peak ground accelerations greater than 0.05g (a force 1/20th that of gravity) on rock at the energy facility site. The magnitude ("M") of an earthquake is determined by the strength of the earthquake at its epicenter. The acceleration of the ground at any point, as measured in g's, depends on the magnitude of the earthquake, the distance from the epicenter to that point, the type of material through which the ground motion is transferred from the epicenter to the point, and other factors. For a given earthquake, there is only one magnitude (M), but the ground acceleration (g) is site specific.

from the site to produce median peak ground accelerations greater than 0.05g at the energy facility site.

With respect to interface sources, PGE has stated that the MCE would have a magnitude in the range of M8.3 to M8.8 and, if the event occurred within 65 kilometers of the energy facility site, could cause ground motions of up to 0.18g mean peak acceleration at the energy facility site.

With respect to inter-slab sources, PGE has stated that the MCE would have a magnitude of M7.3. If the event occurred within 40 to 50 kilometers of the site, it could cause ground motions of up to 0.22g mean peak acceleration at the energy facility site.

The estimated peak bedrock acceleration at the site for a Maximum Probable Earthquake ("MPE") with a recurrence interval of 500 years and a mean magnitude of M7.25 is 0.21g. Typical probabilistic analyses combine ground shaking hazards from all sources rather than identifying MPE magnitudes for individual sources. About 80 percent of the total hazard contribution for this frequency of exceedance is generated by the subduction sources (primarily the interface source) and 20 percent of the hazard contribution is from the crustal sources.

Based on PGE's preliminary geotechnical studies, the most significant potential seismic hazards at the energy facility site are ground shaking, liquefaction[4], lateral spreading, and subsidence. PGE would prepare estimates of ground shaking during final design of the energy facility.

Preliminary studies suggest that potentially liquefiable soils underlie the energy facility site. PGE would prepare a complete liquefaction evaluation after completing additional subsurface explorations at the site. Due to the proximity of Bradbury Slough and the Columbia River to the energy facility site, liquefaction-induced lateral spreading would be likely without some form of ground densification or ground improvement. Likewise, post-liquefaction subsidence could also occur without ground treatment.

If the engineering evaluation indicates that these hazards are likely to occur during the design for ground motions, PGE proposes remedial treatment of the potentially liquefiable layers. Remedial treatment may include such actions as draining the water from the pores of the soil or densifying the soil so that the soil particles are in a configuration that minimizes the volume of inter-particle pores.

Due to the flat topography of the energy facility site and the adjacent water and gas pipelines, the likelihood of seismically-induced landslides is low. Additionally, the energy facility site is located about 60 miles upriver from the Pacific Ocean. Therefore, the risk of tsunami inundation at the energy facility site is low.

[4] Liquefaction is the process by which ground shaking causes individual soil particles to shift in a way that decreases the volume of the pores between particles. As the volume decreases, water trapped in the pores increases in pressure. As this phenomenon proceeds, soil particles originally supported by contact with adjacent soil particles become supported by a film of high-pressure water. The high-pressure water effectively acts like a lubricant, decreasing the strength of the soil and its capacity to support buildings.

Earthquake-generated waves (seiches) within the Columbia River or Bradbury Slough are not expected to exceed the height of the levee at the energy facility site. Therefore, seiche risk is low.

There are no mapped active crustal faults located within 6 miles of the energy facility site. Furthermore, the deep alluvial deposits underlying the energy facility site would likely mask any surface manifestation of fault rupture or displacement. The risk of fault rupture is very low.

With respect to the proposed natural gas pipeline, PGE states: (1) the proposed energy facility would be located within 1,000 feet of the existing natural gas supply pipeline for the Beaver Generating Plant; (2) the ground between the existing pipeline and the proposed energy facility is essentially flat (elevation varying from 16 to 18 feet); and (3) based on previous explorations, the subsurface materials consist of medium dense, sandy fill.

With respect to the proposed transmission lines that will follow the existing Port Westward to BPA Allston Substation to Trojan transmission line corridors, PGE states: (1) the existing transmission lines have operated without problems since installation in the early 1970's; (2) the geology through the corridors consists of basalts and inter-bedded marine sediments, with variable thickness of decomposed overburden soil; (3) the corridors cross several streams and traverse moderate to steeply sloping terrain; and (4) the new transmission line would be subject to the same geologic hazards as the existing transmission line.

PGE conducted a literature search for landslide hazards along the transmission line corridors. A review of landslide activity resulting from exceptionally heavy rainfall during the winter of 1996-1997 found that the Federal Emergency Management Agency identified one large landslide that occurred on a county road about 250 to 500 feet downhill from the existing transmission lines. Other slides occurred along U.S. Highway 30 near Trojan. No transmission lines were impacted by slides.

Facility Design for Seismic Hazards

Potentially liquefiable soil layers could result in lateral spreading or subsidence at the energy facility site. Based on preliminary studies, PGE anticipates these risks could be mitigated by installation of stone columns at the energy facility site. Stone columns consist of compacted, crushed rock that is placed underground using a crane-mounted, vibratory probe. The 3-foot to 4-foot diameter columns are installed through the potentially liquefiable layers in a grid pattern.

The benefits of the stone columns are twofold. First, installation of the columns would cause densification of the native loose sands and silts. Second, the columns would act to stiffen the compressible, soft silt layers, which helps reduce settlement under static loads. Therefore, a mat foundation could support the lighter structures for the proposed energy facility. Stone columns would support the mat foundation. Heavily loaded structures that cannot be founded on mat foundations over stone columns could be supported on deep foundations bearing in dense sands below the level of potentially liquefiable soil.

The ground shaking hazard would be addressed by use of the ground response spectra. The structural engineer would design the facilities to resist lateral base shear based on the spectral values. If the spectral values were found to be lower than the Oregon Structural Building Code values, PGE would build the facility to the code values.

Based on preliminary geotechnical explorations, the most significant soil stability issue at the proposed energy facility site involves potential seismic liquefaction and lateral spread at the site. In general, potentially liquefiable soils are located from 10 to 50 feet beneath the site. The shallow surface soils consist of medium dense sand fill.

For the new transmission line, PGE would use the existing subsurface information from design and construction of the existing transmission line as much as practicable.

Geotechnical Investigation. PGE would conduct a geotechnical investigation before final design of the proposed facility. The geotechnical investigation would include the following tasks:

Task One. Drill three to four exploratory borings to a depth of 125 feet at the energy facility site. The borings would be drilled under locations for the heavily loaded turbine and heat-recovery structures. Standard penetration tests would be performed at 2.5- and 5-foot intervals, depending on the depth of sampling. Thin-wall tube samples would be obtained in fine-grained layers, if encountered.

Task Two. Perform 8 cone penetrometer tests ("CPT") to a depth of 100 feet each at the energy facility site. The CPT tests would serve three purposes. First, the probes would provide additional subsurface information for the roughly 19-acre energy facility site. Second, PGE anticipates that some form of ground improvement (densification) at the energy facility site would mitigate the liquefaction and lateral spread hazards. PGE can compare the CPT probes before ground improvement with CPT probes after ground improvement to assess the effectiveness of the densification program. Third, a geophone attached to the CPT probe is capable of measuring the shear wave velocity profile of the soil layers. PGE would use these data to evaluate potential soil amplification of bedrock ground motion.

Task Three. Perform laboratory testing to evaluate the liquefaction susceptibility of the soils at the energy facility site. Specific tests would include eight mechanical gradations, eight Atterberg limits, and natural water contents on all retained samples.

Task Four. Assess ground response and seismic hazards for the facility. This work would include the following:

- Evaluate the ground response to bedrock motions for the MCE and MPE events. This would include an estimate of potential soil amplification or attenuation and an evaluation of liquefaction and lateral spread. PGE would perform the analyses using the computer program "SHAKE." PGE would

compare the results from the analyses with existing studies regarding the dynamic behavior of similar soil types subjected to earthquake ground motions.

- If the analyses indicate earthquake-induced liquefaction and lateral spread were likely to occur, PGE would evaluate ground improvement techniques to mitigate this hazard. Ground modification could include vibro-replacement stone columns or vibro-compaction to densify the loose, granular zones; and possibly soil-cement columns under heavily loaded structures if fine-grained layers were present at the energy facility site. PGE would incorporate design and/or performance criteria for ground improvement.

- PGE would develop ground response spectra for structural design. If the energy facility requires ground improvement, PGE would develop the response spectra assuming post-improvement densities and dynamic soil properties (shear wave velocities and shear moduli). PGE would assume these values based on experts' experience with similar soil types and the expected improvement to soil density. PGE would compare site-specific response spectra to Oregon Building Code target spectra.

- PGE would develop foundation criteria for various structures of the facility. Criteria could include allowable bearing capacities and estimated settlements, piling support (if needed), static and dynamic lateral earth pressures, and uplift pressures.

- If subsurface information were not available for the location of transmission line towers, PGE would drill exploratory borings at critical locations during final design.

- PGE would use the geotechnical investigations proposed for the energy facility site to assess ground conditions for the natural gas pipeline.

The Council adopts the following conditions in the site certificate:

(1) The Certificate Holder shall design, engineer and construct the facility to avoid dangers to human safety presented by seismic hazards affecting the site that are expected to result from all maximum probable seismic events. In no event shall the recommended seismic design parameters be any less than those prescribed by the Oregon Uniform Building Code. As used in this condition, "seismic hazard" includes ground shaking, landslide, liquefaction, lateral spreading, tsunami inundation, fault displacement, and subsidence.

(2) If the Certificate Holder does not have subsurface information for design of the transmission lines that is acceptable to the Office and the Oregon Department of Geology and Mineral Industries ("DOGAMI"), then the

Certificate Holder shall drill exploratory borings at critical locations during final design of the proposed transmission lines.

(3) Before beginning construction of the facility, the Certificate Holder shall provide the Office and DOGAMI with a report containing results of geotechnical investigations and recommendations for the design of the energy facility, transmission lines and other related or supporting facilities.

(a) The Certificate Holder shall prepare the report consistent with the study designs detailed in the Section D.5 of the Final Order and Section H.3 of the Application for a Site Certificate ("ASC").

(b) If DOGAMI is not able to review the reports, the Office shall arrange, in consultation with DOGAMI, for an independent review of the report by a qualified registered geologist.

(c) If the Certificate Holder begins construction of the Port Westward to BPA Allston Substation Transmission Line before beginning construction of other parts of the facility, Condition (3) shall apply only to the Port Westward to BPA Allston Substation Transmission Line as long as it is the only part of the facility under construction.

(4) In addition to, or concurrent with Condition (3), before beginning construction within the City of Rainier's Watershed zone, the Certificate Holder shall submit to the City of Rainier, the Office and DOGAMI a geotechnical report prepared by a registered engineer establishing that it can safely accomplish any construction in a known slide hazard area, flood hazard area, or drainage way, or on slopes exceeding 20 percent in that zone.

(5) If the geotechnical investigation reveals evidence that is not described in the ASC, the Certificate Holder shall revise the facility design parameters to comply with appropriate Uniform Building Code requirements.

(6) The Certificate Holder shall notify the Office, the State Building Codes Division and DOGAMI promptly if site investigations or trenching reveals that subsurface conditions differ significantly from those described in the ASC. After the Office receives the notice, the Council may require the Certificate Holder to consult with DOGAMI and the Building Codes Division and to propose mitigation actions.

(7) The Certificate Holder shall notify the Office, the Building Codes Division and DOGAMI promptly if shear zones, artesian aquifers, deformations, or clastic dikes are found at or in the vicinity of the facility site.

Site Characterization—Geological and Soils Hazards

PGE evaluated non-seismic or aseismic geologic hazards that could adversely affect, or be aggravated by construction or operation of the proposed energy facility and its related or supporting facilities. The evaluation focused on geologic hazards, such as settlement, landslides, groundwater, flooding, and erosion.

Settlement. The proposed energy facility site is underlain by loose granular soil and soft, fine-grained soil of variable thickness. These soils would be expected to settle under the weight of the proposed facilities. For this reason and for seismic hazard reasons, heavily loaded structures at the site may require deep foundation support.

Landslides. Due to the flat topography at the energy facility site, the risk of landslides is low. Along the transmission line corridor, the risk of landslides may be greater, particularly during periods of heavy rainfall.

Groundwater. High groundwater can impose buoyant forces on buried utilities and structures founded below the static groundwater level. Buoyant forces can be balanced by proper design of buried structures. The groundwater level at the energy facility site is about 13 feet below the surface of the dredged sand fill and is likely to be significantly influenced by the water levels in the adjacent Bradbury Slough and Columbia River.

Flooding. The energy facility site is protected from flooding by a series of levees. The levees reach an elevation of about 17.5 feet, which is 4.7 feet higher than the predicted flood level for a 100-year flood (U.S. Army, Corps of Engineers, 1978). Risk of flood damage is low.

Erosion. Soil erosion typically results from the uncontrolled flow of surface water across a site or from high winds acting on silty soils. Due to the relatively flat topography at the energy facility site, surface erosion from water flow could be controlled easily. The soils at the ground surface are predominantly sand fills that have a low susceptibility to wind erosion. Additionally, the undeveloped areas around the energy facility site would be covered with vegetation once construction is complete. Although the footprint of individual towers would be small, sloping terrain along the corridor for the transmission lines would pose more of a challenge for erosion control.

Facility Design for Geological and Soils Hazards

Geologic and soils hazards are those that occur in the absence of an earthquake-triggering event. Such hazards may include settlement, landslides, groundwater, flooding, and erosion. PGE has proposed mitigating for these potential hazards with respect to the proposed energy facility and its related or supporting facilities as follows:

Settlement. PGE would mitigate the risk of settlement (differential) through the use of a mat foundation for the energy facility. For heavily loaded structures, PGE would minimize settlement through the use of deep foundations. For related or supporting facilities and structures supported on shallow foundations, PGE's design team would use

a conservative estimate of total and differential settlement, considering the influence of ground improvement. If needed, PGE would design flexible connections to accommodate the anticipated settlement.

Landslides. Due to the flat topography at the energy facility site, the risk of landslides is low. PGE proposes no mitigation for landslides at the energy facility site. With respect to the transmission line corridor, PGE would use subsurface information from design and construction of the existing transmission lines as much as practicable. If subsurface information were not available, PGE would drill exploratory borings at critical locations during final design.

Groundwater. PGE would estimate the magnitude of buoyant loads based on high groundwater levels from piezometers. PGE would either found buried utilities above the groundwater level in the sandy fill or it would design them to have adequate backfill load to resist uplift forces.

Flooding. The energy facility site is protected from flooding by a series of levees. The tops of the levees are at an elevation of about 17.5 feet, which is 4.7 feet higher than the predicted flood level for a 100-year flood (USACOE, 1978). Risk of flood damage is low. PGE proposed no mitigation. Along the transmission corridor, PGE would locate transmission towers on high ground wherever possible.

Erosion. Due to the relatively flat topography at the energy facility site, surface erosion from water flow could be controlled easily. The soils at the ground surface are predominantly sand fills that have a low susceptibility to wind erosion. Erosion is more of a concern along the corridor for the transmission lines, but PGE would have to conform to the requirements of the Erosion and Sediment Control Plan of its NPDES 1200-C permit for control of storm water runoff during construction of any part of the facility.

The Council adopts the following condition in the site certificate:

(8) The Certificate Holder shall design, engineer and construct the facility to avoid dangers to human safety presented by non-seismic or aseismic hazards affecting the site. As used in this condition, "non-seismic or aseismic hazards" includes settlement, landslides, groundwater, flooding, and erosion.

Conclusion

The Council finds that PGE meets the structural standard, OAR 345-022-0020.

D.6. SOIL PROTECTION, OAR 345-022-0022

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

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

Discussion

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

The analysis area for the soil protection standard is the area within the site and on adjacent farm properties. The Council could consider cooling tower drift impacts over a larger area based on wind and weather patterns in the area.

Energy Facility Site. PGE would locate the energy facility on a large alluvial floodplain along the south shore of the Columbia River, about five miles north of Clatskanie, Oregon. The floodplain terrace is about 10 miles long from east to west and varies from one to three miles wide. The elevation of the native alluvium varies from two to six feet. The area is protected from flooding by an engineered levee at elevation 17.6 feet. The proposed energy facility would be located adjacent to the levee on existing dredged fill at an elevation of 18 feet.

Recent subsurface borings at the energy facility site encountered dredged sand fill to a depth of seven to 11.5 feet. The U.S. Department of Agriculture ("USDA") has mapped this soil (dredged fill) as Udipsamment, or somewhat excessively drained soils that have formed in recent dredge spoils. Underlying this soil to a depth of at least 150 feet were inter-layered deposits of slightly clayey, silty fine to medium sand. Water well drill holes in the vicinity indicate that the alluvial deposits are at least 300 feet deep.

The USDA has classified the soil in the vicinity of the energy facility site according to soil order, land capability, potential prime farmland, and hydric (wetland) interpretation. The soil order is Entisol, a soil found mainly in recently deposited materials that are too young to have developed soil horizons. The land capability is Class VI, a class with severe limitations, making it unsuitable for cultivation, but capable of serving as pasture and similar low-intensity uses. The energy facility site and vicinity contains no soil that the USDA lists as potential prime farmland. The USDA estimates that one-fourth to one-half of the soils in the vicinity of the energy facility are hydric.

The proposed energy facility site is currently undeveloped and is zoned as Resource Industrial Planned Development ("RIPD"). It is located about one-half mile northeast of the existing PGE Beaver Generating Plant and about one mile northeast of the Summit Project site. Agricultural uses nearest the proposed energy facility site are about three-fourths of a mile to the south and consist of a poplar grove, crop planting, and pastureland grazing. There are no other significant agricultural demands being placed on the soils.

PGE intends to install crushed rock columns in a grid pattern below the ground surface to improve the seismic resistance of the subsurface soil deposits and to improve foundation support for the energy facility, as discussed more fully in the discussion of the structural standard, Section D.5. Installation of these crushed rock columns should not adversely affect the dredged fill or native soil deposits.

Related or Supporting Pipelines. The water and gas pipelines are adjacent to the energy facility site and on the same soils as the energy facility.

Related or Supporting Electric Transmission Line. The proposed electric transmission line would parallel the existing Port Westward to BPA Allston Substation-Trojan transmission line, covering a distance of about 20 miles. The majority of the line traverses the foothills of the Coast Range. The land is moderately to steeply sloping.

The soils along the bulk of the existing and proposed transmission lines are derived from weathering of igneous basalt and marine sandstone and siltstone. The soil along a small portion of the line near the proposed energy facility is sand and silt alluvium, as described above.

The USDA soil orders along the transmission line route are Entisols, Inceptisols, and Ultisols. Entisols are located on the alluvial floodplain near the proposed energy facility site. Inceptisols are soils that are beginning to form and have weakly developed soil profiles. They are common in the Coast Range, where they have dark surface horizons enriched with organic matter. Ultisols are red soils with strongly developed subsoil horizons of clay. They are mostly paleosols (old soils) that formed long ago when the climate was warmer and wetter.

The proposed transmission line extends from the proposed energy facility site to Trojan through land predominantly zoned as Primary Forest. Short segments of the transmission line route traverse land zoned as Rural Residential, Forest Agriculture, Primary Agriculture, and Resource Industrial Planned Development. The land zoned Primary Agriculture is located near the proposed energy facility, and the proposed transmission line would cross about one-half mile of this land.

The Council adopts the following condition in the site certificate.

(1) Upon completion of construction in an area, the Certificate Holder shall use native seed mixes to restore vegetation to the extent practicable and shall landscape portions of the site disturbed by construction in a manner compatible with the surroundings and proposed use. Conditions (1) through (6) shall apply to all soil disturbing activities, including maintenance, repair or reconstruction of facilities.

Construction:

Wind and Water Erosion. During construction of the facility, potential adverse impacts to on-site soils could result from wind or water erosion. PGE would adhere to the requirements of its NPDES 1200-C permit to minimize such impacts. The NPDES 1200-C permit includes a

detailed Erosion and Sediment Control Plan that includes measures designed to contain soil and construction equipment within the energy facility footprint and along the corridors of the related or supporting facilities.

Energy facility site construction would involve clearing and grubbing, excavation and embankment, utility and outfall excavation and installation, building construction, and creation of a gravel parking area. To control the transportation of soil outside the site, PGE would install gravel construction entrances before clearing and grubbing and other earthwork operations.

The proposed transmission line corridors run across hilly terrain with slopes generally in the range of 3 percent to 30 percent, with isolated stretches of up to 60 percent. Accordingly, erosion prevention and sediment control in the transmission line corridor is crucial.

To control the loss of soil to water erosion, PGE would use perimeter sediment control measures, such as sediment fences, straw wattles, bio-filter bags, rock check dams, sediment basins or traps, and gravel filter berms to contain soil within the site boundaries. To control the loss of soil to wind erosion, PGE would apply water or mulch to exposed soil.

During wet weather conditions, PGE would use temporary gravel or hay mulches, as required. In the event of prolonged wet weather conditions, PGE would limit the size and extent of disturbed areas or require confining vehicles or operations to specified areas. It would also protect soil stockpiles with mulch and plastic sheeting, as required.

After completing construction in an area, PGE would revegetate the disturbed area with temporary and permanent native seed mixes and apply mulch to the area. In areas with heavily compacted soils, before revegetation PGE would scarify the soil by such methods as tilling, discing, or rotovating.

PGE proposes to minimize disturbance within the transmission line corridors and make use of existing access roads to the extent possible. PGE would ensure that areas cleared and grubbed for tower construction and materials stockpiles were kept to the smallest possible size.

The Council adopts the following conditions in the site certificate:

(2) The Certificate Holder shall employ the following measures to control soil erosion and sediment runoff by water and wind erosion:

(a) Avoid excavation and other soil disturbances beyond that necessary for construction of the facility or confine equipment use to specific areas.

(b) Remove vegetation only as necessary.

(c) Apply water or mulch, as necessary, for wind erosion control during construction.

(d) Revegetate those construction areas that will no longer be used.

(e) Use temporary erosion and sediment control measures, such as sediment fences, straw wattles, bio-filter bags, mulch, permanent and temporary seeding, sediment traps and/or basins, rock check dams or gravel filter berms, and gravel construction entrances, and maintain these features throughout construction and restoration to reduce the potential for soil erosion and sediment runoff.

(f) Protect soil stockpiles with mulch and plastic sheeting.

Soil Compaction. Soil compaction was not identified as a limitation for any of the soils in the analysis area. However, most soils can experience some degree of soil compaction under wet conditions.

The Council adopts the following condition in the site certificate:

(3) If excessively wet conditions occur during construction, the Certificate Holder shall limit construction activities during such periods to the degree practicable in areas susceptible to soil compaction.

Soil Protection Monitoring Program. PGE would inspect all erosion and sediment control measures weekly during active construction and every two weeks in inactive areas. PGE would also inspect both active and inactive sites daily during periods when one-half inch or more of rain has fallen in a 24-hour period. The purpose of these inspections would be to evaluate whether construction-related impacts to soils are adequately addressed by the applicable mitigation measures.

PGE would remove trapped sediment when storage capacity had been reduced by 50 percent and would place the sediment in an upland area certified by a qualified wetland specialist. PGE would also observe and record the color and turbidity of water within 35 feet upstream and downstream from locations where surface water from the construction site enters the receiving stream. It would note whether any sheen or floating matter were present and describe any apparent color, the turbidity of the discharge, and any observable difference between the water being discharged and the receiving stream.

If, in the course of these inspections and observations, PGE were to discover that any of the erosion and sediment control measures it had implemented were ineffective, PGE would implement, maintain, and monitor effective strategies and measures.

After completing construction in an area, PGE would monitor the area until soils were stabilized. The purpose of this monitoring program would be to evaluate whether construction-related impacts to soils have been adequately addressed by the mitigation measures described in the

Erosion and Sediment Control Plan. As necessary, PGE would implement follow-up measures, such as scarification and reseeding, to address any remaining impacts.

The Council adopts the following conditions in the site certificate:

(4) After completing construction in an area, the Certificate Holder shall monitor the construction area for a period of 12 months to evaluate whether construction-related impacts to soils are being adequately addressed by the mitigation procedures described in the Sediment Erosion and Control Plan. It shall submit its quality assurance measures to the Office for approval before beginning monitoring.

(5) After completing construction in an area, the Certificate Holder shall use the results of the monitoring program in Condition (4) to identify remaining soil impacts associated with construction that require mitigation. As necessary, the Certificate Holder shall implement follow-up restoration measures to address those remaining impacts and shall report in a timely manner to the Office what measures it has taken.

(6) The Certificate Holder shall remove trapped sediment when the capacity of the sediment trap has been reduced by 50 percent and shall place such sediment in an upland area certified by a qualified wetland specialist.

Chemical Spills. During construction of the facility, potential adverse impacts to on-site soils could result from chemical spills. PGE would adhere to the requirements of its NPDES 1200-C Permit to minimize such impacts. Conditions in Section D.3 also address this issue.

Operation

During the life of the facility, structures, parking lots, tower footings and other features would permanently cover soils. PGE would revegetate areas disturbed by construction and left uncovered after construction of the facility.

Water Erosion. During operation of the facility, it is unlikely that there would be adverse impacts to on-site soils from water erosion because PGE would revegetate any disturbed areas that are not permanently covered and would divert storm water to pervious surfaces to percolate into the ground.

Chemical Spill Containment. PGE proposes to handle, store and monitor chemicals, including sulfuric acid, neutralizing amine, sodium hydroxide, oxygen scavenger, corrosion/scale inhibitor, and lubricants, at the energy facility site.

The Council adopts the following conditions in the site certificate:

(7) The Certificate Holder shall contain all fuel and chemical storage in paved spill containment areas with a curb.

(8) The Certificate Holder shall design all inside spill containment areas to hold at least 110 percent of the volume of liquids stored within them.

(9) The Certificate Holder shall design all spill containment areas located outdoors to hold at least 110 percent of the volume of liquids stored within them, together with the volume of precipitation that might accumulate during the 100-year return frequency storm.

With the conditions, it is unlikely there would be potential adverse impacts to on-site soils from chemical spills.

Cooling Tower Drift. PGE's analysis of cooling tower plume shows there would be no potential adverse impacts warranting mitigation from cooling tower operation. PGE's modeling indicates that the estimated salt deposition rate in the vicinity of the proposed energy facility would be less than 3 kg/km^2/month. This rate is well below the estimated ambient salt deposition rate of 183 kg/km^2/month. Salt deposition in the immediate vicinity of the energy facility would be significantly higher than 3 kg/km^2/month, but it would not affect agricultural lands.

The Council adopts the following condition in the site certificate:

(10) During operation, the Certificate Holder shall minimize drift from the cooling towers through the use of high efficiency drift eliminators that allow no more than 0.002 percent drift.

Conclusion

The Council finds that PGE meets the soil protection standard, OAR 345-022-0022.

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

(1) Except as provided in sections (2) and (3), the Council shall not issue a site certificate for a proposed facility located in the areas listed below. To issue a site certificate for a proposed facility located outside the areas listed below, the Council must find that, taking into account mitigation, the design, construction and operation of the facility are not likely to result in significant adverse impact to the areas listed below. Cross-references in this rule to federal or state statutes or regulations are to the version of the statutes or regulations in effect as of March 29, 2002:

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

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

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

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

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

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

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

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

(i) State natural heritage areas listed in the Oregon Register of Natural Heritage Areas pursuant to ORS 273.581;

(j) State estuarine sanctuaries, including but not limited to South Slough Estuarine Sanctuary, OAR Chapter 142;

(k) Scenic waterways designated pursuant to ORS 390.826, wild or scenic rivers designated pursuant to 16 U.S.C. 1271 et seq., and those waterways and rivers listed as potentials for designation;

(L) Experimental areas established by the Rangeland Resources Program, College of Agriculture, Oregon State University: the Prineville site, the Burns (Squaw Butte) site, the Starkey site and the Union site;

(m) Agricultural experimental stations established by the College of Agriculture, Oregon State University, including but not limited to:
Coastal Oregon Marine Experiment Station, Astoria
***

(n) Research forests established by the College of Forestry, Oregon State University, including but not limited to McDonald Forest, Paul M. Dunn Forest, the Blodgett Tract in Columbia County, the Spaulding Tract in the Mary's Peak area and the Marchel Tract;

(o) Bureau of Land Management areas of critical environmental concern, outstanding natural areas and research natural areas;

(p) State wildlife areas and management areas identified in OAR chapter 635, Division 8.

(2) Notwithstanding section (1), the Council may issue a site certificate for a transmission line or a natural gas pipeline or for a facility located outside a protected area that includes a transmission line or natural gas or water pipeline

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

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

Discussion

The analysis area for protected areas is the area within 20 miles of the proposed energy facility site, except where an assessment of visibility is required under DEQ regulations. Pursuant to OAR 345-022-0040(3), the transmission line right-of-way is not subject to the protected areas standard because it would be routed within 500 feet of an existing utility right-of-way containing a transmission line with a voltage rating of 115 kilovolts or higher.

The protected areas shown in Table D.7-1 are within the analysis area. All of the protected areas are 2 miles or more from the proposed energy facility site, and the energy facility would not be located within any protected area.

TABLE D.7-1
Direction and Distance to Protected Areas from Energy Facility Site

Protected Area	Direction and Distance from Energy Facility Site
Abernathy Salmon Cultural Center, Washington	NNE, 2 miles
Beaver Creek State Fish Hatchery, Washington	NNW, 6 miles
Elochman Fish Hatchery, Washington	NNW, 7 miles
Blodgett Tract, Oregon	SW, 8 miles
Bradley State Scenic View Point, Oregon	West, 10 miles
Gnat Creek Fish Hatchery, Oregon	West, 14 miles
Big Creek Fish Hatchery, Oregon	West, 19 miles
Julia Butler Hansen National Wildlife Refuge, Washington	NW, 9 miles
Lewis and Clark Wildlife Refuge, Oregon	NW, 11 miles
Seaquest State Park, Washington	NNE, 16 miles
Fallert Creek Hatchery, Washington	SE, 18 miles
Kalama Falls Hatchery, Washington	SE, 18 miles

The Council finds that pipelines for water, reclaimed water and natural gas would be buried and distant from protected areas and would have no adverse impact on protected areas.

Noise. The nearest protected area, the Abernathy Salmon Cultural Center in Washington, is about 10,500 feet from the proposed energy facility site. The noise assessment prepared for the proposed energy facility showed the predicted noise level would be at most a 2 dBA increase to 35 dBA at the nearest assessment site on the Washington side of the Columbia River. That assessment site is about 5,700 feet from the proposed energy facility site. Oregon DEQ regulations would allow a noise level of 43 dBA at this site. There would be no change in noise levels at the other two assessment sites in Washington, the nearest of which is about 6,250 feet from the proposed energy facility site. The Council finds that noise from the energy facility would not have a significant impact on any protected area.

Traffic. PGE estimates that operation of the proposed energy facility would generate a total of 30 daily employee vehicle trips and 10 daily delivery vehicle trips. The greatest impacts would be close to the energy facility, and those impacts would result in only a small change in local traffic. All of the protected areas on the Oregon side of the Columbia River are at least 8 miles from the energy facility site.

Average trip generation during construction may be 350 daily trips. Traffic resulting from construction activities could create delays during the peak evening hour at some intersections. The protected areas are not near areas affected by traffic. The Council finds that traffic generated by construction and operation of the proposed energy facility would not adversely affect protected areas.

Water Use. The proposed energy facility would obtain water from an existing water right through the Port of St. Helens. Water would be drawn from an existing water intake structure that is located more than 2 miles from the nearest protected area. That protected area is on the Washington side of the Columbia River. The Council finds that use of water by the proposed energy facility would not adversely affect protected areas.

Wastewater Disposal. PGE would route storm water from roofs and paved areas to pervious areas to allow for percolation into the shallow groundwater. The Port of St. Helens would discharge process water from the proposed energy facility into the Columbia River near the energy facility site under an NPDES permit intended to cover such discharges for occupants of the Port Westward Industrial Area. The nearest protected area is 2 miles from the proposed energy facility. The Council finds that wastewater discharge from the proposed energy facility would not adversely affect protected areas.

Visual Impacts. Intervening topography and other natural and domestic features would effectively screen the proposed energy facility from protected areas. Visible vapor plumes from the cooling towers and exhaust stacks would occur during periods of low temperature and high humidity. These plumes would be most visible during the winter months and could be visible at night when the energy facility is illuminated. Because there are other visible plumes resulting from existing industrial and agricultural sites in the area, the Council finds that the energy facility would not significantly alter the visual character of the general area.

Hazardous Materials. Hazardous materials located at the energy facility site would include solvents, lubricants and water treatment chemicals. Because of the distance to the nearest protected area from the energy facility, the Council finds that the presence of hazardous materials at the energy facility site would not adversely affect protected areas.

Conclusion

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

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

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

Discussion

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

Habitat Categories

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

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

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

habitat mitigation to achieve no net loss in either pre-development habitat quantity or quality."

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

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

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

For Habitat Categories 2, 3 and 4, the certificate holder must report progress towards achieving the mitigation goals and standards on a schedule to which it agrees in consultation with ODFW. The certificate holder must complete the fish and wildlife mitigation measures either before or concurrent with the development action.

Habitat in the Analysis Area

The analysis area for fish and wildlife habitat includes, at a minimum, a "base case" analysis area within 300 feet on either side of the proposed transmission line corridor and a similar distance from the proposed energy facility site, water intake/discharge facilities, and temporary construction zone. The analysis area for great blue heron rookeries and raptor nesting sites, including spotted owl and bald eagle nesting sites, at a minimum, is the area within one-quarter mile on either side of any proposed corridor alignment, the energy facility site and the temporary construction zone.

Habitat Categories 2, 3, 4, and 6 occur within the analysis area. Habitat Category 2 occurs as perennial streams, mainstem perennial river and purple martin nesting habitat. The Columbia River and Bradford Slough are Category 2 habitat for six federally listed, proposed and candidate fish species. Habitat Category 3 occurs as emergent, scrub-shrub, forested, unconsolidated bottom, and open water wetlands; perennial/intermittent streams, and riverine tidal waters. It serves as osprey nesting, Columbia white-tailed deer, and dusky Canada goose habitat. Habitat Category 4 occurs as non-native grassland, deciduous, coniferous and mixed forest, riparian forest, riparian herbaceous/deciduous shrub, clear-cut, tree farms, cropland/pasture, and drainage

ditches. It serves as Columbia white-tailed deer and dusky Canada goose habitat. Habitat Category 6 occurs as developed and/or disturbed areas.

Potential Impacts – Construction and Operation

Direct Impacts (Habitat Quantity).

Construction of the energy facility would take place within and directly affect Habitat Categories 3, 4 and 6. Construction and operation of the facility would not directly affect Habitat Category 2. (ASC, Table P-3).

Habitat Category 3 Impacts. The energy facility would affect 0.41 acres of Habitat Category 3. Of this impact, 0.38 acres would be permanent and 0.03 acres would be temporary. Impacts would be to palustrine forested/scrub-shrub wetland (0.10 acre) and palustrine emergent wetland (0.31 acre). In addition, less than 0.10 acre of osprey nesting habitat would be affected.

The transmission line would permanently affect 0.02 acres of Habitat Category 3 palustrine emergent wetlands.

Habitat Category 4 Impacts. The energy facility footprint would permanently affect about 17.5 acres and temporarily affect 3.3 acres of Habitat Category 4. The permanent impacts would result from the energy facility footprint, and the temporary impacts would result from construction of the natural gas and water pipelines. The impacts would be to non-native grassland habitat.

The transmission line would affect about 192.0 acres of Habitat Category 4. These impacts would be to deciduous, mixed deciduous/conifer forest and mixed conifer forests, as well as to riparian mixed deciduous/conifer forests. Impacts would result from clearing and maintenance activities along the transmission line right-of-way. The impacts resulting from the clearing of the right-of-way would convert forested habitats to a shrub/sapling habitat through removal of taller vegetation that may interfere with the proposed transmission lines.

Habitat Category 6 Impacts. The energy facility would affect 1.6-acres of Habitat Category 6. This habitat is developed/disturbed.

Indirect Impacts (Habitat Quality).

Indirect effects on habitat quality during construction and operation could occur due to noise, traffic, human activity, maintenance activities, and operation of the energy facility.

Construction: Construction of the energy facility and the 230 kV electric transmission line could indirectly affect nesting and foraging activity of wildlife, including raptors, great blue heron, dusky Canada goose, Columbia white-tailed deer, and purple martins, if construction takes place during the periods of breeding or rearing, and if it takes place within a “disturbance distance” of nesting or rearing sites. Purple martin nest sites (Habitat Category 2) may be located at or near the water intake structure and could be affected indirectly by construction activities (ASC, page P-6). An artificial osprey nest platform (Habitat Category 3) is located within the “disturbance distance” of the energy facility construction and potentially could be disturbed in the course of two nesting

seasons during construction. In addition, northern red-legged frog, western toad, and little willow flycatcher could be affected by construction and operation activities.

Removal of riparian and upland vegetation along the transmission line right-of-way could also indirectly affect fish and wildlife habitat through loss of foraging and nesting or rearing habitat, erosion and siltation of waterways, and an increase in water temperatures. PGE anticipates that most impacts would be temporary and would occur during construction. However, maintenance practices, such as trimming of vegetation, equipment access, and herbicide application, could also have indirect effects.

In-water construction on the water intake structure may potentially affect fish habitat through siltation, chemical or petroleum contamination, or fish entrapment in the intake structure.

Operation: Potential indirect impacts from operation of the facility include noise, cooling tower emissions, transmission line avian electrocution, and maintenance activities along the transmission line right-of-way. Noise from operation of the energy facility would be fairly constant and meet DEQ noise regulations, as well as the Washington Department of Ecology regulations. PGE conducted a noise survey, and the predicted noise level of 37 dBA at the potential bald eagle nesting site would be in compliance with the recommended standard from the U.S. Fish and Wildlife Service (ASC, Exhibit X, page X-1). PGE anticipates that the Canada dusky geese would become accustomed to the increase in noise and human activity associated with the energy facility (ASC, Exhibit P, page P-36).

Cooling tower emissions could produce ground fogs and salt deposition. PGE does not expect ground level fogging and salt deposition to have significant potential impacts on fish or wildlife habitat (ASC, Exhibit P, page P-32).

PGE does not expect operation of the 230 kV transmission line to pose a significant hazard to fish and wildlife habitat. The 230 kV transmission line does not represent an electrocution risk for raptors due to the spacing of the conductors and grounded hardware. PGE would design the transmission line to reduce the potential for electrocution of birds.

All pipelines would be underground and their operation would have low potential to cause adverse impact to habitat.

Maintenance of the transmission line right-of-way could affect fish and wildlife habitat. The use of herbicide, removal of trees, vehicular traffic, and human activity within the corridor could affect nesting or rearing, foraging, and water quality.

Water supply for the energy facility would be drawn from the Bradbury Slough through an existing PGE intake facility. No new water right would be needed, because non-potable water from the Columbia River would be supplied under the Port of St. Helens Water Right Permit No. 53677. The facility would withdraw up to 8.3 cfs of a permitted 30 cfs allowable withdrawal (ASC, Exhibit O, O-3).

The Council finds that construction and operation of the facility is not likely to result in significant adverse impact to fish and wildlife habitat.

Potential Impacts – Retirement

PGE estimated that the useful life of the facility is 30 years. Pursuant to conditions and Council rules, PGE would restore the site to a useful, non-hazardous condition following permanent cessation of construction or operation of the facility. Site restoration would consist primarily of dismantling and removing unneeded equipment and structures. PGE would likely leave electric, gas and water transmission lines in place to serve new uses at the site. (ASC, Exhibit W, page W-1).

Because the facility would be built and operated in accordance with applicable standards, including the conditions of the site certificate, it is unlikely that soils or groundwater at the site would become contaminated. Proposed conditions in Section D.3 also address this issue. The energy facility site and surrounding lands are zoned Resource Industrial-Planned Development.

In addition, as required by Council rules, the site certificate will require PGE to submit a retirement plan before permanent shutdown of the facility. The plan must include measures to minimize impacts to fish and wildlife habitat and assure no net loss of habitat quantity or quality with respect to essential or important habitat. For these reasons, the Council finds that retirement of the facility is not likely to result in a significant impact to fish and wildlife habitat.

Mitigation

PGE proposed measures to avoid and mitigate for direct and indirect impacts to fish and wildlife areas disturbed by construction, operation, and retirement of the energy facility and the transmission line.

PGE proposed the following mitigation measures (ASC, Exhibit P, page P-2):

(1) Avoiding construction at the raw water intake pump station during the critical nesting period for purple martins;
(2) Monitoring for potential great blue heron rookeries within 0.25 mile of the facility, during the appropriate time frame, before beginning construction of the facility and implementing avoidance actions as necessary in consultation with ODFW;
(3) Monitoring for potential raptor nest sites within 0.25 mile of the facility before beginning construction of the facility and implementing avoidance actions as necessary in consultation with ODFW; and,
(4) Re-locating an existing osprey nest platform before beginning construction of the facility.

To minimize significant potential impacts to wildlife habitat, PGE proposed the following mitigation measures:

(1) Using best management practices and erosion and sediment control techniques to minimize impacts to water quality, wetlands, and riparian habitat;
(2) Placing transmission towers outside wetlands to the extent practical;
(3) Limiting vegetation removal from riparian zones along the right-of-way to only what is required to prevent contact with the transmission line and revegetating if less than 25 percent canopy coverage exists after clearing;
(4) Using existing roads for construction and maintenance of the transmission line to the greatest extent practical;
(5) Re-seeding areas of unavoidable soil disturbance; and,
(6) Implementing appropriate actions to prevent unavoidable spills and waste materials from entering waterways or wetlands.

To mitigate the unavoidable impacts of construction on 0.43 acre of emergent/scrub-shrub wetlands and about 19 acres of non-native grassland habitat, PGE would protect 19 acres of on-site emergent wetland from future development by means of a conservation easement. Of this amount, PGE would enhance 1.5 acres to provide higher value emergent/scrub-shrub/forested wetland habitat. PGE would use selective excavation and backfill techniques to restore about 0.03 acre of emergent wetland that would be temporarily affected during installation of the raw water line. These actions are addressed in the Removal/Fill Permit, pursuant to Section E.1.b of this Order and Attachment C.

The Council adopts the following conditions in the site certificate:

(1) The Certificate Holder shall, to the extent practicable, avoid and, where avoidance is not possible, minimize construction and operation disturbance to areas of native vegetation and areas that provide important wildlife habitat. With respect to construction of the facility, the Certificate Holder shall mitigate possible impacts to wildlife by measures including, but not limited to, the following:

(a) Posting speed limit signs throughout the energy facility construction zone.

(b) Instructing construction personnel, including construction contractors and their personnel, on sensitive wildlife of the area and on required precautions to avoid injuring or destroying wildlife.

(c) Instructing construction personnel, including construction contractors and their personnel, to watch out for wildlife while driving through the facility site, to maintain reasonable driving speeds so as not to harass or strike wildlife accidentally, and to be cautious and drive at slower speeds in a period from one hour before sunset to one hour after sunrise when some wildlife species are the most active.

(d) Requiring construction personnel, including construction contractors and their personnel, to report any injured or dead wildlife detected at the facility site.

(2) The Certificate Holder shall construct, operate and retire the facility to minimize impacts to vegetation and habitat.

(a) The energy facility shall be located within previously disturbed Habitat Category 6, non-native grassland Habitat Category 4, and palustrine emergent and forested/scrub-shrub wetlands Habitat Category 3.

(b) The Certificate Holder shall limit Habitat Category 3 impacts to 0.43 acres of permanent impact within palustrine emergent and forested/scrub-shrub wetlands.

(3) The Certificate Holder shall site transmission towers outside wetlands and waterways to the greatest extent practicable. If the Certificate Holder must site transmission towers in riparian zones or wetlands, the Certificate Holder shall use a monopole design for the transmission towers to minimize ground impacts and vegetation control, except where it would have to cross the existing BPA lines.

(4) The Certificate Holder shall prohibit construction and maintenance equipment from entering perennial and intermittent streams, except as follows:

(a) Construction equipment may cross a stream if it is dry;

(b) Construction equipment may cross streams that are not dry by using temporary structures to bridge the stream in a manner that minimizes disturbance to the bed, banks and water of the stream;

(c) Construction equipment may cross a wet stream if the Certificate Holder notifies the Division of State Lands, the Oregon Department of Fish and Wildlife ("ODFW") and the Office of its intent to cross the stream prior to the crossing and these agencies concur that the crossing is acceptable.

(A) The Certificate Holder shall return any stream bed or bank that it disturbs during construction or maintenance to conditions that are comparable to pre-disturbed conditions, including stabilizing the bed and banks and revegetating the riparian area with appropriate plant species.

(B) The Certificate Holder shall construct wet stream crossings within the ODFW-designated in-water work period.

(C) The Certificate Holder shall keep the wet stream crossing width to the minimum needed.

(5) The Certificate Holder shall take advantage of existing roads to the extent practicable.

(6) Before beginning construction of the energy facility or beginning construction of the transmission lines, and in the appropriate season, the Certificate Holder shall conduct wildlife surveys within 0.25 miles of the site to locate great blue heron rookeries. Should it locate rookeries, the Certificate Holder shall consult with ODFW and the Office to determine the action necessary to avoid adverse impacts. If it cannot avoid impacts, the Certificate Holder shall suspend construction in the affected areas during the critical nesting period of the species, as determined by the Office in consultation with ODFW.

(7) During construction of the energy facility, the Certificate Holder shall relocate the existing osprey nest platform to an ODFW-approved location for the period between October 1 and March 30.

(8) Before beginning construction of the facility, the Certificate Holder shall conduct pre-construction surveys within the analysis area and establish construction buffers around raptor nests during the nesting season, as approved by ODFW. If it is not practical for the Certificate Holder to avoid the nests of non-listed, threatened or endangered raptor species, the Certificate Holder shall implement in a timely manner a mitigation project approved by ODFW that meets the requirements of the Habitat Mitigation policy for "no net loss" appropriate to the Habitat Category.

(9) The Certificate Holder shall schedule construction at the existing raw water intake pump station to avoid the purple martin nesting season (April 1 through June 30). Before beginning construction at the existing raw water intake pump station, the Certificate Holder shall conduct a survey to determine the exact location of any purple martin nests. Should the Certificate Holder cause unavoidable impacts to occur to any purple martin nest, it shall construct, install and maintain an artificial nest site at a nearby location. It shall pick an appropriate location in consultation with ODFW and the Office.

(10) When working around riparian areas or waterways, the Certificate Holder shall use only herbicide labeled for use in those areas. The Certificate Holder shall abide by all labeling instructions when using herbicides for vegetation

maintenance associated with the energy facility and transmission lines rights-of-way.

(11) The Certificate Holder shall locate chemical storage, servicing of construction and maintenance equipment and vehicles, and overnight storage of wheeled vehicles at least 330 feet from any wetland or waterway.

(12) The Certificate Holder shall not construct any structure (other than fences and signs) within 50 feet of any Class I river, stream or the emergent vegetation adjacent to such a river or stream or within 25 feet of any other rivers, streams, and sloughs or the emergent vegetation adjacent to such a river, stream, or slough.

(13) To mitigate for impacts to 19 acres of non-native grassland, the Certificate Holder shall protect 19 acres of on-site emergent wetland habitat identified in the ASC by execution of a conservation easement for the life of the energy facility. Before beginning construction of the energy facility, the Certificate Holder shall provide a copy of the conservation easement or similar conveyance to the Office.

(14) The Certificate Holder shall restore temporary upland and wetland disturbance areas by returning the areas to their original grade and seeding, with appropriate seed mixes as recommended by ODFW and as shown in Table P-7 (ASC, Exhibit P, page P-34), and by mulching the areas with straw. The Certificate Holder shall obtain ODFW and Office concurrence before changing the proposed seed mix.

(15) The Certificate Holder shall not clear any more riparian vegetation than is necessary for the permitted land use, including clearing required for safety purposes, during construction or operation of the facility.

(16) During construction of the transmission line(s) and maintenance of the rights-of-way, the Certificate Holder shall limit clearing of vegetation in riparian areas and wetlands to that needed to prevent contact with the transmission line and to meet clearance standards for safety and transmission line reliability.

(17) The Certificate Holder shall mitigate for impacts to riparian shrub and forest habitat that result in canopy cover of less than 25 percent by revegetating these areas with appropriate native woody species according to the Typical Revegetation Plan (ASC, Exhibit Q, page Q-6.1).

(18) The Certificate Holder shall, as soon as practicable and appropriate after completing construction in an area, implement the mitigation measures specified in Conditions (13), (14) and (17).

(19) The Certificate Holder shall monitor revegetated areas for a period of five years and shall ensure that new vegetation has an 80 percent survival rate.

(20) The Certificate Holder shall monitor and control nuisance and invasive plant species annually for a period of five years in areas where vegetation removal and/or revegetation has occurred in (1) riparian areas and wetlands along the transmission line rights-of-way, and (2) in areas temporarily disturbed by construction of the raw water, gas, and process water discharge lines.

(21) The Certificate Holder shall submit an annual monitoring report to ODFW and the Office during the five-year monitoring period specified in Condition (20).

(22) Within one year after completion of construction of the facility or the Port Westward to BPA Allston Substation Transmission Line, if constructed separately, the Certificate Holder shall provide a summary report to ODFW and the Office that identifies the revegetation actions it took and the results of revegetation monitoring conducted to that time.

(23) Within three months after completion of the final annual monitoring survey, the Certificate Holder shall provide a report to ODFW and the Office that presents the results of its revegetation monitoring.

(24) If revegetation is not successful at establishing appropriate plant cover and controlling erosion, the Certificate Holder shall take remedial actions as the Office directs.

Consistency with ODFW Goals

The Council finds that the facility, subject to the conditions it adopts in this Order, is consistent with the ODFW fish and wildlife habitat goals and standards for the reasons stated below.

- The facility would not affect Habitat Category 1.

- The facility would not directly affect Habitat Category 2 and would not result in any loss of habitat quantity or long-term loss in habitat quality. Construction could result in a short-term loss of habitat quality if it occurred during the nesting season and reduced nesting success. If such a short-term loss were to occur, PGE would meet the mitigation goal (no net loss plus a net benefit in quality) by providing appropriate habitat in the same physiographic province (in proximity).

- The facility would directly affect Habitat Category 3 (emergent and forested/scrub-shrub wetlands, and osprey nesting habitat). PGE would meet the mitigation goal (no net loss of quantity or quality) by relocating the osprey's nesting platform, enhancing 1.5 acres of on-site emergent wetland, and restoring temporary impact areas.

- The facility would directly affect Habitat Category 4 (non-native grassland, deciduous and coniferous forests, and riparian mixed deciduous /conifer forest). PGE would meet the mitigation goal (no net loss of quantity or quality) by establishing a conservation easement on 19 acres of existing wetlands, reseeding and/or revegetating areas where native vegetation is removed by transmission line construction, restoring topsoils and reseeding areas of native vegetation that are disturbed by pipeline construction, avoiding construction near nesting sites during the breeding and nesting season, and minimizing removal of vegetation during transmission line ROW construction and maintenance.

- The facility would directly affect Habitat Category 6. PGE would meet the mitigation goal (minimize impacts) by confining impacts to the minimum area practicable.

Conclusion

The Council finds that PGE meets the fish and wildlife habitat standard, OAR 345-0022-0060.

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

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

(1) For plant species that the Oregon Department of Agriculture has listed as threatened or endangered under ORS 564.105(2), the design, construction, operation and retirement of the proposed facility, taking into account mitigation:

(a) Are consistent with the protection and conservation program, if any, that the Oregon Department of Agriculture has adopted under ORS 564.105(3); or

(b) If the Oregon Department of Agriculture has not adopted a protection and conservation program, are not likely to cause a significant reduction in the likelihood of survival or recovery of the species; and

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

Discussion

Threatened and Endangered Plant Species

The Oregon Department of Agriculture ("ODA") designates state-listed threatened or endangered plant species under ORS Chapter 564 and OAR Chapter 603, Division 73. PGE contacted ODA for information about listed plant species and any applicable protection and conservation programs. PGE also consulted with the U.S. Fish and Wildlife Service ("USFWS") and National Marine Fisheries Service ("NMFS") and with the Oregon Natural Heritage Program ("ONHP") for information about listed and sensitive species.

The analysis area for threatened and endangered plant species is, at a minimum, the area within 150 feet on either side of the proposed transmission line corridor and a similar distance surrounding the proposed energy facility site, water intake/discharge facilities, and temporary construction zone. Pursuant to the Amended Project Order, "threatened and endangered plant species" means species listed as threatened or endangered by the state under ORS 564.105 and by the federal government under 16 USC 1533. PGE conducted botanical field ground surveys within the analysis area for the energy facility on May 30-31, 2001 (EDAW, *Threatened, Endangered, and Sensitive Plant Survey*, March 2002). PGE conducted an aerial habitat survey of the transmission line corridor and energy facility site on June 8, 2001. It conducted botanical field ground surveys within the analysis area for the existing Port Westward to BPA Allston Substation transmission line corridor during June 2002.

No state-listed threatened plant species are known to occur in the energy facility analysis area. However, the state- and federally-listed threatened species, Nelson's checker mallow (*Sidalcea nelsoniana*), may occur in the proposed transmission line corridor. There is no State Protection and Conservation plan for this species. Two additional species that are considered candidates for state listing, Howell's montia (*Montia howellii*) and tall bugbane (*Cimicifuga elata*), may also occur in the proposed transmission line corridor.

Potential Impacts on Plants: PGE conducted species surveys for the energy facility analysis area and the existing Port Westward to BPA Allston Substation transmission line corridor and found none of the listed or candidate species. PGE has not yet conducted species surveys for the BPA Allston Substation to Trojan transmission line corridor, where there is potential suitable habitat for Nelson's checker mallow, Howell's montia and tall bugbane.

Construction and Operation

Direct Impacts (Habitat Quantity)

Energy Facility Analysis Area: Based on the above discussion, the Council finds that there will likely be no direct impacts to threatened, endangered or candidate plant species or their habitat on the energy facility site from construction and operation.

Transmission Line Corridor: Because PGE has not completed surveys of plant species along the options for the transmission line corridors between the BPA Allston Substation and Trojan, the Council cannot find that there would be no direct impacts to threatened, endangered or candidate plant species or their habitat from construction of the transmission lines. However, with PGE's compliance with conditions in this section, the Council finds that there will likely be no direct impacts to threatened, endangered or candidate plant species or their habitat in the transmission line corridors.

Indirect Impacts (Habitat Quality)

Energy Facility Area: Based on the above discussion, the Council finds that there will likely be no indirect impacts to threatened, endangered or candidate plant species or their habitat on the energy facility site from construction and operation.

Transmission Line Corridor: Because PGE has not completed surveys of plant species along the options for the transmission line corridors between the BPA Allston Substation and Trojan, the Council cannot find that there would be no indirect impacts to threatened, endangered or candidate plant species or their habitat from construction of the transmission lines. However, with PGE's compliance with conditions in this section, the Council finds that there will likely be no direct impacts to threatened, endangered or candidate plant species or their habitat in the transmission line corridors.

Retirement

Pursuant to conditions and Council rules, when PGE retires the facility, it must restore the site to a useful, non-hazardous condition following permanent cessation of construction or operation of the facility. Site restoration would consist primarily of dismantling and removing unneeded equipment and structures. PGE would likely leave electric, gas and water transmission lines in place to serve new uses at the site. Nevertheless, Section D.3 contains conditions for the retirement of the transmission line as well as the energy facility.

In addition, the Council will require PGE to submit a retirement plan before permanent shutdown of the facility. The plan would include measures to minimize impacts to listed threatened, endangered or candidate species.

Energy Facility Analysis Area: The Council finds that there will likely be no impacts to threatened, endangered or candidate plant species or their habitat from the retirement of the energy facility.

Transmission Line Corridor: The Council finds that there will likely be no impacts to threatened, endangered or candidate plant species or their habitat from the retirement of the transmission lines.

Avoidance/Mitigation Measures

In Exhibit Q of the ASC, pages 29-31, PGE proposes measures to avoid potential impacts to listed plant species by:

1. Conducting ground surveys for each species along the transmission line corridor at the appropriate time of year.
2. Avoiding wetland areas and other areas of suitable habitat during placement of the transmission lines.
3. Minimizing clearing of vegetation along the transmission line corridor.
4. Using existing roads to the greatest extent practicable for transmission line construction and maintenance.
5. Limiting herbicide application methods and chemicals to the least detrimental to non-target species.
6. Using direct "cut and squirt" herbicide application methods near waterways and wetlands.

The Council adopts the following conditions in the site certificate:

(1) Before beginning construction of the transmission line between the BPA Allston Substation and the Trojan Nuclear Plant, the Certificate Holder shall direct qualified personnel to conduct species ground surveys along the transmission line corridor and within 150 feet on either side of the transmission line corridor at the appropriate time of year to determine the presence of listed plant species. If listed plant species are identified in the course of the species ground surveys, their presence shall be noted on maps, and PGE shall provide copies of the maps to the Office and the Department of Agriculture.

(2) During construction of the transmission lines, the Certificate Holder shall manipulate construction equipment and site poles, towers and access roads to avoid impacts, except as provided in Condition (4), to known populations of state- or federally-listed plant species.

(3) The Certificate Holder shall ensure that all maintenance practices along the transmission line corridor minimize impacts to known populations of listed plant species.

(4) In the event the Certificate Holder determines that it cannot avoid known populations of listed plant species, the Certificate Holder shall engage qualified personnel to determine whether the proposed action has the potential to reduce appreciably the likelihood of the survival or recovery of the listed species, notify the Office of its findings, and obtain approval from the Oregon Department of Agriculture before proceeding with construction activities that affect the listed plant species. (OAR 603-073-0090).

Conclusion: Consistency with Oregon Department of Agriculture Goals

The Council finds that the operation, construction and retirement of the facility are not likely to have an adverse impact on any threatened, endangered or candidate plant species or their habitat.

Threatened and Endangered Animal Species

The Oregon Fish and Wildlife Commission has designated state-listed threatened and endangered wildlife species under ORS 496.172. OAR Chapter 635, Division 100, provides authority for adoption of the state sensitive species list and the Wildlife Diversity Plan. It contains the state list of threatened and endangered wildlife species. PGE reviewed ODFW sources and consulted with the USFWS, NMFS and with ONHP for information about state- and federally-listed and candidate species.

The analysis area for threatened and endangered animal species, at a minimum, is a "base case" analysis area within 300 feet of either side of the proposed transmission line corridor and a similar distance from the proposed energy facility site, water intake/discharge facilities, and temporary construction zone. The analysis area for raptor nesting sites, including spotted owl

and bald eagle nesting sites, at a minimum, is the area within one-quarter mile on either side of any proposed corridor alignment, the energy facility site, and temporary construction zone. Pursuant to the Amended Project Order, "raptor nesting sites" means nesting sites for birds of prey, such as bald and golden eagles, osprey, hawks, falcons, and owls; "threatened and endangered animal species" means species listed as threatened or endangered by the state under ORS 496.172 and by the federal government under 16 USC 1533.

Two state-listed endangered ("LE") species, peregrine falcon (*Falco peregrinus anatum*) (no federal status) and the lower Columbia River/SW Washington ESU Coho (*Oncorhynchus kisutch*) (federal candidate species), are known to occur in the general area of the proposed energy facility, as well as five state- and federally-listed threatened ("LT") species: bald eagle (*Haliaeetus leucocephalus*); northern spotted owl (*Strix occidentalis caurina*); marbled murrelet (*Brachyramphus marmoratus*); Snake River (*O. tshawytscha*) fall Chinook salmon; and Snake River summer/spring Chinook salmon. (ASC, Exhibit Q, Table Q-1).

In addition, there are several state- and federally-listed threatened ("T"), endangered ("E"), or candidate ("C") species, including spotted frog (*Rana pretiosa*) (C); Columbia white-tailed deer (*Odocoileus virginianus leucurus*) (E); Lower Columbia River, Upper Willamette River, and Snake River Chinook salmon (*Oncorhynchus tshawytscha*) (T); Upper Columbia River Chinook Salmon (E); Snake River Basin, Middle Columbia River, Lower Columbia River, and Upper Willamette River steelhead (*O. mykiss*) (T); Columbia River chum salmon (*O. keta*) (T); and SW Washington and Columbia River coastal cutthroat trout (*O. clarki clarki*) (proposed T). (ASC, Exhibit P, Table P-2 and Exhibit Q, Table Q-1).

State sensitive vulnerable ("SV"), sensitive critical ("SC") and sensitive undetermined ("SU") species not federally-listed include: Pacific lamprey (*Lampetra ayresi*) (SV); little willow flycatcher (*Empidonax trailii brewersti*) (SV); purple martin (*Progne subis*) (SC); olive sided flycatcher (*Contopus borealis*) (SV); Pacific western big-eared bat (*Plecotus townsendii townsendii*) (SC); fringed myotis(*Myotis thysanodes*) (SV); long-eared myotis (*Myotis evotis*) (SU); long-legged myotis (*Myotis volans*) (SU); white-footed vole (*Phenacomys albipes*) (SU); western toad (*Bufo boreas*) (SV); northern red-legged frog (*Rana aurora*) (SU); and tailed frog (*Ascaphus truei*) (SV). (ASC, Exhibit P, Table P-2).

Potential Impacts on Animals

Construction and Operation

Peregrine Falcon (State Listed Endangered): Peregrine falcons may occur in the analysis area year-round. There are two known eyries in the vicinity of the transmission line terminus at Trojan; one located 0.1 mile away and the other about 6 miles away.

Impacts to peregrine falcons may result from an increase in disturbance, loss of foraging, nesting or perching habitat, and electrocution or collisions with power lines. Because peregrine falcons often nest in areas with high levels of human disturbance (bridges, cooling towers, building ledges) and can acclimate to noise and human activity, including construction, and because there are conditions to survey for raptors and limit impacts, the Council finds that there will likely be no impact to this species.

Northern spotted owl (State Listed Threatened, Federal Listed Threatened): Northern spotted owl nests and home ranges are often associated with old-growth forests. During surveys, PGE did not locate suitable nesting, roosting, foraging or dispersal habitat at the proposed energy facility site. Along the transmission line corridor, PGE observed no suitable habitat. The Council finds that there will likely be no impacts to this species.

Marbled murrelet (State Listed Threatened, Federal Listed Threatened): The marbled murrelet depends on relatively unfragmented mature forests for nesting. PGE observed no suitable habitat, although isolated patches of large-diameter trees may be present outside the 300-foot survey area of the transmission line corridor. The Council finds that there will likely be no impacts to this species.

Bald Eagle (State Listed Threatened, Federal Listed Threatened): Bald eagles are present in the analysis area year-round. Their habitat depends on proximity to water, availability of food, suitable trees for nesting, perching, and roosting. Six nest territories have been identified by the ONHP database within 2 miles of the analysis area. The closest territory to the energy facility is on Crims Island, about 1.2 miles from the proposed energy facility site. Another active nest is located at Neer Cemetery, about one mile south of the transmission line corridor. Other nest territories are about 2 miles from the energy facility site. No known communal winter roost sites are present within the analysis area. (ASC, Exhibit Q, page Q-11).

Impacts to bald eagles may result from an increase in disturbance, loss of foraging, nesting or perching habitat, and electrocution or collision with transmission lines.

PGE completed a noise impact analysis for the Crims Island nest site. The anticipated increase in ambient noise is 1 dBA, well within the DEQ's allowable increase in levels. In addition, the nest is on the east side of the island and not within direct line of sight of the proposed energy facility. Foraging, nesting and perching habitat would not be adversely affected by the energy facility. Bald eagle foraging habitat is not limited in this area of the Columbia River and none exists along the transmission line corridor. PGE located no suitable perching trees on the energy facility site, and it would not remove foraging or perch trees. Impacts from electrocution by contact with the transmission lines would be reduced, because PGE would design the distances between conductors to exceed the wingspan of the birds. Collisions with the lines are unlikely due to excellent vision of the eagles and the lack of overhead ground wires. Therefore, the Council finds that there will likely be no impact to this species.

Oregon Spotted Frog (State Sensitive Critical, Federal Listed Candidate): The proposed energy facility site is outside the Oregon spotted frog historic range and no known occurrences are within 2 miles of the analysis area. The species was not observed in the wetlands or ponds on the energy facility site during field reconnaissance. Therefore, the Council finds that there will likely be no impact to this species.

Columbia white-tailed deer (State Sensitive, Federal Listed Endangered): Columbia white-tailed deer occur on the energy facility site year-round. The energy facility site provides a mosaic of

forage and cover habitat with open grassland and cottonwood stands. The tall dense grass and in the forest areas in the vicinity of the energy facility site provides fawning habitat. The majority of the site is disturbed non-native grassland on fill material. This is not prime habitat for the deer. There is no white-tailed deer habitat along the transmission line corridor.

Potential impacts to the deer include loss of habitat, disturbance from the construction of the energy facility, and disturbance from human activity, noise, traffic, and cooling tower emissions.

PGE estimates a loss of 0.12 acres of white–tailed deer habitat due to the construction of the energy facility and transmission towers within the energy facility site. An additional 0.10 acres of habitat would be temporarily disturbed by pipeline construction. Deer may be temporarily displaced during the construction of the facility, which PGE estimates would take 24 months. During operation, noise levels are anticipated to increase 4 dBA above ambient levels. The deer have acclimated to the existing Beaver Generating Plant and associated noise and would be likely to adapt to the increase in noise level with the proposed energy facility.

Cooling tower emissions could produce ground fogs and salt deposition. As discussed in sections D.6 and E.1.c of this Order, the Council finds that ground level fogging and salt deposition will not have significant impacts on fish or wildlife habitat.

Anadromous Salmonid Species (State and Federal Listed Threatened, Endangered and Candidate): The lower Columbia and its tributaries contain several at-risk anadromous salmonid fish species, including steelhead, Chinook and chum salmon, and coastal cutthroat trout. The river is a migratory corridor and may provide seasonal rearing habitat for some species. The energy facility site is within range of tidal influence, but is protected from the river by a dike. However, a water intake structure is located on Bradbury Slough. The transmission line corridor crosses a number of fish-bearing tributaries, including the North Fork Stewart Creek, Green Creek, Beaver Creek, and an unnamed tributary. Anadromy in Beaver Creek is limited to the areas downstream of Beaver Falls.

Potential sources of impacts to fish include construction and operation of the energy facility, water intake structure, and electric transmission line. Potential impacts include: (1) temporary and localized increase in turbidity and sediment during in-water construction; (2) risk of water contamination by oil, diesel fuel, uncured concrete, or other potential contaminants during construction of the energy facility and transmission line; and, (3) disturbance of riparian, instream, and wetland habitats during construction of the energy facility and transmission line, including access road construction.

During operation and maintenance of the energy facility and transmission lines, potential impacts include: (1) entrainment or impingement on fish screens; (2) creation of artificial "reef" habitat for salmonid predators around the log boom trash racks; (3) removal of water from the Columbia River that may affect fish or fish habitat; and, (4) water quality impacts due to removal of riparian vegetation and herbicide use.

Proposed conditions in this Order should ensure that any impacts during construction and operation would be avoided or minimized so that they would not have a significant impact on anadromous salmonid species. Therefore, the Council finds that there will likely be no significant impact to this species.

Retirement

The Council will require PGE to submit a retirement plan before permanent shutdown of the facility. The plan would include measures to minimize impacts to fish and wildlife habitat and to ensure no impacts to threatened or endangered species. For these reasons, the Council finds that retirement of the facility is not likely to result in a significant impact to listed fish and wildlife species.

Avoidance/Mitigation Measures

PGE proposes measures to avoid potential impacts to listed fish and wildlife species by:

1. Restricting construction of the transmission line at the Trojan terminus during the critical peregrine falcon nesting period from January 1 to June 30.
2. Using best available design and technology to avoid and minimize potential for raptor collisions and electrocution by transmission lines.
3. Relocating proposed pipeline routes to avoid impacts to both wetlands and deer habitat.
4. Establishing a conservation easement over 19 acres of wetlands adjacent to the energy facility for deer habitat.
5. Planting suitable species for deer forage and cover within the wetland mitigation/enhancement area.
6. Using noise reduction technology to minimize increase in ambient noise.
7. Installing deer friendly fencing on power plant site, consistent with security needs.
8. Imposing speed limits and posting signs on roads for deer crossings.
9. Preparing a federal Biological Assessment to address potential impacts to listed fish species.
10. Coordinating timing of in-water work with ODFW.
11. Screening water intake with approved ODFW/NMFS fish screen design.
12. Using existing log boom structure at water intake to avoid introducing new artificial “reef” structure.
13. Complying with all DEQ water quality standards.
14. Locating areas for chemical storage, refueling and servicing of construction and maintenance equipment and vehicles at least 330 feet from wetlands and waterways.
15. Storing spoils and waste materials at least 100 feet from wetlands and waterways.
16. Minimizing wetland impacts.
17. Minimizing the removal of riparian vegetation.
18. Using existing roads for construction and maintenance of the transmission line to the greatest extent practicable.

19. Implementing appropriate actions to prevent unavoidable spills and waste materials from entering waterways or wetlands.
20. Minimizing the use of herbicide and using herbicides approved for use near water in riparian areas.

The Council adopts the following conditions in the site certificate:

(5) Before beginning construction of the transmission line, the Certificate Holder shall employ measures to protect raptors in the design and construction of transmission lines. It shall design all energized transmission conductors with either a minimum separation of nine feet or other measures to reduce the potential for electrocution of raptors or other birds.

(6) The Certificate Holder shall not construct at the transmission line terminus at the Trojan Nuclear Plant during the critical peregrine falcon nesting period from January 1 to June 30.

(7) The Certificate Holder shall plant suitable vegetative species for deer forage and cover within the wetland mitigation/enhancement area.

(8) The Certificate Holder shall coordinate with ODFW about whether to conduct site-specific fish sampling at waterways that do not have confirmation of species presence or absence along the transmission line corridor. If ODFW recommends that the Certificate Holder conduct site-specific sampling, the Certificate Holder shall do so and report the results to ODFW and the Office.

Conclusion

The Council finds that PGE meets the threatened and endangered species standard, OAR 345-022-0070.

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

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

Discussion

The analysis area for scenic and aesthetic values is the area within five miles of the site.

Significant or Important Scenic and Aesthetic Values Identified in Applicable Federal Land Management Plans or in Local Land Use Plans. PGE's analysis found no applicable federal land management plans pertaining to the analysis area. The Columbia County Comprehensive Plan

identifies one scenic resource within the analysis area that could be affected by the proposed energy facility, i.e., U.S. Highway 30 between Deer Island and Rainier, Oregon. Under one option, PGE would install a new 230 kV transmission line across this segment of U.S. Highway 30. Existing transmission lines already cross the highway at the same location, and the additional transmission line would add a modest visual impact. In the State of Washington, Wahkiakum County and Cowlitz County comprehensive plans do not designate any significant or important scenic or aesthetic values.

Key Observations Points. Key observation points ("KOPs") are public viewing locations identified as most representative of visually sensitive locations for viewing the proposed energy facility. KOPs are attractants for drawing the viewer and focusing attention on a view or vista. PGE's analysis of KOPs included identification of potential viewing locations using available mapping and then field-testing each of those locations through visitation and photo documentation. PGE identified and evaluated KOPs for visual sensitivity.

Key Observation Points in the Vicinity of the Proposed Energy Facility. Due to the relatively isolated location of the proposed energy facility, KOPs warranting analysis have only low or moderate sensitivity. KOPs on the Oregon side of the Columbia River occur along Mayger Road, Kallunki Road, and U.S. Highway 30. KOPs on the Washington side of the Columbia River occur along State Route 4 ("SR 4") and pull-offs along SR 4.

Approaching the energy facility site, the lowland is viewed from Mayger Road as the road rounds the base of the bluffs on the south side of the Columbia River. This location is of moderate sensitivity and is about one mile from the energy facility site. It is one of two prominent places on the Oregon side of the Columbia River where the plume from the existing Beaver Generating Plant can be seen.

The plume from Beaver can also be seen from U.S. Highway 30 just west of Clatskanie. Intervening vegetation, including tree farms and trees growing along the sloughs in the lowland, provides screening between the viewer and the proposed energy facility. Because of that screening, coupled with distance, this location is of low sensitivity.

KOPs along Kallunki Road, which dead-ends at the entrance to the proposed energy facility, are only moderately sensitive due to minimal, destination-only traffic on the road. The existing transmission line parallels railroad tracks through the lowland area, giving the area an industrial character. Views of the proposed energy facility site are very limited from Kallunki Road due to distance and intervening vegetation. Views of emissions from the road would be limited due to vegetative screening along the road.

From the Washington side of the Columbia River, along SR 4, there is little vegetative screening along the road and its pull-offs. The proposed energy facility is located in an existing industrial area with industrial uses in place. It would be prominent in views from the Washington side of the Columbia River. However, the hills on the Oregon side of the river are tall enough to provide a backdrop for the proposed energy facility so that it

would not be silhouetted on the skyline when viewed from the Washington side of the river.

Key Observation Points along the Proposed Transmission Line Corridor. PGE would construct related or supporting transmission lines in an existing transmission line corridor from the proposed energy facility site to the BPA Allston Substation. At the BPA Allston Substation, the transmission line would cross U.S. Highway 30 in a southerly direction and then turn east to Trojan. A number of road crossings are important KOPs for the proposed transmission line. However, forest cover, the steep winding nature of most of the roadways, and the steep terrain serve to limit views from the roadway crossings. Adding line and support towers in the corridor would not significantly alter the existing visual condition of low to moderate sensitivity.

Visual Aesthetics of the Energy Facility. The proposed energy facility would be constructed on a flat, open, disturbed area in the northwest corner of the Port Westward Industrial Area. The elevation of the proposed energy facility is about 18 feet above mean sea level. Vegetation consists of grasses and scattered native trees, such as willow and cottonwood. The shoreline near the proposed energy facility has little vegetation and is open to views, especially from the Washington side of the Columbia River. The proposed energy facility would consist of several large buildings and two exhaust stacks. The buildings would range from 30 to 90 feet tall and the exhaust stacks would be about 200 feet tall. Due to backdrop of hills on the Oregon side of the river, the stacks would not be silhouetted on the skyline when viewed from the Washington side of the river.

The visual impacts of the proposed energy facility would be similar to those of Beaver, although the proposed energy facility would have two narrow, tall exhaust stacks compared to six wider and shorter stacks at Beaver. Some buildings would be partially screened by the existing native trees and tree farms in the industrial complex. Other visible impacts associated with the proposed energy facility would include plumes and night lighting similar to those of Beaver.

Visual Aesthetics of the Transmission Lines. PGE would construct related or supporting transmission lines parallel to existing transmission lines. This transmission line corridor incorporates several roadway crossings. Forest cover, steep terrain, and the steep winding nature of most of the roadways all serve to limit views from the roadway crossings. Adding line and support towers in the corridor, including the crossing of U.S. Highway 30 between Deer Island and Rainier, which is deemed a scenic resource in the Columbia County Comprehensive Plan, would not significantly alter existing visual aesthetics.

Construction Activities. Activities associated with construction of the energy facility could adversely affect scenic and aesthetic values. During the 18-month to two-year period of construction, cranes and scaffolding would be present in the vicinity of the energy facility. In addition, construction dust and construction lighting would be noticeable from vantage points near the energy facility. Mitigation measures, including moving equipment when no longer in use, applying water to control dust, and using shielding and directive devices on lighting during nighttime construction, could reduce these impacts to negligible levels.

The Council adopts the following conditions in the site certificate:

(1) During construction of the facility, the Certificate Holder shall ensure that contractors move equipment out of the construction area when it is no longer expected to be used. To the extent practical, contractors shall lower equipment with long arms, such as cranes, bucket trucks, backhoes, when not in use in order to minimize visibility.

(2) During construction of the facility, the Certificate Holder shall control dust through the application of water.

(3) During construction of the energy facility, the Certificate Holder shall use directing and shielding devices on lights to minimize off-site glare. When there is no nighttime construction activity, the Certificate Holder shall minimize night lighting consistent with safety and security requirements.

Nighttime Lighting. Lighting of the proposed energy facility would increase its visibility during hours of darkness. Exterior lighting is necessary for safety and security, especially on the exhaust stacks. However, most lighting could be shielded or directed to minimize visual impacts. Except for safety and warning type lighting, to minimize lighting and illumination seen from offsite, PGE would mount night lighting fixtures to guide light downward.

The Council adopts the following condition in the site certificate:

(4) During operation of the energy facility, the Certificate Holder shall use directing and shielding devices on lights to minimize off-site glare, consistent with safety and security requirements.

Columbia County Recommendation: In a letter dated May 21, 2002, from Mr. Jim Holycross, Planning Division, Department of Land Development Services, Columbia County, he recommended that the Council adopt a condition relating to submission of outdoor lighting plans. The Council adopts the following condition, based on the recommendation from Columbia County:

(5) Before beginning construction of the energy facility, the Certificate Holder shall submit to Columbia County and the Office an outdoor lighting plan that shows how it will minimize glare from the energy facility site, consistent with Conditions (3) and (4).

Structural Aesthetics. PGE would paint proposed structures with low-glare paint in colors selected to complement the surrounding foreground and background colors.

The Council adopts the following condition in the site certificate:

(6) The Certificate Holder shall paint structures with low-glare paint in colors selected to complement the surrounding foreground and background colors.

Pipelines. Pipelines for water, reclaimed wastewater and natural gas would all be installed under ground. The Council finds that pipelines would have no effect on scenic or aesthetic values, provided that PGE restores any areas disturbed by construction activities to their pre-construction condition.

The Council adopts the following condition in the site certificate:

(7) After completion of construction of related and supporting pipelines in an area, the Certificate Holder shall re-vegetate any undeveloped areas disturbed by construction activities using native species, including grasses, shrubs, and trees. If necessary, the Certificate Holder shall water re-vegetated areas on a regular basis until the plant species have been successfully established.

Vapor Plumes. During periods of low temperature and high humidity, vapor plumes from the cooling towers and exhaust stacks may be visible. These plumes are most likely to be visible during the winter months. Vapor plumes may also be visible during nighttime hours when the energy facility is illuminated. There are other vapor plumes emanating from the existing industrial uses in the vicinity of the energy facility. The Council finds that the addition of the plumes emanating from the energy facility would not change appreciably the visual character of this industrial/agricultural area.

The energy facility would add industrial features to an area already populated with other industrial/agricultural businesses. The Council finds that the design, construction, operation and retirement of the energy facility, taking into account mitigation, would not be likely to result in significant adverse impact to scenic and aesthetic values identified as significant or important in applicable federal land management plans or in local land use plans in the analysis area.

Conclusion

The Council finds that PGE meets the scenic and aesthetic values standard, OAR 345-022-0080.

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

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

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

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

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

Discussion

The analysis area for historical, cultural and archaeological resources is the site and immediate vicinity. This includes the proposed energy facility, the construction lay down area, the area within corridors for the new transmission lines, a high-pressure natural gas line lateral, a raw water supply line, and any additional areas that would be cleared, used for vehicle parking, equipment storage or staging, or would otherwise be disturbed during construction.

PGE conducted a record search, literature review, pedestrian field survey, and deep mechanical augering of areas that would be potentially subject to ground disturbance in the course of construction and operation of the proposed energy facility. In addition, PGE contacted representatives of the Confederated Tribes of the Warm Springs Indian Reservation of Oregon, the Confederated Tribes of the Grand Ronde Community of Oregon, the Confederated Tribes of the Siletz Indian Reservation of Oregon, and the Chinook Tribe in Washington.

Several cultural resource sites have been previously recorded within a few miles of the proposed facility. However, only one prehistoric archaeological site (35CO16) could potentially be affected by the proposed facility, as noted below. The construction of the energy facility, while being situated close to the archaeological site, would not affect the physical integrity of the site. Thus, construction and operation of the proposed energy facility would likely have no effect on historic, cultural or archeological resources.

The alignment of the raw water pipeline would extend from an existing pump station on Bradbury Slough to the energy facility, following existing paved and gravel roads for nearly the entire alignment. A portion of the alignment was once a railroad bed and is above the surrounding grade. The area is generally covered in dredge fill. Much of the proposed alignment was either included as part of an archaeological survey conducted in 1989 or formed the boundary of that survey; and, no archaeological resources have been recorded within or near to it. Thus, no significant archaeological resources are likely to be found in the raw water pipeline alignment.

Potential National Register of Historic Places Sites. There is one prehistoric archaeological site (35C016) in the analysis area that could potentially be affected by the proposed energy facility. This site contains buried deposits that may be eligible for listing in the National Register of Historic Places. The proposed energy facility would be located in close proximity to the archaeological site. However, deep subsurface mechanical auger probes failed to find evidence that the archaeological site extends into the proposed construction area. Construction of the proposed energy facility would occur near this archaeological site, but would not affect the physical integrity of the site.

South of Port Westward, the proposed transmission line corridor would cross over a segment of the Burlington Northern Santa Fe Railroad, which was originally the Astoria and Columbia River

Railroad during the period from 1883 to 1898. This railroad is considered eligible for listing in the National Register of Historic Places.

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

Private Land. PGE has not yet completed archaeological surveys for the transmission line corridors connecting the proposed energy facility to the BPA Allston Substation and the BPA Allston Substation to Trojan.

Portions of the transmission line corridor between the energy facility and the BPA Allston Substation were surveyed in 1974, and archaeological site 35C015 was recorded along that alignment. However, the standards for archaeological field survey have changed since the time of the 1974 survey.

High probability areas were identified during a survey conducted in 1999 in connection with a proposed natural gas pipeline. These high probability areas were either surveyed or monitored during pipeline construction, and three historic-period sites and one prehistoric artifact were documented. One of the historic period resources was the Astoria and Columbia River Railroad corridor south of Port Westward. That resource is considered significant, as noted above. The transmission lines from Port Westward to the BPA Allston Substation would pass through areas that have not been surveyed or monitored for archaeological sites.

The transmission line corridor between the BPA Allston Substation and Trojan has not been surveyed for archaeological resources. Site 35C01 lies adjacent to the Trojan Nuclear Power Plant, but it is outside of the proposed transmission line corridor and would not be affected. A short segment of the transmission line corridor crosses Highway 30 and was within the route of a fiber optic line that passed through Columbia County. The fiber optic alignment was surveyed in 2000, but no archaeological resources were noted within the narrow area of the transmission line corridor where the fiber optic line crossed.

Once PGE has determined where the transmission line would be constructed within an approved corridor, it would determine the level of work necessary to identify and protect significant archaeological sites. PGE would coordinate the work with federal agencies, such as the Corps of Engineers, the State Historic Preservation Office, and the Office. PGE would solicit information from tribes regarding cultural resources known to and of importance to the tribes.

Public Land. Prehistoric archaeological site 35C016 is located on public land managed by the Port of St. Helens. It is near the proposed energy facility site. This site may be eligible

for listing in the National Register of Historic Places, but subsurface probes determined that the site does not extend into the potential construction area for the proposed energy facility.

PGE conducted field surveys and subsurface auger probes of the proposed energy facility site and determined that the probability of encountering cultural resources during construction would be low.

PGE would take several steps to protect cultural resources. PGE would ensure that construction personnel are instructed in the identification of cultural material. They would be required to halt ground-disturbing activities in the vicinity of a find until a qualified archaeologist could evaluate the significance of a find. If an archaeologist found significant cultural resources, PGE would make recommendations for mitigation measures in consultation with the Oregon State Historic Preservation Office, the Office, and other appropriate parties. Mitigation measures could include avoidance or data recovery.

The Council finds that construction of the energy facility and its related or supporting facilities would have no effect on identified cultural resources.

The Council adopts the following conditions in the site certificate:

(1) Before beginning construction of the Port Westward to BPA Allston Substation Transmission Line or the BPA Allston Substation to Trojan Transmission Line, the Certificate Holder shall complete an archaeological survey of the approved transmission line corridors in consultation with the Oregon Historic Preservation Office ("SHPO"), the Confederated Tribes of the Warm Springs Indian Reservation of Oregon, the Confederated Tribes of the Grand Ronde Community of Oregon, the Confederated Tribes of the Siletz Indian Reservation of Oregon, the Chinook Tribe in Washington, and appropriate federal agencies, document its findings, and present those findings to the Office.

(2) During construction of the facility, the Certificate Holder shall ensure that a qualified person instructs construction personnel in the identification of cultural materials.

(3) During construction of the facility, in the event any artifacts or other cultural materials are identified, the Certificate Holder shall cease all ground-disturbing activities until a qualified archeologist can evaluate the significance of the find. If the archeologist determines that the materials are significant, the Certificate Holder shall make recommendations to the Council for mitigation in consultation with SHPO, the Office, the tribes, and other appropriate parties. Mitigation measures shall include avoidance or data recovery. The Certificate Holder shall not restart work in the affected area until it has demonstrated to the Office that it has complied with the archeological permit requirements administered by SHPO.

(4) The Certificate Holder shall allow monitoring by the Confederated Tribes of the Warm Springs Indian Reservation of Oregon, the Confederated Tribes of the Grand Ronde Community of Oregon, the Confederated Tribes of the Siletz Indian Reservation of Oregon, and the Chinook Tribe in Washington of earth-moving activities within any areas with a potential for containing archaeological remains.

(5) Before beginning construction of the facility or of the Port Westward to BPA Allston Substation Transmission Line separately, the Certificate Holder shall notify the Confederated Tribes of the Warm Springs Indian Reservation of Oregon, the Confederated Tribes of the Grand Ronde Community of Oregon, the Confederated Tribes of the Siletz Indian Reservation of Oregon, and the Chinook Tribe in Washington and provide their representatives the opportunity to be available for periodic on-site monitoring during construction activities.

Conclusion

The Council finds that PGE meets the historic, cultural and archaeological resources standard, OAR 345-022-0090.

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

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

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

Discussion

The analysis area for recreational opportunities is the area within five miles of the site, including recreational opportunities on the Columbia River. Fishing, hunting, water skiing, boating, camping, sailing, hiking, cycling, and other day uses are recreational opportunities within and around the analysis area. Hunting and other recreational activities are not allowed in the Port Westward Industrial Area. The historic Lewis and Clark Trail is part of the Columbia River for this stretch of the historic journey. The nearest documented Lewis and Clark campsite was Puget Island about 9 miles downstream from the proposed energy facility site.

Existing recreational opportunities within the analysis area include the Columbia River, Clatskanie River, and numerous sloughs between Clatskanie and Quincy. There are three county parks within the analysis area. These include the County Line Park (Wakiakum County) on the Washington side of the Columbia River about one-half mile from the Port Westward Industrial

Area, Hudson-Parcher Park (Columbia County) off Larson Road near Rainier about 2.5 miles from the energy facility site, and Prescott Beach Park (Columbia County) along the Columbia River at the community of Prescott. There is also a boat ramp on the Washington side at Abernathy Point, about three-quarters of a mile from the energy facility site. In addition, about four miles from the energy facility site, Columbia County leases the Clatskanie River Wayside Park and Boat Ramp from the Oregon State Game Commission.

There is one city park in the City of Clatskanie. There are 19 city parks and playgrounds within the City of Longview and within the analysis area. These parks support a wide range of activities including swimming and athletic events. PGE's Trojan Park is at the east end of the transmission line corridor at Trojan. It is privately-owned, but open to the public.

The Mayger Boat Ramp, owned and operated by ODFW, is about 1.5 miles southeast of the proposed energy facility on the Columbia River at Bradbury Slough. There is one federal facility in the analysis area: the U.S. Fish and Wildlife Service's Abernathy Salmon Culture Technology Center about 3.5 miles north of the proposed energy facility in Washington.

Noise can affect recreation. There are very few sensitive noise receptors within the analysis area. The closest recreation area is County Line Park in the State of Washington. A noise impact study predicts noise levels from the proposed energy facility at two residences near County Line Park would be within the acceptable range. Informal recreational activities, such as fishing, hunting, and boating, could occur within the audible range of the proposed energy facility. The energy facility would be located within an existing industrial area. The noise analysis prepared for PGE predicts that operation of the energy facility would meet applicable noise limits in both Oregon and Washington. The Council finds that added noise is unlikely to affect recreational opportunities adversely.

PGE estimates that operation of the proposed energy facility would generate a total of 30 daily employee vehicle trips and 10 daily delivery vehicle trips. The greatest impacts would be close to the energy facility, and those impacts would result in only a small change in local traffic. Average trip generation during construction may be 350 daily trips. Traffic resulting from construction activities could create delays during the peak evening hour at some intersections. This would not likely interfere with recreational activities. The Council finds that traffic generated by construction and operation of the energy facility would not adversely affect recreational opportunities.

PGE would obtain water for operation of the energy facility from its existing intake facility on the Bradbury Slough under an existing Port of St. Helens water right. The intake facility is already in place and modifications for the proposed plant would be contained in the existing structure. The Council finds that operation of the energy facility would have no adverse impact on water resources at existing recreational opportunities.

PGE would prevent water quality impacts to recreational areas by controlling storm water runoff during construction and by returning blowdown water to the Columbia River under a Port of St. Helens NPDES permit during operations. (As of the date of this Order, DEQ has not issued to

the Port of St. Helens an NPDES permit that would allow it to accept and discharge blowdown from the energy facility.) Discharge water would be conveyed to the river via a pipe secured to the river bottom just offshore from the proposed energy facility. There should be no impacts to recreation or river navigation from the discharge pipeline. PGE predicts there would be no degradation of water quality in the Columbia River or Bradbury Slough. The Council finds that construction and operation of the energy facility would not adversely affect recreational uses of water, including fishing and boating, provided that the Port of St. Helens complies with the requirements of its NPDES permit.

Upper portions of the emission stacks could be visible up to two miles away based on the visual terrain and accessible vantage points. The majority of the recreational opportunities in Oregon would not have a view of the emission stacks. Some of the recreational opportunities in Washington, including viewpoints along SR 4, Abernathy Boat Launch, and County Line Park, could have views of the emission stacks. The energy facility would be located in an area already occupied by other industrial facilities and would not create significant new visual intrusions on recreational uses in the analysis area. The Council finds that the energy facility would have a negligible impact when viewed from existing recreational opportunities.

Pipelines for water, reclaimed water and natural gas would be buried. The Council finds that they will have no adverse impact on existing recreational opportunities.

The transmission lines would be constructed parallel to and within 500 feet of an existing transmission line. The Council finds that these lines would have a negligible impact on existing recreational opportunities.

Visible vapor plumes from the cooling towers and emission stacks would occur during periods of low temperature and high humidity. These plumes would be most visible during the winter months and may be visible at night when the energy facility is illuminated. There are other visible plumes resulting from existing industrial facilities in the area. The Council finds that the energy facility will not significantly alter the visual character of the general area and will have a negligible impact on existing recreational opportunities.

Hazardous materials located at the energy facility site would include solvents, lubricants and water treatment chemicals. Because of the distance to the nearest recreational opportunity from the energy facility, the Council finds that the potential for adverse impacts to recreational opportunities is remote.

The Council finds that proposed energy facility would not adversely affect any existing facilities within the analysis area and that there would be no loss of recreational use. The proposed facility would not detract from recreational opportunities generally available in the vicinity such as fishing, waterfowl hunting, hiking, cycling, and boating. Hunting and other recreational activities are not allowed in the Port Westward industrial area.

Conclusion

The Council finds that PGE meets the recreation standard, OAR 345-022-0100.

D.13. PUBLIC SERVICES, OAR 345-022-0110

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

Discussion

The analysis area for the public services standard is the area within 20 miles of the energy facility site, particularly communities along U.S. Highway 30. Oregon communities within the analysis area include Clatskanie (population, about 1,528; distance, about five miles) and Rainier (population, about 1,687; distance, about 15 miles). The analysis area includes the Washington cities of Kelso and Longview for housing and health care services. Those cities have a combined population of about 46,000 and are about 17 miles from the energy facility site.

PGE expects construction of the energy facility and related or supporting facilities would take about 24 months. The average construction work force would be about 200 workers, with a peak of about 300 workers. Of the total construction work force, PGE expects to draw most of the workers from the regional labor pool. Local workers would be expected to commute to the energy facility site from their homes in the region. They should impose little or no demand for new local public services other than traffic safety. Construction activity could have a significant impact on local traffic, which PGE must mitigate, as discussed below.

PGE expects that some construction workers would be drawn from outside the region. Many of these workers would be likely to commute from Longview or Kelso, Washington, or St. Helens or Portland, Oregon. Due to the relatively short duration of the work, PGE expects that workers that relocate to the analysis area would not bring their families, so there should not be a significant increase in demand for public services from new residents.

Operation of the energy facility would create about 25 full-time jobs. The new jobs would pay considerably more than the average wage and would likely be attractive to current residents. PGE expects that most new employees would already reside in the analysis area. In all, PGE estimates that population increases during construction and operation of the proposed energy facility would be small.

Sewers and Sewage Treatment. During construction of the energy facility, PGE would hire a contractor to provide chemical toilet service or other appropriate facilities.

During operation of the energy facility, PGE would discharge domestic wastewater and sanitary sewage to an engineered septic system at the rate of about 500 gallons per day. (See Section E.1.d for a discussion of the Water Pollution Control Facilities permit for the engineered septic system.)

PGE would hire employees from the local area to the extent practicable; therefore, the facility would not measurably increase the local population nor increase demand on local sewage collection and treatment systems.

The Council adopts the following condition in the site certificate:

(1) During construction, the Certificate Holder shall hire a contractor to provide chemical toilet services or other appropriate facilities for construction personnel.

The Council finds that construction and operation of the energy facility would not result in any significant adverse impact on the ability of local sewage collection and treatment systems to serve their other users.

Water. PGE would obtain up to 8.3 cubic feet per second ("cfs"), or 5.4 million gallons per day ("mgd"), of water for the energy facility from the Port of St. Helens under an existing water right that allows withdrawals of up to 30 cfs, or 19.4 mgd. That water right has a permitted point of diversion on Bradbury Slough, where PGE currently withdraws water and where it would withdraw water for the energy facility. PGE owns and operates the existing intake structure. To serve the proposed energy facility's average annual water demand of 4 mgd and peak average water demand of 5.4 mgd, PGE would add pumps to the intake facility. This enhanced raw water system would supply the proposed energy facility's water requirements, and neither PGE nor the Port of St. Helens would need to obtain new water rights.

Potable water uses for the energy facility and associated infrastructure would be about 0.072 mgd. PGE would produce domestic potable water for the energy facility by purifying water it would obtain from the Port of St. Helens under the Port's water right. It would install purification equipment during construction of the energy facility. Potable water uses would be drinking water, sanitary water needs, and other plant and personnel needs.

The Council finds that construction and operation of the facility would not result in any significant adverse impact on the ability of the local water system to serve its other users.

Solid Waste Management. Solid waste for Clatskanie and the area of the proposed facility is hauled to a transfer station in St. Helens, where the waste is compacted before being transferred to the River Bend Landfill in McMinnville, Oregon. This landfill is a "Subtitle D" facility, which takes about 2,000 tons per day from eight counties.

PGE estimates that construction of the energy facility would produce construction wastes at the rate of about 5 tons per month. It would consist of pallets, wood packing, steel banding, steel cutoffs, cardboard packing, wood cutoffs, concrete waste, and office refuse. PGE proposes to separate and store recyclable material from this waste stream and to deliver such recyclable waste to a recycling facility.

PGE estimates that operation of the energy facility would produce domestic solid waste at the rate of about 20 tons per year. PGE proposes to separate and store recyclable material from this waste stream and to deliver such recyclable waste to a recycling facility.

The capacity of the solid waste removal system for the analysis area is sufficient to manage current and foreseeable waste. The facilities managing waste for Columbia County can handle substantially more waste than they are currently handling. The Council finds that construction and operation of the energy facility would not have a significant adverse impact on the capacity of solid waste facilities in the analysis area.

Housing. According to statistics gathered by PGE, there are 1,346 housing units in the analysis area with an average vacancy rate of 6.0 percent. While temporary housing is somewhat limited (80 units) in the analysis area, there are about 50 apartments, motels, and resorts just 17 miles away in the vicinity of Longview and Kelso, Washington. The local area, inclusive of Longview and Kelso, Washington, would be able to provide short-term accommodations for construction workers.

The demand for permanent housing in the analysis area should not increase significantly during operation of the energy facility, because it would employ only about 25 full-time employees. PGE stated that, to the extent practicable, it would hire these employees from local communities. The Council finds that while the availability of permanent housing in the analysis area is limited, sufficient housing is available in the local area to accommodate construction and operation of the energy facility.

Traffic Safety. PGE estimates that construction of the proposed energy facility would take about 24 months. During the peak construction period, PGE expects a trip generation rate of about 550 daily trips (500 autos and 50 trucks) and 255 outbound trips during the PM peak hour (250 autos and five trucks). It expects average trip generation during construction to be about 350 daily trips (330 autos and 20 trucks) and 167 outbound trips during the PM peak hour (165 autos and two trucks). When operation begins, PGE expects the proposed energy facility to generate about 40 daily trips (30 autos and 10 trucks) and 11 outbound trips during the PM peak hour (10 autos and one truck).

PGE assumes that about 90 percent of the traffic would come from areas east of the energy facility site and the remaining 10 percent would come from Clatskanie and areas to the west.

Primary access to the proposed energy facility site would be via Kallunki Road to the southeast. The major travel route from the energy facility site into the City of Clatskanie and for interconnection with U.S. Highway 30 ("U.S. 30") would be southeast via Kallunki Road to its connection with Quincy-Mayger Road, then south via Quincy-Mayger Road to its connection with Beaver Falls Road, then southwest via Beaver Falls Road to its connection with NE 5th Street (the "Quincy-Mayger Route"). Within Clatskanie, Beaver Falls Road connects with NE 5th Street, which feeds both Nehalem Street and Swedetown Road, both of which connect with U.S. 30. Alston-Mayger Road also connects with Kallunki Road at the intersection with Quincy-

Mayger Road. This roadway would be an alternative route (the "Alston-Mayger Route") that connects with U.S. 30 about nine miles east of Clatskanie.

In the future, when the County has completed proposed roadway improvements, Hermo Road would become the primary access route into the Port Westward Industrial Area. Hermo Road connects with Quincy-Mayger Road to the south and would connect to Erickson Dike Road to the north and west of the proposed energy facility site when Hermo Road is completed.

PGE hired David Evans and Associates, Inc. ("DEA") to assess the traffic impacts of the proposed energy facility. DEA's Traffic Impact Analysis focused on the following issues:

- Review of existing studies and recommended transportation improvements.
- Evaluation of 2001 existing traffic conditions during weekday PM peak hours.
- Estimated site trip generation, distribution and assignment to the vicinity road system.
- Analysis of traffic conditions during peak construction activity, estimated to occur in 2003.
- Analysis of traffic conditions once the energy facility begins regular operations, estimated to occur in 2004.
- Mitigation measures for any project deficiencies.

DEA examined four future condition scenarios for the proposed energy facility:

- The first scenario assumes that the proposed energy facility would generate the only construction activity in the area.
- The second scenario assumes that construction of the Summit Project, proposed by Westward Energy LLC ('Westward Energy"), and the Cascade Grain Project would occur concurrently with construction of the proposed energy facility and that the period of peak construction activity would overlap for all three sites.
- The third scenario assumes that concurrent construction would occur, but that transportation demand management ("TDM") measures would be used to reduce PM peak hour trip generation for all three projects.
- The fourth scenario examined the operating phase, assuming that all three projects were in operation.

Construction Scenario 1 – Port Westward Peak Construction Activity. During the peak construction phase of the proposed energy facility, traffic conditions would still be acceptable. Most of the intersections would operate with short delays during the PM peak hour. Only one intersection movement, the southbound left-turn from Old Highway 30 in Alston to U.S. 30, would have long delays (about two minutes) and traffic demand approaching the capacity of the movement. The county roadways would operate acceptably, and the U.S. 30 segments would meet the state mobility standard.

Construction Scenario 2 – Concurrent Construction Peak Construction Activity. Concurrent construction of the three projects would have impacts at many of the intersections in the vicinity. Although the Nehalem Street intersection could operate with relatively short delays for most movements, the heavy southbound demand anticipated

for this scenario would require major retiming of the traffic signal. At the Swedetown Road interchange ramps, 40 percent of the outbound traffic would use the eastbound ramp (southern approach) resulting in average delays of one minute and demand approaching the capacity of the movement. Under this scenario, PGE assigned no traffic to the Alston-Mayger Route because the critical southbound left-turn from Old Highway 30 in Alston to U.S. 30 would operate with delays of about 2.5 minutes. This poor condition would result from increased construction traffic volumes on U.S. 30.

The Kallunki Road approach to Quincy-Mayger Road would operate with average delays of about 30 seconds per vehicle, and the right-turn demand on Kallunki Road would be near the capacity of the movement. The westbound left-turn movement on 5th Street at Nehalem Street would have long delays and demand that exceed the capacity of the movement.

The county roadway segments would accommodate the increased traffic demand, but vehicles would travel in groups or platoons more than 70 percent of the time. The U.S. 30 segments would meet the state mobility standard.

Construction Scenario 3 – Concurrent Construction With TDM Measures. With the implementation of TDM measures, the impacts of the concurrent construction scenario would be greatly reduced. Most of the intersections would operate with short delays during the PM peak hour. Only one intersection movement, the southbound left-turn from Old Highway 30 in Alston to U.S. 30, would have longer delays. The county roadways would operate acceptably, and the U.S. 30 segments would meet the state mobility standard.

Operation, Scenario 4. During operation of the proposed facility and other facilities, traffic conditions would be similar to existing conditions with minimal increases in delay or traffic demand. The intersections would operate with short delays during the PM peak hour. The county roadways would operate acceptably, and the U.S. 30 segments would meet the state mobility standard.

Operation of the proposed energy facility should not cause appreciable impacts to traffic. However, transportation system management ("TSM") and TDM measures could be implemented during construction to improve the overall safety of the system. Such measures could include the following:

- Signage and striping at the mainline rail crossing on Kallunki Road could be improved and maintained.
- A "DO NOT STOP ON TRACKS" sign could be installed as part of the crossing improvements.
- A "safe speed on curves" study could be undertaken on Beaver Falls Road and Quincy-Mayger Road and possibly Alston-Mayger Road.

- Curve warning signs and speed advisory plaques could be installed on Beaver Falls Road and Quincy-Mayger Road and possibly Alston-Mayger Road based on the results of a "safe speed on curves" study.
- A carpooling program that identifies and/or creates park-and-ride locations to facilitate carpooling should be developed if construction of the proposed PGE project were to occur simultaneously with construction for other proposed projects in Port Westward.
- If practicable, a staggered shift schedule should be developed if construction of the proposed PGE project were to occur simultaneously with construction for other proposed projects in the Port Westward Industrial Area.
- PGE should use barge and railroad deliveries of bulk materials to the extent practicable to minimize the number of freight truck deliveries on local roads.

In addition to safety improvements identified in each of the foregoing scenarios, studies prepared for PGE and Westward Energy by DEA and Kittelson & Associates, Inc, identified a series of transportation improvements necessary to correct roadway deficiencies and transportation impacts associated with the future development of the PWGP and potential development of the Summit and Cascade Grain Projects.

Representatives of PGE and Westward Energy consulted regularly with Columbia County staff to identify transportation improvements and to develop equitable cost-sharing arrangements. Table D.13-1 provides a summary of transportation improvements proposed by the County and the developers in connection with development of the Port Westward and Summit Projects, together with cost estimates. Columbia County has agreed to complete the transportation improvements in a timely manner. The developers and Columbia County staff would ensure that developers minimize impacts to the road system and that construction of the improvements would not significantly delay construction of the projects proposed for development in the Port Westward Industrial Area. Both PGE and Westward Energy have entered into agreements with Columbia County whereby the developers have agreed to contribute a proportionate share of the costs associated with the transportation improvements identified in Table D.13-1.

Pursuant to its agreement with Columbia County, PGE must pay the County or its designee a Transportation Improvement Contribution ("TIC") within 60 days after issuance of final building permits to construct the energy facility. The amount payable is dependent upon the status of building permits for other projects proposed for development in the Port Westward Industrial Area. If the facility is the only facility permitted, PGE must pay the County or its designee $272,034. If building permits have been issued for the Summit Project, PGE must pay the County or its designee $251,934. If building permits have been issued for the Summit Project and the Cascade Grain ethanol project, PGE must pay the County or its designee $166,971. And, if building permits have been issued for the Cascade Grain ethanol project but not for the Summit Project, PGE must pay the County or its designee $184,434. Upon making this TIC, PGE would be relieved of any further obligation to provide or pay for public transportation system improvements in conjunction with construction or operation of the facility. In addition, if one or more of the other projects proposed for development in the Port Westward Industrial Area receive building permits after PGE has made its TIC, PGE would be eligible for reimbursement of some portion of its TIC.

TABLE D.13-1
COLUMBIA COUNTY PROPOSED TRANSPORTATION IMPROVEMENTS

Roadway/Intersection	Description	Cost Estimate
Improvements Identified by PGE and Westward Energy		
Kallunki Road	Place a leveling course on Kallunki Road to improve pavement condition during construction.	$ 120,000
Kallunki Road	Rebuild Kallunki Road to include a new sub-base, drainage, guardrail, and pavement.	$ 885,000
Beaver Falls/Quincy-Mayger Road Intersection	Provide a pavement overlay and striping to channelize movements through the intersection. Add signing and a flashing yellow light.	$ 110,000
Beaver Falls/Quincy-Mayger Road Intersection	Perform a detailed engineering study to develop a long-term solution for the intersection. The study should include a survey and would address realignment alternatives and associated right-of-way impacts.	$ 40,000
Beaver Falls/Quincy-Mayger Road	Replace approximately 1,300 feet of existing guardrail.	$ 45,000
Beaver Falls/Quincy-Mayger Road	Conduct an engineering study to determine locations for installing new guardrail, curve warning signs, and curve advisory signs.	$ 20,000
5th Street Safety Improvements	Add pedestrian crossing signs and re-stripe crosswalks near playground. Remove island at Nahalem Street/5th Street intersection and improve channelization. Consider implementing all-way stop control.	$ 15,000
Beaver Falls Road & Quincy-Mayger Road	Construct two to three paved pullouts per direction for school buses.	$ 35,000
Beaver Falls Road & Quincy-Mayger Road	Construct a pavement overlay following completion of Port Westward area construction per analyses and recommendations from Pavement Services, Inc.	$ 720,000
Improvements Identified by Columbia County		
Beaver Falls Road & Quincy-Mayger Road	Additional Phase 1 improvements that include 15,000 feet of guardrail and a refuge lane at the railroad crossing. Includes 40 percent contingency and incidentals.	$ 483,000
5th Street	Additional Phase 1 improvements that include overlay and pool/playground barrier. Includes a 40 percent contingency and incidentals.	$ 164,400
Van Street	Phase 1 improvements that include widening roadway, paving and drainage. Includes a 40 percent contingency and incidentals.	$ 133,400
Highway 30	Phase 1 improvements that include a westbound deceleration lane on Highway 30. Includes a 40 percent contingency and incidentals.	$ 169,900
Alston-Mayger Road	Phase 1 maintenance improvements. Includes a 40 percent contingency and incidentals.	$ 210,000
Miscellaneous	Phase 1 miscellaneous construction. Includes a 40 percent contingency and incidentals.	$ 803,300
TOTAL		$3,954,000

As part of its agreement with PGE, the County agreed to recommend to the Council that it adopt three conditions in the site certificate. Section 3 of the agreement states:

> "County will recommend to the Office of Energy and EFSC that, as a condition of the Site Certificate for the Project: (1) Developer or any other holder of the Site Certificate for the Project shall make the applicable payment required by Section 2 of this Agreement; (2) the holder of the Site Certificate may not agree to amend the Agreement to reduce, revoke or waive the requirement for such payment without the prior approval of EFSC; and (3) the State of Oregon shall have the authority to require such payment whether or not the County has brought an action at law or in equity to enforce the payment requirement."

Two of the recommended conditions are incorporated into Condition numbers (2) and (3) below. Recommended condition (3) above is a statement of the Council's authority to enforce the site certificate and does not require a separate condition.

In a letter dated May 21, 2002, from Mr. Jim Holycross, Planning Division, Department of Land Development Services, Columbia County, he recommended that the Council adopt the following condition:

> "All transportation issues shall be resolved and approved by the Board of County Commissioners before the building permit for construction of the Summit/Westward Project (sic) is issued."

Because the subject line and substance of the letter related to the Port Westward Generating Project, the Council assumes that PWGP was the intended subject of the recommended condition. Nevertheless, the Council cannot adopt the condition that Mr. Holycross recommended. ORS 469.401 provides, in part:

> (3) ***After the site certificate or amended site certificate is issued, the only issue to be decided in an administrative or judicial review of a state agency or local government perm for which compliance with governing law was considered and determined in the site certificate or amended site certificate proceeding shall be whether the permit is consistent with the terms of the site certificate or amended site certificate.***

Transportation issues do not relate to the building permit. All substantive transportation issues are decided by the Council and included as specific conditions in the site certificate. The Council adopts below a series of conditions that it believes are responsive to the specific issues that the County raised in its other comments and in its transportation agreement with PGE. However, the Council does not adopt the specific condition that Mr. Holycross proposed on behalf of Columbia County.

The Council adopts the following conditions in the site certificate:

(2) The Certificate Holder shall pay to Columbia County or its designee the appropriate Transportation Improvement Contribution ("TIC") set forth in Section 2.1 of the Agreement between Columbia County and Portland General Electric Company dated June 5, 2002 ("Agreement").

(3) The Certificate Holder shall not agree to amend the Agreement with Columbia County to reduce, revoke or waive the requirement for payment of the appropriate TIC without prior approval of the Council; however, such approval by the Council shall not require an amendment to the Site Certificate.

(4) Before beginning construction of the energy facility, the Certificate Holder shall coordinate with Columbia County the improvement and maintenance of signage and striping at the mainline rail crossing on Kallunki Road, including the installation of "DO NOT STOP ON TRACKS" signs.

(5) If construction of the energy facility occurs concurrently with construction of other projects in the Port Westward Industrial Area, the Certificate Holder shall coordinate with other users of the Port Westward Industrial Area to provide a carpooling program that identifies and/or creates park-and-ride locations to facilitate carpooling.

(6) If construction of the energy facility occurs concurrently with construction of other projects in the Port Westward Industrial Area, the Certificate Holder shall coordinate with Columbia County and other users of the Port Westward Industrial Area on the implementation of a staggered shift schedule if Columbia County determines that traffic conditions warrant it.

(7) During construction of the energy facility, the Certificate Holder shall use barge and railroad deliveries of bulk materials to the extent practicable to minimize the number of freight truck deliveries on local roads.

The Council finds that construction and operation of the facility, with appropriate mitigation measures, would not adversely affect traffic in the analysis area.

Police Protection. The Columbia County Sheriff's Department and Oregon State Police would provide the facility with first response police protection. Under emergency circumstances, as coordinated by the Columbia County Emergency Communications District, the Clatskanie Police Department and Rainier Police Department would provide the facility with secondary police protection.

The Columbia County Sheriff's Department would provide first response to the facility. Oregon State Police officers are stationed in a Regional Dispatch Center in St. Helens, Oregon, about 35 miles from the proposed energy facility site. The Clatskanie Police Department and the

Rainier Police Department would provide secondary response capabilities through their mutual aid agreements with the Columbia County Sheriff's Department and the Oregon State Police.

PGE would fence the energy facility. The energy facility is within an industrial area with a guarded entrance. It would operate 24 hours per day with personnel on site at all times, which would minimize opportunities for theft and vandalism.

Police protection, which is provided by the Columbia County Sheriff's Department and the Oregon State Police, is adequate to serve the proposed energy facility. Because most construction workers would likely live in the area, stable social conditions should militate against any significant increase in calls for law enforcement services during the construction period. The Council finds that construction and operation of the energy facility would not place significant additional demand on local police protection services.

Fire Protection. The Clatskanie Rural Fire Department and the St. Helens Fire District provide fire protection in the analysis area. The Clatskanie Rural Fire Department has 43 mostly-volunteer firefighters in four stations, and it covers the area in which the proposed energy facility would be located. The main station, located in Clatskanie, is staffed. It is about eight miles from the proposed energy facility site. Volunteer stations are located in Quincy, Mayger and Alston, about 3, 4, and 10 miles from the proposed energy facility site, respectively. The Department is equipped to handle fire, medical emergencies, and hazardous materials spills. The Department has a mutual aid agreement with the St. Helens Fire District.

PGE would install a complete fire protection system within the buildings and yard areas of the energy facility site. The system would be designed to meet the requirements of the Uniform Fire Code, as amended by Oregon and the National Fire Protection Association, and all other applicable fire protection standards. The fire protection system would include a fire water system, dry chemical extinguishing system, a CO_2 extinguishing system, and portable fire extinguishers. The road system within the energy facility site would be designed for access by large trucks needed for equipment and material deliveries. These trucks are larger than typical fire trucks. The minimum turning inside radius for roads is 40 feet.

The fire water system would include a fire water supply loop, fire hydrants, sprinkler systems, and hoses placed at appropriate locations. Reserved capacity of 180,000 gallons in the fire water/service water storage tank would serve as the firewater source. This reserved capacity is based on a maximum fire flow demand of 1,000 gallons per minute ("gpm"), plus hose stream of 500 gpm, for a total of 1,500 gpm. The reserved capacity required for two hours fire flow would be 180,000 gallons.

The combustion turbine generators would be protected by foam or CO_2 systems. If the systems were activated, an alarm would sound and/or a visual indicator would light up on the gas turbine control panel.

Portable fire extinguishers would be placed at key locations within the energy facility site. The type and number of portable extinguishers would conform to code requirements.

The Council finds that construction and operation of the energy facility would not significantly affect the Clatskanie Rural Fire Department's ability to provide fire protection service within the analysis area.

The Council adopts the following conditions in the site certificate:

(8) The Certificate Holder shall construct a fire protection system within the buildings and yard areas of the energy facility site that meets the requirements of the Uniform Fire Code, as amended by Oregon and the National Fire Protection Association standards, and all other applicable fire protection standards in effect at the time of construction.

(9) The Certificate Holder shall provide a dedicated reserve capacity of 180,000 gallons in the raw water storage tank to serve as the fire suppression water source.

(10) For fire truck access, the minimum inside turning radius of curves in the road system on the energy facility site shall be 40 feet.

Health Care. The St. Johns Medical Center in Longview, Washington, is the primary hospital in the vicinity of the proposed energy facility. It is about 17 miles by highway and 10 miles by air from the proposed energy facility site. St. Johns provides ambulance and life flight services in addition to the emergency medical service provided by the Clatskanie Rural Fire Department. There are numerous full-service medical facilities in the City of Portland. These facilities are accessible by life flight in less than one-half hour. The Council finds that construction and operation of the energy facility would not adversely affect medical services in the analysis area.

Schools. The proposed energy facility would be in the Clatskanie School District, consisting of one elementary school serving grades K through 5 and one middle/high school serving grades 6 through 12. Current enrollment with a total of 930 students in both schools is significantly below capacity. The proposed energy facility would create about 25 permanent jobs, most of which would likely be filled by people living in the local area. Consequently, there would be no significant increase in the number of households in the area. The Council finds that operation of the energy facility would not adversely affect school districts in the analysis area.

PGE estimated that the small portion of the construction work force that might temporarily live in the area would not include many families. Temporary increases in local population caused by in-migration of construction workers over a 24-month period would not result in significant increases in the student population. The Council finds that construction of the energy facility would not adversely affect school districts in the analysis area.

Summary. The Council finds that the addition of temporary residents to the analysis area may result in a modest increase in the demand for water, sewers and sewage treatment, storm water drainage, solid waste management, housing, police and fire protection, health care, and schools.

Impacts on traffic safety can be mitigated. Further, there should be no adverse impacts on local communities as a result of an increase in the permanent population. The Council finds that the construction and operation of the facility would have a minimal impact on the demand for local services.

Conclusion

The Council finds that PGE meets the public services standard, OAR 345-022-0110.

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

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

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

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

Discussion

Solid Waste. PGE would recycle and reuse solid wastes produced during construction, operation and retirement of proposed energy facility as much as practicable, with the balance to be disposed of in a sanitary landfill.

Construction. During construction of the energy facility, PGE estimates it would produce about 5 tons per month of solid waste. Such waste would consist of pallets, cardboard, paper, packing materials, steel banding, steel cut-offs, other scrap metals, lumber, concrete waste, lead-acid and nickel-cadmium batteries, mercury-containing lights, used oil, and miscellaneous debris. PGE would separate recyclable materials from the solid waste stream, store those materials on site until sufficient quantities exist to make recycling economic, and periodically deliver or sell those materials to a recycling facility. Used oil, mercury-containing lights, and lead-acid and nickel-cadmium batteries would be recycled through one of several specialist firms providing this service in Oregon or Washington. Aluminum cans, glass bottles, and office waste paper would be recycled using local disposal services in the Portland metropolitan or Clatskanie areas. Solid waste that it is impractical to recycle would be collected in roll-off bins and trucked to a landfill.

Operation. During operation of the energy facility, PGE estimates it would produce about 20 tons per year of domestic solid waste. Recyclable materials would be likely to include aluminum cans, glass and plastic bottles, waste paper, used oil, mercury-containing lights, and lead-acid and nickel-cadmium batteries. PGE would separate recyclable materials from the solid waste stream, store those materials, and periodically deliver those materials to a recycling facility. Used oil, mercury-containing lights, and lead-acid and nickel-cadmium batteries would be recycled through a firm or firms specializing in that service. Aluminum

cans, bottles, and office waste paper would be recycled by the local disposal service. Solid waste that is impractical to recycle would be collected in roll-off bins and trucked to a landfill.

Other than batteries, mercury-containing lights, and used oils, PGE does not expect operation of the proposed energy facility to produce any solid wastes classified as "special wastes." Ordinary solid waste and any "special wastes" produced by the energy facility would be acceptable for recycling or for disposal at landfills designed and constructed according to the standards set forth at 40 CFR 258, Subpart D.

In addition to domestic solid waste, operation of the energy facility would result in production of a non-hazardous, solid waste product called "filter cake." This filter cake is the product of removing silt from the raw water supply through a combination of filtration, flocculation, and clarification in a filter press system. PGE would dispose of the filter cake at a suitable disposal facility.

Retirement. During retirement of the energy facility, PGE would recycle or dispose of solid waste using contemporary approved methods and in accordance with the retirement plan approved by the Council.

The Council adopts the following conditions in the site certificate:

(1) During construction, operation and retirement of the energy facility, the Certificate Holder shall separate recyclable materials from the solid waste stream to the extent practicable, store those materials on site until sufficient quantities exist to make recycling economic, and periodically deliver or sell those materials to a recycling facility.

(2) During construction, operation and retirement of the energy facility, the Certificate Holder shall segregate all used oil, mercury-containing lights, and lead-acid and nickel-cadmium batteries, store such materials on site, and deliver such materials to a recycling firm specializing in the proper disposal of such materials.

(3) Upon completion of construction, the Certificate Holder shall dispose of all temporary structures not required for facility operation and all timber, brush, refuse, and flammable or combustible material resulting from clearing of land and construction of the facility.

Wastewater. PGE would discharge process water under a Port of St. Helens NPDES permit. Other wastewater produced during construction, operation, and retirement of the energy facility would take the form of sanitary sewage and surface water runoff.

Construction. To accommodate sanitary sewage produced during construction of the energy facility, PGE would provide chemical toilets or other appropriate temporary facilities at the

construction site. A contractor would manage the sanitary sewage and transport it to a sewage treatment plant. The sanitary sewage would be treated together with municipal domestic wastewater and discharged in accordance with the treatment plant's discharge permit conditions.

Operation. Operation of the energy facility would result in the production of sanitary sewage and cooling system blowdown. PGE would convey sanitary sewage to a septic tank and drain field system located at the energy facility site. It would obtain a Water Pollution Control Facilities ("WPCF") permit from DEQ, as discussed in Section E.1.d of this Order.

To increase water use efficiency at the energy facility, PGE would use internal recycling of aqueous streams. The energy facility would be equipped with a recirculating cooling system, and water would be recycled about four to ten times in the cooling system before being discharged. PGE would then discharge this blowdown water to the Columbia River under a Port of St. Helens NPDES permit. PGE would be expected to produce a Temperature Management Plan as a requirement of discharging process water under the Port of St. Helens NPDES permit.

The Council adopts the following conditions in the site certificate:

(4) During operation of the energy facility, the Certificate Holder shall convey all storm water and water discharges other than sanitary sewage to pervious areas to allow for percolation into the shallow groundwater.

(5) During operation of the energy facility, the Certificate Holder shall use internal recycling of aqueous streams whereby water shall be recycled several times in the cooling system before being discharged.

Retirement. During retirement of the energy facility, PGE would recycle or dispose of wastes using contemporary approved methods and in accordance with the retirement plan approved by the Council.

Impact on Surrounding and Adjacent Areas

Construction. PGE would provide that sanitary sewage produced during construction of the energy facility is trucked to a sewage treatment plant. The sanitary sewage would be treated together with municipal domestic wastewater and discharged in accordance with the treatment plant's discharge permit conditions. PGE would provide that solid waste that cannot be recycled is trucked to a suitable landfill.

Operation. During operation of the energy facility, PGE would route sanitary sewage to a septic tank and drain field, pursuant to a WPCF permit. It would provide that solid waste that cannot be recycled, including filter cake, is trucked to a suitable landfill. It would recirculate process water about four to ten times and then discharge the cooling system blowdown to the Columbia River under a Port of St. Helens NPDES permit.

Retirement. PGE would recycle or dispose of wastes using contemporary approved methods and in accordance with the retirement plan approved by the Council.

Conclusion

The Council finds that PGE meets the waste minimization standard, OAR 345-022-0120.

D.15. CARBON DIOXIDE STANDARD FOR BASE LOAD GAS PLANTS, OAR 345-024-0550

To issue a site certificate for a base load gas plant, the Council must find that the net carbon dioxide emissions rate of the proposed facility does not exceed 0.675 pounds of carbon dioxide per kilowatt hour of net electric power output, with carbon dioxide emissions and net electric power output measured on a new and clean basis. For a base load gas plant designed with power enhancement or augmentation options that increase the capacity and the heat rate of the plant above the capacity and heat rate that the base load gas plant can achieve on a new and clean basis, the Council shall apply the standard for a non-base load power plant, as described in OAR 345-024-0590, to the incremental carbon dioxide emissions from the designed operation of the power enhancement or augmentation options. The Council shall determine whether the base load carbon dioxide emissions standard is met as follows:

(1) The Council shall determine the gross carbon dioxide emissions that are reasonably likely to result from the operation of the proposed energy facility. The Council shall base such determination on the proposed design of the energy facility. The Council shall adopt site certificate conditions to ensure that the predicted carbon dioxide emissions are not exceeded on a new and clean basis;

(2) For any remaining emissions reduction necessary to meet the applicable standard, the applicant may elect to use any of the means described in OAR 345-024-0560, or any combination thereof. The Council shall determine the amount of carbon dioxide emissions reduction that is reasonably likely to result from the applicant's offsets and whether the resulting net carbon dioxide emissions meet the applicable carbon dioxide emissions standard;

(3) If the applicant elects to comply with the standard using the means described in OAR 345-024-0560(2), the Council shall determine the amount of carbon dioxide emissions reduction that is reasonably likely to result from each of the proposed offsets based on the criteria in subsections (a) to (c). In making this determination, the Council shall not allow credit for offsets that have already been allocated or awarded credit for carbon dioxide emissions reduction in another regulatory setting. The fact that an applicant or other parties involved with an offset may derive benefits from the offset other than the reduction of carbon dioxide emissions is not, by itself, a basis for withholding credit for an offset. The Council shall base its determination of the amount of carbon dioxide emission reduction on the following criteria:

(a) The degree of certainty that the predicted quantity of carbon dioxide emissions reduction will be achieved by the offset;

(b) The ability of the Council to determine the actual quantity of carbon dioxide emissions reduction resulting from the offset, taking into consideration any proposed measurement, monitoring and evaluation of mitigation measure performance;

(c) The extent to which the reduction of carbon dioxide emissions would occur in the absence of the offsets;

(4) Before beginning construction, the certificate holder shall notify the Office of Energy in writing of its final selection of a gas turbine vendor and shall submit a written design information report to the Office of Energy sufficient to verify the facility's designed new and clean heat rate and its nominal electric generating capacity at average annual site conditions for each fuel type. In the report, the certificate holder shall include the proposed limits on the annual average number of hours of facility operation on distillate fuel oil, if applicable. In the site certificate, the Council may specify other information to be included in the report. The Office of Energy shall use the information the certificate holder provides in the report as the basis for calculating, according to the site certificate, the amount of carbon dioxide emissions reductions the certificate holder must provide under OAR 345-024-0560.

Discussion

The proposed energy facility would be a base load gas plant as defined in OAR 345-001-0010(6). Therefore, "the Council must find that the net carbon dioxide emissions rate of the proposed facility does not exceed 0.675 pounds of carbon dioxide per kilowatt hour of net electric power output, with carbon dioxide emissions and net electric power output measured on a new and clean basis." OAR 345-024-0550.

PGE also requested that the Council approve its use of power enhancement or augmentation in the form of duct burning ("power augmentation technologies"), which would be fueled with natural gas. PGE also reported that it anticipated that the Project's use of duct burning would not exceed 3,000 hours per year on average. (ASC, page Y-1) PGE may select a different limit for annual average hours of duct firing before beginning construction, pursuant to OAR 345-024-0590(4).

The Council applies the carbon dioxide emissions standard for non-base load power plants to the incremental carbon dioxide emissions from the designed operation of the power augmentation technologies. OAR 345-024-0590. Thus, the Council must find that those incremental emissions do not exceed 0.675 pounds of carbon dioxide per kilowatt-hour ("lb. CO_2/kWh") of net electric power output, with carbon dioxide emissions and net electric output measured on a new and clean basis. PGE did not specify that it intended to use the power augmentation technologies during any particular times of the year, so the analysis of the new and clean basis is for average annual conditions.

Compliance. PGE proposed to comply with the carbon dioxide emissions standard of OAR 345-024-0550 and OAR 345-024-0590 by making payments in compliance with the monetary

path payment requirement of OAR 345-024-0710. It proposes to provide selection and contracting funds and offset funds to The Climate Trust as allowed by OAR 345-024-0560(3) and OAR 345-024-0600(3).

Calculations. The following discussion and Table D.15 show the example carbon dioxide emissions calculations for the base-load plant and the power augmentation technologies, as proposed by PGE. However, these should be considered as representative of the proposed design. The conditions relating to the carbon dioxide standard and other conditions in the site certificate allow PGE flexibility in its choice of equipment vendor and the facility's design, within the parameters allowed pursuant to OAR 345-027-0050.

Before beginning construction of the Project, the certificate holder will submit to the Office an affidavit with the design parameters that are necessary to calculate accurately the carbon dioxide emissions from the Project, pursuant to OAR 345-024-0550. Those parameters determine the specific amount of the monetary path payment for offset funds and selection and contracting funds required, as calculated pursuant to the site certificate.

Gross Carbon Dioxide Emissions. The Council must determine the carbon dioxide emissions that are reasonably likely to result from the operation of the proposed energy facility. For a base-load gas plant, OAR 345-001-0010(7) requires calculations of the annual gross carbon dioxide emissions of the facility and total carbon dioxide emissions for 30 years at 100 percent capacity. "Gross carbon dioxide emissions" is defined in OAR 345-001-0010(25):

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

Because the plant would operate with power augmentation technologies for part of the time, the gross carbon dioxide emissions are the sum of the emissions when operating at base-load alone and when operating with power augmentation technologies. The gross carbon dioxide emissions shown in Table D.15, section F, as "Combined CO_2 Emissions" are 125,089 million pounds.

Gross Carbon Dioxide Emissions Rate. The gross carbon dioxide emissions rate is expressed as pounds of carbon dioxide per kilowatt-hour of net electric power output. "Net electric power output" is defined as "the electric energy produced or capacity made available for use excluding electricity used in the production of electrical energy." OAR 345-001-0010(33).

For the gross carbon dioxide emissions rate, the table divides the combined output (kWh) into the combined carbon dioxide emissions (lb. CO_2) to determine the gross carbon dioxide emissions rate (lb. CO_2/kWh). The gross carbon dioxide emissions rate for the facility is 0.808 lb. CO_2/kWh.

Table D.15
CO_2 Standard for Port Westward Generating Project

A. CO_2 Standard

CO_2 Standard for Base-Load Gas Plant (lb. CO_2/kWh)	0.675
CO_2 Standard for Power Augmentation (lb. CO_2/kWh)	0.675

B. Parameters for Base Load Gas Plant	
Net Power Output (kW)	558,860
New and Clean Heat Rate (Btu/kWh) HHV	6,786
Annual Hours of Operation	5,760

C. Parameters for Power Augmentation	
Net Power Output (kW)	647,220
New and Clean Heat Rate (Btu/kWh) HHV	7,104
Annual Hours of Operation	3,000

Calculations

D. Base Load	
Net Power Output (kW)	558,860
Annual Hours of Operation	5,760
Annual Generation (million kWh/yr.)	3,219
Deemed Life of Plant (years) by Statute or Rule	30
Total Plant Output (million kWh for 30 years)	96,571
Heat Rate (Btu/kWh) HHV	6,786
CO_2 Emissions Rate (lb. CO_2/Btu)	0.000117
Total CO_2 Emissions (million lb.)	76,674

E. Power Augmentation	
Net Power Output (kW)	647,220
Capacity Factor	34%
Annual Hours of Operation	3,000
Annual Generation (million kWh/yr.)	1,942
Deemed Life of Plant (years) by Statute or Rule	30
Total Plant Output (million kWh for 30 years)	58,250
Heat Rate (Btu/kWh) HHV	7,104
CO_2 Emissions Rate (lb. CO_2/Btu)	0.000117
Total CO_2 Emissions (million lb.)	48,415

F. Total Operations	
Combined Output (million kW for 30 years)	154,821
Combined CO2 Emissions (million lb. for 30 years)	125,089
Gross CO_2 Emissions Rate (lb. CO_2/kWh)	0.808
CO_2 Standard (lb. CO_2/kWh)	0.675
Excess CO_2 Emissions Rate (lb. CO_2/kWh)	0.133
Excess Tons CO_2 (million tons over 30 years)	10.293

G. Monetary Path	
Offset Fund Rate ($/ton CO_2)	$ 0.85
Offset Funds Required ($ million)	$ 8.749
Contracting and Selection Funds ($ million)	$ 0.404
Monetary Path Requirement ($ million)	**$ 9.152**

Net Carbon Dioxide Emissions. "Net carbon dioxide emissions" is defined as "gross carbon dioxide emissions of the proposed energy facility, less carbon dioxide emissions avoided, displaced or sequestered by any combination of cogeneration or offsets." OAR 345-001-0010(32). In order to apply the standard, the Council must determine the excess carbon dioxide emissions rate of the energy facility and the excess carbon dioxide emissions for 30 years. Excess carbon dioxide emissions are those in excess of net carbon dioxide emissions allowed under the standard.

PGE proposes to offset excess carbon dioxide emissions through the monetary path. Table D.15 shows the preliminary calculation of the offsets as "Excess Tons of CO_2." Excess carbon dioxide emissions for the Project are 10.29 million tons.

Average Annual Site Conditions. OAR 345-024-0550 requires that the carbon dioxide emissions and net power output be measured on a "new and clean basis." The Council's definition of new and clean basis specifies average annual site conditions, including temperature, barometric pressure and relative humidity. OAR 345-001-0010(35). PGE did not request to apply different average conditions at the time that it intends to operate the power augmentation technologies, pursuant to OAR 345-024-0590(1), so calculations for all emissions are at average annual conditions.

The average annual site conditions, based on data at the adjacent Beaver Generating Plant, are as follows:

Temperature	51 degrees F
Barometric Pressure	14.69 psi
Relative Humidity	78 percent

Estimated Heat Rate and Capacity. To determine the carbon dioxide emissions from the Project, it is necessary to know the estimated heat rate and capacity of the facility measured on a new and clean basis for each fuel the facility would use. PGE proposes to use only natural gas as fuel for the proposed energy facility.

PGE estimates that the base load net power output would be about 559 MW, with a new and clean heat rate of 6,786 Btu/kWh, higher heating value. With power augmentation technologies, PGE estimates that the Project would have a net power output of about 647 MW and a new and clean heat rate of 7,104 Btu/kWh, higher heating value.

For a base load gas plant, the applicant must assume a 100-percent capacity factor on a new and clean basis. OAR 345-001-0010(7). Based on PGE's estimate, calculations assume that power augmentation technologies (duct burning) would be used a maximum of 3,000 hours per year on average. Assuming 3,000 hours per year as an annual average, power augmentation would operate at a 34 percent capacity factor. Table D.15 breaks the year into two periods, 5,760 hours at the base-load heat rate and capacity and 3,000 hours at the power augmentation heat rate and capacity. Power augmentation is an increment of capacity above base-load, but it includes base-load hours.

Monetary Path. PGE elected to comply with the carbon dioxide emissions standard by providing offset funds to The Climate Trust as allowed by OAR 345-024-0560(3) and OAR 345-024-0600(3) and in compliance with the monetary path payment requirement of OAR 345-024-0710. Determination of the actual monetary path payment requirement will be in accordance with site certificate conditions.

Using the parameters that PGE provided as a representative plant, Table D.15 multiplies the excess tons of carbon dioxide for the Project by the offset fund rate, $0.85 per ton of carbon dioxide. That determines the offset funds needed for the monetary path payment requirement, $8.749 million.

The table then applies the formula in OAR 345-024-0710(4) to determine the selection and contracting funds. The selection and contracting funds for the base load plant are $0.404 million.

The combination of offset funds and selection and contracting funds constitutes the monetary path payment requirement. The total monetary path payment requirement for the estimated parameters of the facility with power augmentation is $9.152 million (2002 dollars).

Supplemental Offset Funds. There will be a different situation regarding selection and contracting funds and offset funds if the site certificate holder is required to provide supplemental offset funds following a 5-year reporting period, pursuant to OAR 345-024-0590(6). In that case, the selection and contracting funds will be calculated based on the supplemental offset funds alone. The amount of required offset funds will be significantly less than the amount for the base-load plant, and the selection and contracting funds will be correspondingly smaller.

To ensure adequate selection and contracting funds, the Council finds that the basis for the minimum payment for supplemental selection and contracting funds for each 5-year reporting period in which supplemental offset funds are required should be at the rate of 20 percent of the first $250,000 in offset funds and 4.286 percent of the value of any offset funds in excess of that amount. However, the Council does not set a specific minimum payment amount for supplemental selection and contracting funds. The Council adopts this calculation procedure in Condition (7)(b), below, pursuant to OAR 345-024-0710(4).

Qualified Organization. PGE proposes to provide offset funds and funds for the cost of selecting and contracting for offsets to The Climate Trust. The Council has previously found that The Climate Trust is a "qualified organization" in matters relating to seven other energy facilities. The Council finds that The Climate Trust continues to meet the requirements of a "qualified organization," as defined by OAR 345-001-0010(46), for the following reasons:

- The Climate Trust is exempt from federal taxation under section 501(c)(3) of the Internal Revenue Code. By letter dated November 19, 1997, the Internal Revenue Service {"IRS") determined that The Climate Trust (then the Oregon Climate Trust) is exempt

from taxation under section 501(c)(3). By letter dated August 3, 2002, the IRS affirmed The Climate Trust's exempt status.

- The Climate Trust is incorporated in the state of Oregon. PGE attached the Articles of Incorporation, filed with the Oregon Secretary of State.

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

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

- The Climate Trust has provided the Council with documentation showing that The Climate Trust has complied with ORS 469.503(2)(e)(K)(v) by entering into contracts obligating at least 60 percent of the offset funds received from the Klamath Cogeneration Project ("KCP") and from the Hermiston Power Project within two years after the commencement of construction of those facilities, respectively. The 2-year period has not expired for other funds The Climate Trust has received.

- The Climate Trust has entered into contracts obligating 87 percent of the $1,197,697 offset fund received from KCP. (The Climate Trust letter to the Office, dated June 20, 2002.) It is currently in the process of entering into contracts for additional offset funds it has received. For the KCP funds, The Climate Trust complied with the requirement of OAR 345-001-0010(1)(46)(f) (ORS 469.503(2)(e)(K)(vi)).

Financial Instrument. OAR 345-024-0710(1) requires that the applicant supply a "bond or letter of credit in a form reasonably acceptable to the Council to ensure the payment of the offset funds * * *." To fulfill this requirement, PGE has stated it will provide a bond or letter of credit.

Disbursement of Offset Funds. OAR 345-0240-0710(3) provides:

> When the certificate holder receives written notice from the qualified organization certifying that the qualified organization is contractually obligated to pay any funds to implement offsets using the offset funds, the certificate holder shall make the requested amount available to the qualified organization unless the total of the amount requested and any amounts previously requested exceeds the offset funds, in which case the

certificate holder shall make available only the remaining amount of the offset funds.***

The Council discussed its interpretation of this rule in the Final Order for the Umatilla Generating Project, pages 79-81. The rule requires the certificate holder to pay any funds to implement offsets when the qualified organization provides it written notice that it is contractually obligated to implement offsets. The rule further imposes a restriction on the qualified organization that it cannot request more than the total amount of offset funds for which the certificate holder is obligated. The rule permits the qualified organization to request a partial payment of the total offset funds when it requests offset funds.

In the Final Order for the Umatilla Generating Project, the Council found that OAR 345-024-0710(3) provides a milestone for the release of offset funds to the qualified organization and that the qualified organization may, at its discretion, request, and the certificate holder shall disburse, up to the full amount of offset funds available when the qualified organization has reached the milestone of being contractually obligated for any amount of money to implement offsets using the offset funds. The Council adopts conditions to implement the disbursement of offset funds consistent with its findings in the Final Order of the Umatilla Generating Project and further adopt conditions that make explicit the disbursement mechanism for all funds of the monetary path payment requirement.

Proposed Conditions. The following proposed conditions implement OAR 345-024-0550 through OAR 345-024-0710. Many conditions address the mechanics of calculating the excess carbon dioxide emissions and the monetary path payment requirement. They also address the information that the certificate holder must provide the Council or the Office at various times. They also address the milestones for providing any increased or supplemental monetary path payments, if necessary. The conditions incorporate both base load operations and use of power augmentation technologies.

To retain the value of the monetary path payment requirement, the conditions index the payment to 2002 dollars from the date the Council grants the site certificate to the time funds are disbursed to The Climate Trust. This is similar to the requirement for the security for financial assurance. A condition provides a cross-reference to the index in Condition (5)(e) in Section D.3, which is based on the U.S. Gross Domestic Product Implicit Price Deflator, Chain-Weight, as published by the Oregon Department of Administrative Services in its series, "Oregon Economic and Revenue Forecast." That series provides a forecast of the Implicit Price Deflator for several quarters in advance. That forecast is useful because historical data are usually finalized at least a quarter late. Historical data are never current when The Climate Trust would have to draw down a bond or letter of credit. The Council adopts this index as the most generally applicable.

As discussed above, the rules require that the certificate holder provide a bond or third-party letter of credit as financial assurance that it will make available the monetary path payments. In addition, the Council adopts conditions that specify the details of how the certificate holder

would disburse funds to The Climate Trust. The conditions include Attachment A, which would be made part of the site certificate.

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

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

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

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

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

OAR 345-001-0010(35) includes in the definition of "new and clean basis" the requirement that the Council determine the new and clean basis "by a 100-hour test that the site certificate holder completes within the first 12 months of commercial operation of the energy facility." The purpose of this requirement is to determine the capacity and heat rate for compliance with the carbon dioxide standard for base load gas plants, OAR 345-024-0560. However, before commercial operation, the facility would undergo a 100-hour "commercial acceptance test" that achieves the same purpose as the test to be conducted "within the first 12 months of commercial operation." There is no need to perform a second test that duplicates the first, although the rule and statute give the certificate holder the opportunity to perform the 100-hour test any time within the first 12 months. To avoid redundancy, the Council adopts a condition that permits the

certificate holder to use the 100-hour commercial acceptance test for determining the capacity and heat rate on a new and clean basis.

Finally, the Council adopts a condition that clarifies that if the certificate holder begins construction of the Port Westward to BPA Allston Substation Transmission Line, but no other part of the facility, the certificate holder does not then have to begin compliance with the conditions relating to the carbon dioxide standard. The certificate holder must meet the carbon dioxide conditions only in connection with construction of any part of the facility or related or supporting facilities other than the Port Westward to BPA Allston Substation Transmission Line.

The Council adopts the following conditions in the site certificate for compliance with the carbon dioxide standard, along with Attachment A to this Order:

(1) Before beginning construction of the energy facility, the Certificate Holder shall submit to The Climate Trust a bond or letter of credit in the amount of the monetary path payment requirement (in 2002 dollars) as determined by the calculations set forth in Condition (3) and based on the estimated heat rates and capacities certified pursuant to Condition (4) and as adjusted in accordance with the terms of this Site Certificate pursuant to Condition (3)(c). For the purposes of this Site Certificate, the "monetary path payment requirement" means the offset funds determined pursuant to OAR 345-024-0550 and -0560 and the selection and contracting funds that the Certificate Holder must disburse to The Climate Trust, as the qualified organization, pursuant to OAR 345-024-0710 and this Site Certificate. The offset fund rate for the monetary path payment requirement shall be $0.85 per ton of carbon dioxide (in 2002 dollars). The calculation of 2002 dollars shall be made using the Index set forth in Condition D.3(5)(e) and as required below in subsection (g).

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

(b) The form of the Memorandum of Understanding ("MOU") between the Certificate Holder and the Climate Trust establishing the disbursement mechanism to transfer selection and contracting funds and offset funds to The Climate Trust shall be substantially in the form of Attachment A to this Site Certificate.

(c) Either the Certificate Holder or The Climate Trust may submit to the Council for the Council's resolution any dispute between the Certificate Holder and The Climate Trust that concerns the terms of the bond, letter of credit, or MOU concerning the disbursement mechanism for the monetary path payments, or any other issues related to the monetary path payment requirement. The Council's decision shall be binding on all parties.

(d) The bond or letter of credit shall remain in effect until such time as the Certificate Holder has disbursed the full amount of the monetary path payment requirement to The Climate Trust. The Certificate Holder may reduce the amount of the bond or letter of credit commensurate with payments it makes to The Climate Trust. The bond or letter of credit shall not be subject to revocation before disbursement of the full monetary path payment requirement.

(e) In the event that the Council approves a new Certificate Holder for the energy facility:

(A) The new Certificate Holder shall submit to the Council for the Council's approval the form of a bond or letter of credit that provides comparable security to the bond or letter of credit of the current Certificate Holder. The Council's approval of a new bond or letter of credit shall not require a site certificate amendment.

(B) The new Certificate Holder shall submit to the Council for the Council's approval the form of an MOU between the new Certificate Holder and The Climate Trust that is substantially in the form of Attachment A to this Site Certificate. In the case of a dispute between the new Certificate Holder and The Climate Trust concerning the disbursement mechanism for monetary path payments or any other issues related to the monetary path payment requirement, either party may submit the dispute to the Council for the Council's resolution as provided in Condition (1)(c). Council approval of a new MOU shall not require a site certificate amendment.

(f) If calculations pursuant to Condition (5) demonstrate that the Certificate Holder must increase its monetary path payments, the Certificate Holder shall increase the bond or letter of credit sufficiently to meet the adjusted monetary path payment requirement within the time required by Condition (3)(c). Alternately, the Certificate Holder may disburse any additional required funds directly to The Climate Trust within the time required by Condition (3)(c).

(g) The amount of the bond or letter of credit shall increase annually by the percentage increase in the Index, and the disbursement of funds shall be pro-rated within the year to the date of disbursement to The

Climate Trust from the calendar quarter of Council approval of the Site Certificate.

(2) The Certificate Holder shall disburse to The Climate Trust offset funds and selection and contracting funds as requested by The Climate Trust. The Certificate Holder shall make disbursements in response to requests from The Climate Trust in accordance with subsections (a), (b), and (c).

(a) The Certificate Holder shall disburse all selection and contracting funds to The Climate Trust before beginning construction.

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

(c) The Climate Trust may request disbursement of offset funds by providing notice to the issuer of the bond or letter of credit that The Climate Trust has executed a letter of intent to acquire an offset project. The Certificate Holder shall provide that the issuer of the bond or letter of credit disburse offset funds to The Climate Trust within three business days of a request by The Climate Trust for the offset funds in accordance with the terms of the bond or letter of credit.

(3) The Certificate Holder shall submit all monetary path payment requirement calculations to the Office for verification in a timely manner before submitting a bond or letter of credit for Council approval and before entering into an MOU with The Climate Trust. The Certificate Holder shall use the contracted design parameters for capacities and heat rates that it reports pursuant to Condition (4) to calculate the estimated monetary path payment requirement, along with the estimated annual hours of operation of power augmentation technologies. The Certificate Holder shall use the Year One Capacities and Year One Heat Rates that it reports for the facility pursuant to Condition (5) to calculate whether it owes additional monetary path payments.

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

(b) The net carbon dioxide emissions rate for incremental emissions for the facility operating with power augmentation technologies that increase the capacity and heat rate of the facility above the capacity and heat rate that it can achieve as a base load gas plant on a new and clean basis ("power augmentation technologies") shall not exceed 0.675 pounds of carbon dioxide per kilowatt-hour of net electric power output, with carbon dioxide emissions and net electric power output measured on a new and clean basis, as the Office may modify such basis pursuant to Condition (4)(d).

(c) When the Certificate Holder submits the Year One Test reports required in Condition (5), it shall increase its monetary path payments if the calculation using reported data shows that the adjusted monetary path payment requirement exceeds the monetary path payment requirement for which the Certificate Holder had provided a bond or letter of credit before beginning construction, pursuant to Condition (1). The Certificate Holder shall submit its calculations to the Office for verification.

(A) The Certificate Holder shall make the appropriate calculations and fully disburse any increased funds directly to The Climate Trust within 30 days of filing the Year One Test reports.

(B) In no case shall the Certificate Holder diminish the bond or letter of credit it provided before beginning construction or receive a refund from The Climate Trust based on the calculations made using the Year One Capacities and the Year One Heat Rates.

(4) The Certificate Holder shall include an affidavit certifying the heat rates and capacities reported in subsections (a) and (b).

(a) Before beginning construction of the energy facility, the Certificate Holder shall notify the Council in writing of its final selection of a gas turbine vendor and heat recovery steam generator vendor and shall submit written design information to the Council sufficient to verify the base-load gas plant's designed new and clean heat rate (higher heating value) and its net power output at the average annual site condition.

(b) Before beginning construction of the energy facility, the Certificate Holder shall submit written design information to the Council sufficient to verify the facility's designed new and clean heat rate and

its net power output at the average annual site condition when operating with power augmentation technologies.

(c) Before beginning construction of the energy facility, the Certificate Holder shall specify the estimated annual average hours that it expects to operate the power augmentation technologies.

(d) Upon a timely request by the Certificate Holder, the Office may approve modified parameters for testing the power augmentation technologies on a new and clean basis, pursuant to OAR 345-024-0590(1). The Office's approval of modified testing parameters for power augmentation technologies shall not require a site certificate amendment.

(5) Within the first 12 months of commercial operation of the energy facility, the Certificate Holder shall conduct a 100-hour test at full power without power augmentation technologies ("Year One Test-1") and a test at full power with power augmentation technologies ("Year One Test-2"). A 100-hour test performed for purposes of the Certificate Holder's commercial acceptance of the facility shall suffice to satisfy this condition in lieu of testing after beginning commercial operation.

(a) Year One Test-1 shall determine the actual heat rate ("Year One Heat Rate-1") and the net electric power output ("Year One Capacity-1") on a new and clean basis, without degradation, with the results adjusted for the average annual site condition for temperature, barometric pressure, and relative humidity, and using a rate of 117 pounds of carbon dioxide per million Btu of natural gas fuel pursuant to OAR 345-001-0010(35).

(b) Year One Test-2 shall determine the actual heat rate ("Year One Heat Rate-2") and net electric power output ("Year One Capacity-2") for the facility operating with power augmentation technologies, without degradation, with the results adjusted for the average annual site condition for temperature, barometric pressure and relative humidity, and using a rate of 117 pounds of carbon dioxide per million Btu of natural gas fuel pursuant to OAR 345-001-0010(35). The full power test shall be 100 hours duration unless the Office has approved a different duration pursuant to Condition (4)(d).

(c) The Certificate Holder shall notify the Office at least 60 days before conducting the tests required in subsections (a) and (b) unless a shorter time is mutually agreed upon.

(d) Before conducting the tests required in subsections (a) and (b), the Certificate Holder shall, in a timely manner, provide to the Office a copy of the protocol for conducting the tests.

(e) Within two months after completing the Year One Tests, the Certificate Holder shall provide to the Council a report of the results of the Year One Tests.

(6) If calculations pursuant to Condition (7) demonstrate that the Certificate Holder must supplement its monetary path payments ("supplemental monetary path payment requirement"), the Certificate Holder shall provide a bond or letter of credit sufficient to meet the supplemental monetary path payment requirement within the time required by Condition (7)(b). The bond or letter of credit shall not be subject to revocation before disbursement of the supplemental monetary path payment requirement. Alternately, the Certificate Holder may disburse in cash any such supplemental monetary path payments directly to The Climate Trust within the time required by Condition (7).

(7) The Certificate Holder shall submit all supplemental monetary path payment requirement calculations to the Office for verification. The Certificate Holder shall use the Year One Capacity-2 and Year One Heat Rate-2 that it reports for the facility pursuant to Condition (5)(b) to calculate whether it owes supplemental monetary path payments, pursuant to subsections (a) and (b).

(a) Each five years after beginning commercial operation of the energy facility ("five-year reporting period"), the Certificate Holder shall report to the Office the annual average hours the facility operated with power augmentation technologies during that five-year reporting period, pursuant to OAR 345-024-0590(6). The Certificate Holder shall submit five-year reports to the Office within 30 days of the anniversary date of beginning commercial operation of the energy facility.

(b) If the Office determines that the energy facility exceeds the projected net total carbon dioxide emissions calculated pursuant to Conditions (4) and (5), prorated for five years, during any five-year reporting period described in subsection (a), the Certificate Holder shall offset excess emissions for the specific reporting period according to subsection (A) and shall offset the estimated future excess emissions according to subsection (B), pursuant to OAR 345-024-0600(4). The Certificate Holder shall offset excess emissions using the monetary path as described in OAR 345-024-0710, except that contracting and selecting funds shall equal twenty (20) percent of the value of any

offset funds up to the first $250,000 (in 2002 dollars) and 4.286 percent of the value of any offset funds in excess of $250,000 (in 2002 dollars). The Certificate Holder shall disburse the funds to The Climate Trust within 30 days after notification by the Office of the amount that the Certificate Holder owes.

(A) In determining the excess carbon dioxide emissions that the Certificate Holder must offset for a five-year period, the Office shall apply OAR 345-024-0600(4)(a). The Certificate Holder shall pay for the excess emissions at $0.85 per ton of carbon dioxide emissions (in 2002 dollars). The Office shall notify the Certificate Holder and The Climate Trust of the amount of payment required, using the monetary path, to offset excess emissions.

(B) The Office shall calculate estimated future excess emissions and notify the Certificate Holder of the amount of payment required, using the monetary path, to offset them. To estimate excess emissions for the remaining period of the deemed 30-year life of the facility, the Office shall use the parameters specified in OAR 345-024-0600(4)(b). The Certificate Holder shall pay for the estimated excess emissions at $ 0.85 per ton of carbon dioxide (in 2002 dollars). The Office shall notify the Certificate Holder of the amount of payment required, using the monetary path, to offset future excess emissions.

(8) The combustion turbine for the base-load gas plant and power augmentation technologies shall be fueled solely with pipeline quality natural gas or with synthetic gas with a carbon content per million Btu no greater than pipeline-quality natural gas.

(9) With respect to incremental capacity and fuel consumption increases for which the Certificate Holder has not previously complied with the carbon dioxide standard, the Certificate Holder shall comply substantially with Conditions (1) through (8) in lieu of the Council's requiring an amendment, provided that:

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

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

(10) Notwithstanding Conditions (1) through (9), if the Certificate Holder begins construction of the Port Westward to BPA Allston Substation Transmission Line, but no other part of the energy facility or other related or supporting facilities, the Certificate Holder shall not be required to comply with Conditions (1) through (9). The Certificate Holder shall comply with Conditions (1) through (9) in connection with construction of any part of the energy facility or related or supporting facilities other than the Port Westward to BPA Allston Substation Transmission Line.

Conclusion

The Council finds that PGE meets the carbon dioxide standard for base-load gas plants with power augmentation technologies, OAR 345-024-0550.

E. OTHER APPLICABLE REGULATORY REQUIREMENTS:

E.1. REQUIREMENTS UNDER COUNCIL JURISDICTION

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

Applicable Oregon statutes and administrative rules identified in the Project Order that are not addressed in any of the Council's standards are discussed in this Section of the Order. These include DEQ's noise control regulations and Water Pollution Control Facilities permit requirements, the Division of State Lands' ("DSL") Removal/Fill Permit regulations for disturbance to wetlands, and the Council's statutory authority to consider protection of the public health and safety.

E.1.a. Noise

The Requirement. The DEQ noise regulations for industrial and commercial noise sources will apply to the proposed facility. Under the DEQ regulations, the generating facility would be located on a "previously unused industrial site" and according to the regulations:

> No person owning or controlling a new industrial or commercial noise source located on a previously unused industrial or commercial site shall cause or permit the operation of that noise source if the noise levels generated or indirectly caused by that noise source increase the ambient statistical noise levels, L_{10} or L_{50}, by more than 10 dBA in any one hour, or exceed the levels specified in Table 8, as measured at an appropriate measurement point. OAR 340-035-0035(1)(b)(B)(i).

Discussion

The proposed energy facility would be located near Clatskanie, Oregon, adjacent to the Columbia River. Noise would radiate from the facility to residences located in Oregon and across the river in Washington. The Council applies the DEQ regulations to evaluate the noise radiating from the energy facility because it would be located in Oregon. However, because the

energy facility would also radiate noise to residences located in Washington, PGE voluntarily estimated noise impacts at those residences as well. In Oregon, PGE compared the noise radiating from the energy facility with the limits specified in the DEQ noise regulation. OAR 340-035-0035. In Washington, PGE compared the noise radiating from the energy facility with the limits specified in the DEQ noise regulation and the limits specified in the Washington Department of Ecology ("DOE") noise regulation. WAC 173-60-040.

The DEQ noise regulation has two criteria that apply to a new noise source located on a "previously unused industrial site." The first criterion, presented in Table 8 of the DEQ noise regulation, establishes the maximum hourly statistical noise levels that may radiate from a new noise source to a "noise sensitive receiver" such as a residence, church, school, or hospital. The hourly L_{50}, L_{10} and L_{01} noise levels are defined as the noise level equaled or exceeded 50 percent, 10 percent and 1 percent of the hour, respectively. The criterion limits the maximum hourly L_{50}, L_{10} and L_{01} noise radiating from a commercial or industrial noise source to 55, 60 and 75 dBA respectively between 7:00 a.m. and 10:00 p.m. and 50, 55, and 60 dBA respectively between 10:00 p.m. and 7:00 a.m. The criterion is often referred to as the "maximum allowable noise level criterion."

The second criterion requires that the new noise source not increase the ambient hourly statistical noise levels at a noise sensitive receiver by more than 10 dBA. This criterion is intended to prevent large increases in noise levels at a receiver, and it is often referred to as the "ambient noise degradation rule."

The Washington DOE noise regulation, like the Oregon regulation, has a maximum allowable rule that specifies the maximum noise level allowed in any hour. However, unlike the Oregon regulation, the Washington regulation does not distinguish between a source located on a previously used site and a source located on a previously unused site. In other words, the Washington noise regulation does not include an ambient degradation rule. Thus, for a source located on a previously unused site, the Washington DOE noise regulation is often less stringent than the Oregon DEQ noise regulation.

PGE measured noise at five residential structures, which were the two nearest noise sensitive receivers in the vicinity of the proposed energy facility site in Oregon and three representative sites in Washington. In addition to the residential measurements, PGE made ambient noise measurements at a potential eagle nesting area. The potential eagle nesting area was located on Crims Island on the Oregon side of the Columbia River. The residence nearest to the proposed energy facility site on the Oregon side of the Columbia River was located about 4,780 feet from the proposed energy facility site. The other residence was located about 6,000 feet from the proposed energy facility site. The potential bird-nesting measurement site was located about 7,050 feet away from the proposed energy facility site. On the Washington side of the Columbia River, the monitoring site nearest the proposed energy facility was located about 5,700 feet from the proposed energy facility site. The other two monitoring sites were located 6,250 feet and 10,100 feet from the proposed energy facility site. A noise consultant to the Office analyzed data in the ASC to estimate the ambient noise level at other residences in Washington that are closer to the proposed energy facility site than those where PGE took measurements.

Current ambient noise at residences in Oregon nearest the proposed energy facility is mainly a result of the noise radiating from Beaver during daytime and nighttime hours. At times during the day, the noise at the residences is influenced by intermittent traffic on local roads. Current ambient noise at residences in Washington nearest the proposed energy facility is mainly a result of a combination of traffic on SR 4 and Beaver during the daytime hours. At night, the ambient noise at those receivers is mainly a result of Beaver.

Daytime hourly L_{50} noise levels at the nearest residence on the Oregon side of the Columbia River typically ranged between 33 and 43 dBA, while daytime hourly L_{50} noise levels at the nearest residence measured on the Washington side of the river typically ranged between 41 and 47 dBA. The estimated daytime hourly L_{50} noise levels at the residences that are closer to the proposed energy facility site than those actually measured is about 44 dBA. Nighttime hourly L_{50} noise levels at the nearest residence to the proposed energy facility site on the Oregon side of the Columbia River typically ranged between 34 and 42 dBA, while nighttime hourly L_{50} noise levels at the nearest measured residence on the Washington side typically ranged between 35 and 42 dBA. The estimated nighttime hourly L_{50} noise levels at the residences that are closer to the proposed energy facility site than those actually measured is about 34 dBA.

Operation. Noises sources at the proposed energy facility would include the combustion turbines, the generators, the heat recovery steam generator, the steam turbine, the transformers, and the cooling towers. According to PGE data taken at Beaver and at its Coyote Springs Cogeneration Project, the heat recovery steam generators and the cooling towers would be the loudest noise sources outside the generator building. The noise radiating from those two sources was found to be 70 dBA and 72 dBA at 100 feet respectively. The measured reference data were included by PGE in a noise propagation program to predict the total noise level that would radiate from the proposed energy facility to residences in Oregon and Washington.

Based on the prediction results, the future hourly L_{50} noise level at Site 1 (the residence located in Oregon 6,000 feet SW of the plant) and Site 3 (the eagle nesting area located in Oregon 7,050 feet northeast of the plant) would be about the same as that currently found. The future hourly L_{50} noise level at Site 2 (the residence located 4,780 feet southeast of the plant) would be about 2 dBA higher than that currently found. In Washington, the noise radiating from the proposed energy facility would have no influence on the noise found at Sites 4 and 5 (the residences located 10,100 feet and 6,250 feet from the plant respectively). The future noise at Site 6 (the residence in Washington located about 5,700 feet north of the proposed plant) would be about 2 dBA higher than that currently found with the proposed energy facility in operation. Residences in Washington that are closer to PWGP than Site 6 should also see about a 2 dBA increase from the operation of PWGP.

Furthermore, the noise study considered the issue of the cumulative effect of the noise from the Summit Project, PWGP, Beaver, and Beaver 8 operating at the same time. Under the scenario with two new generating plants, the projected increase in noise could be 3 dBA higher, but would typically be about 2 dBA higher, at Sites 1, 2, and 6 and less at the other sites. Residences

in Washington that are closer to PWGP than Site 6 should also see about a 3 dBA increase with all plants operating. All increases are within the Oregon and Washington standards.

Because PGE would operate the energy facility on a 24-hour basis, the noise radiating from the proposed energy facility must comply with nighttime noise limits as well as daytime noise limits. With the consideration of the ambient degradation rule noise limit and the nighttime maximum hourly noise limits, the noise from the proposed energy facility would be limited to an hourly L_{50} level as shown in Table E.1.

The noise radiating from the proposed energy facility would, generally speaking, be relatively constant during an hour. As a result, the hourly L_{01}, the hourly L_{10} and the hourly L_{50} noise level radiating from the facility would be about the same. Because the hourly L_{50} noise level criterion is the lowest criterion of the three hourly statistical level criteria, the hourly L_{50} criterion would be the most limiting criterion of the three in this case. PGE predicts the hourly L_{50} noise level radiating from the facility would be significantly below that allowed at each receiver. Thus, since the noise radiating from the facility is relative constant in level, the hourly L_{10} and L_{01} noise levels radiating from the facility would also likely be significantly below the allowed by the DEQ regulation. Therefore, the Council finds that PGE would comply with the hourly L_{50}, L_{10} and L_{01}noise limits at all sites in Oregon and Washington.

Table E.1
DEQ Hourly L_{50} Criteria

Site	DEQ Hourly L_{50} Criteria
1	50
2	43
3	47
4	47
5	50
6	44

The findings of the Council are based on predictions. It is necessary to test the operating energy facility to determine that it actually complies with the noise standard. The Council requires the certificate holder to conduct a compliance test within the first six months of operation of the energy facility. The purpose of the test is to ensure that the increase in the ambient level of noise with PWGP operating is not greater than 10 dBA. DEQ rules specify the testing protocol. A six-month window for testing is necessary to allow the test to be conducted under appropriate atmospheric conditions. If the energy facility demonstrates compliance with the DEQ standard under the appropriate testing conditions, there is no need for subsequent tests. On-going enforcement of the noise rules is the responsibility of DEQ. Sections B.1 and B.2 of this Order contain further discussion of issues relating to noise testing.

Construction. Construction of the energy facility should produce noise levels similar to those from any large construction project. Construction of the energy facility would involve the operation of construction equipment, including light and heavy trucks, backhoes, bulldozers, graders, cranes, air compressors, welding machines, and power hand tools. The DEQ noise standard exempts noise that originates from construction activities. However, to reduce noise impacts on nearby residences during construction of the energy facility, PGE would schedule most construction work for daylight hours when people are generally less sensitive to noise.

Contested Case Proceeding

Otto Moosburner was the sole party objecting to any part of the proposed order at the hearing. Moosburner owns a residence in Washington across the Columbia River from the site of the proposed Port Westward Generating Plant. Site (6) for the noise tests was the Moosburner residence.

At the commencement of the hearing, the parties were provided with a recitation of procedural rights under the Administrative Procedure Act. Throughout the hearing, the parties were given opportunity to examine and cross-examine witnesses, present documentary evidence and make legal arguments.

Moosburner addressed the first two issues preserved for contested case proceeding:

1. Whether the condition requiring one-time monitoring during the first six months of operation to ensure compliance with applicable DEQ and noise operating standards is adequate.

2. Whether the lack of a requirement of a continuous monitoring plan by the applicant, PGE is adequate.

No evidence or argument was presented at the contested case hearing addressing the third issue preserved for hearing regarding construction noise. Accordingly, that issue is not addressed in the following findings and conclusions.

Procedural History

The procedural history of the contested case proceeding is reported in part B.4 of this Order.

Rulings

The Hearing Office made various rulings as recorded in the Pre-hearing Order, the Order On Issues for Hearing and at the contested case proceeding. After review of Moosburner's exceptions and the responses, the Council finds that all rulings of the hearing officer were correct.

Findings of Fact

1. PGE retained Albert G. Duble, P.E., to undertake a noise assessment to ascertain whether the proposed plant would comply with DEQ noise standards. Duble concluded that the

plant would meet such standards and prepared a report documenting his assessment and the basis for his conclusions. (PGE-2.)

2. Power plants, including the proposed plant, are steady noise sources. The proposed plant is therefore expected to operate in steady state and generate a steady and predictable level of noise. (Duble, Direct at 3.)

3. Duble predicted the effect of the proposed plant on the ambient noise level by adding together a theoretical computer predicted value of noise from the plant and the actual measured ambient noise level. (Duble, Tr. at 24.)

4. To ascertain the actual measured ambient noise level, Duble measured the existing noise on a calm day. There was no wind at site (6), and the wind at site (5) was less than 10 mph. (Duble, Tr. at 25, 30.)

5. Duble's predicted value of additional noise was taken from a computer model and assumed a calm day. The model did not factor in wind because the wind effect is too complex. (Duble, Tr. at 31.)

6. Residence at site (6) sits on a bluff. Its location on a bluff would tend to attenuate or reduce noise. Such location was not taken into account in the model. Because the model does not account for such a location, the resulting prediction value offers a conservative result, overstating the effect of the plant's noise on site (6). (Duble, Tr. at 26.)

7. Wind from the southeast could increase noise from the proposed plant at site (6). Depending on the wind speed, velocity and other characteristics, the wind could increase the noise up to 1 to 5 decibels. (Duble, Tr. at 32-34.)

8. Such an increase in noise caused by wind from the southeast would not necessarily result in a violation of the ambient degradation standard of DEQ at site (6). Noise would have to increase 8dBA to reach DEQ standard and that is highly unlikely over a sustained period of time. (Duble, Tr. at 36-37; Standlee, Tr. at 59-60.)

9. The DEQ noise standards regulate noise levels over sustained periods and not short bursts. Sustained winds and corresponding increase in noise levels exceeding 5 dBA are highly unusual. (Standlee, Tr. at 59-60.)

10. Conditions at the proposed plant and noise generated by the plant can be expected to be steady and vary very little from day to day if power conditions are the same. (Standlee, Tr. at 51.)

11. Because the L-50 existing ambient level reported at page 8/Table 3 of PGE-2 (34 dBA for site (6)) was taken in calm conditions, such amount is not the correct L-50 ambient level to use in determining compliance with the ambient degradation standard when measuring during wind conditions. (Standlee, Tr. at 59-60.)

12. Even applying the L-50 existing ambient level at page 8 or Table 3 of PGE-2 (34 dBA for site (6)) as the L-50 ambient level to use in determining compliance with the ambient degradation standard when measuring during wind conditions, the DEQ standard is not likely to be violated. (Standlee, Tr. at 59-60.)

13. It is possible for the noise from the plant to increase over time as mufflers or silencers on plant equipment wear. Such wear could result in a change of 3 or 4 dBA over a 10-year period. Mufflers and silencers are and would have to be replaced periodically. (Standlee, Tr. at 51.)

14. Continuous monitoring is not necessary nor undertaken on industrial noise sources, especially for continuous process plants such as power plants. So long as the power plant is operating in typical mode without extreme weather conditions, there is no or very small variation in noise over time. (Duble, Direct at 4; Standlee, Direct at 6.)

15. Continuous monitoring is not considered useful or reliable because it measures overall noise with no basis for identifying the noise source. Continuous monitoring is undertaken at airports where noise source can be identified based on the airport's tracking of incoming and outgoing flights. (Duble, Direct at 4-5; Standlee, Direct at 4.)

16. DEQ requires neither continuous monitoring nor repeated monitoring of industrial plants. (Standlee, Direct at 6-8.)

[The *Findings of Fact* omits redundant statements identified in the Hearing Officer's Comments on Exceptions.]

Conclusions of law

1. PGE satisfied its burden of proving a *prima facie* case of compliance with noise standards for Oregon and Washington based on the information contained in the Office of Energy's Proposed Order, Section E.1.a., the Duble's written direct testimony (PGE-3), and Duble's Environmental Noise Assessment Report dated July 2001 (PGE-2).

   Moosburner presented evidence through cross-examination of the PGE and Office of Energy's experts that it may be possible to exceed 44 dBA at site (6) occasionally and in short bursts under certain conditions and assumptions. First, one would have to assume that the existing noise level at site (6) in very windy conditions would have to be the same as measured on a calm day. Second, the wind would have to be in the right direction, from the southeast, and very strong. Third, the mufflers and silencers on the equipment of the proposed plant would have to be not properly maintained.

   Duble, however, testified that the DEQ standards would not likely be violated. He had never experienced weather conditions that would cause such an increase of 5 or 6 over a sustained period of time necessary to show a violation of the L50 standard. Duble 35-36. Standlee confirmed Duble's conclusion. 58-59.

Moosburner thus failed to establish that DEQ standards would likely be violated even under this scenario. No other basis for finding a violation of DEQ standards was presented.

2. PGE also established that power plants, including the proposed plant, will operate in a steady state and that there is little likelihood of change over time sufficient to result in violation of noise standards. Accordingly, one-time monitoring following completion of construction and when all systems our functioning to show compliance with DEQ standards should be sufficient. (Duble, Direct at 3-4.)

3. There is no basis for requiring continuous monitoring.

4. The evidence presented at the contested case proceeding requires no conditions to address noise other than those set forth below.

The Council adopts the following conditions in the site certificate:

(1) During construction of the facility, the Certificate Holder shall schedule most heavy construction to occur during daylight hours. Construction work at night shall be limited to work inside buildings and other structures when possible.

(2) During construction of the facility, the Certificate Holder shall require contractors to equip all combustion engine-powered equipment with exhaust mufflers.

(3) During construction of the energy facility, transmission lines or other related or supporting facilities, the Certificate Holder shall establish a complaint response system at the construction manager's office to address noise complaints.

(4) Within six months after the start of commercial operation of the energy facility, the Certificate Holder shall retain a qualified noise specialist to measure noise levels associated with the energy facility operation when environmental conditions are expected to result in maximum sound propagation between the source and the receivers and when the energy facility is operating in a typical operations mode that produces maximum noise levels.

(a) The specialist shall measure noise levels at sites (1), (2), (5), and (6), as described in Exhibit X of the ASC, to determine if actual noise levels are within the levels specified in the applicable noise regulations in OAR 345-035-0035(1)(b)(B)(i).

(b) The Certificate Holder shall report the results of the noise evaluation to the Office.

(c) If actual noise levels do not comply with applicable DEQ regulations, the Certificate Holder shall take those actions necessary to comply with the regulations as soon as practicable.

(d) If initial measurements show that actual noise levels increase at site (5) by 7 dBA or more, the Certificate Holder shall measure the noise levels as specified in this condition and shall repeat the process outlined in subsections (a), (b), and (c) for site (5) within six months after completion of the initial measurements.

(5) The Certificate Holder shall install silencers on short duration noise sources (e.g. steam vents) from the heat recovery steam generator.

Conclusion

The Council finds that PGE meets the Department of Environmental Quality noise standard, OAR 340-035-0035(1)(b)(B)(i).

E.1.b. Wetlands and Removal/Fill Permit

The Requirement. The Council does not have a specific standard for wetlands. However, pursuant to OAR 345-021-0010(1)(j), PGE must submit specific information about the proposed facility's "significant potential impacts" on wetlands within state jurisdiction under ORS Chapter 196. The Oregon Removal/Fill Law (ORS 196.800 through 990) and regulations adopted by the Oregon Division of State Lands ("DSL") (OAR 141-085-0005 through 141-085-0090) apply to the proposed facility.

A Removal/Fill Permit is required if 50 cubic yards or more of material is removed, filled or altered within any "waters of the state" at the proposed site. Under the Removal/Fill Law, "waters of the state" include wetlands. The proposed facility would affect regulated waters and would require a removal/fill permit in accordance with DSL regulations. Pursuant to OAR 345-021-0010(1)(j)(D), the Council must determine that a required Removal/Fill Permit can be issued to the proposed facility in compliance with ORS 196.800 *et seq*.

Discussion

The analysis area for wetlands is the site, including construction laydown areas.

PGE conducted on-site delineation field studies for the energy facility site in May, June, and October, 2001, and in February, 2002, with follow-up visits in February and March, 2002; for the Port Westward to BPA Allston Substation transmission line corridor in October, 2001, with follow-up visits in February, 2002; for the BPA Allston Substation area in February, 2002; and for the BPA Allston Substation to Trojan transmission line corridor in October, 2001, with follow-up visits in February and March, 2002. DSL concurred with the final delineation on

April 3, 2002, (DSL Determination #01-0459) for all but the "southern option" of the BPA Allston Substation to Trojan transmission line corridor. DSL concurred with the southern corridor on June 20, 2002 (DSL Determination #01-0459 Addendum, App. # 25248).

Within the analysis area of the energy facility site and the immediately adjacent related or supporting facilities, PGE identified five wetlands covering an area of 51.6 acres (ASC, Exhibit P, Table P-3, page P-19). It identified 29 wetlands along the transmission corridors with a total area of 115.1 acres (ASC, Exhibit J, Table J-2, page J-4). PGE described each wetland in the ASC (ASC, Exhibit J, Appendix J-1 and Revised Appendix J-3).

The wetlands within the analysis area include palustrine emergent, palustrine scrub shrub, palustrine forested, palustrine open water, palustrine unconsolidated bottom, and riverine unconsolidated bottom. Other regulated waters include perennial and intermittent streams.

Wetland Impacts. Based on the delineation, the facility would have an impact on 0.43 acres of palustrine wetlands (ASC, Exhibit J, Table 1, page J-2). Construction of the facility would cause permanent impacts to 0.30 acres of emergent wetland and 0.10 acres of palustrine scrub shrub wetland and temporary impacts to 0.03 acres of palustrine emergent wetlands. PGE estimates that a total of about 3,000 cubic yards of material would be placed within a wetland for the facility, and 4,500 cubic yards would be removed from wetlands for the mitigation area (ASC, Exhibit J, page J-5). The wetlands that would be affected are within Wetland Area 4 on the energy facility site and immediately adjacent related or supporting facilities and in 14 tower locations along the transmission line corridors (six within Wetland 4 and nine between the energy facility and the BPA Allston Substation) (ASC, Exhibit J, page J-5; Revised Appendix J-3, page 1 and Figure J-3.1).

Anticipated impacts to wetlands and proposed mitigation measures to avoid, minimize, and compensate for impacts are described in the Draft Removal/Fill Permit (Attachment C to this Order) and the Wetland Mitigation Plan for the Port Westward Generating Project (ASC, Exhibit J, Revised Appendix J-3).

Proposed Mitigation. PGE proposes to implement the following mitigation measures:

Avoidance and Minimization. PGE has redesigned the facility and modified the location of transmission line towers to avoid and minimize potential impacts to regulated "waters of the state." Redesigned elements include: (1) shifting the energy facility location; (2) reducing the area of fill in Wetland 4; and, (3) locating all related or supporting linear facilities within existing roads or upland areas to the greatest extent possible.

Mitigation Plan. The Wetland Mitigation Plan (ASC, Exhibit J, Revised Appendix J-3) describes the proposed mitigation, mitigation goals, design implementation, proposed grading, planting and seeding plans, and monitoring.

PGE proposes to compensate for 0.43 acres of unavoidable permanent impacts by enhancing 1.5 acres of palustrine emergent wetlands (with a scrub shrub component) on the facility site.

The mitigation area would be located in Wetland 4, west of the energy facility and north of the existing Beaver Generating Plant (ASC, Exhibit J, Revised Appendix J-3, Figure J-3.1).

PGE would enhance the existing wetland by altering the hydrology to provide for a longer period of inundation or saturation, planting trees, shrubs and emergents to provide habitat diversity, palustrine scrub shrub and forested areas, and reducing reed canarygrass coverage. Hydrology to the wetland would be primarily from direct precipitation and groundwater. PGE would excavate the mitigation area to provide varying depths of water, and PGE would construct a berm and weir to increase the duration of inundation and provide for water overflow exchange between the existing wetland and the proposed mitigation site during periods of high precipitation. PGE would control reed canarygrass by excavation, mowing and spraying with Rodeo, an EPA-approved herbicide. PGE would plant the mitigation site with tree, shrub, herb, and grass species (ASC, Exhibit J, Revised Appendix J-3, Tables J-3.1 and J-3.2). PGE would also place large woody debris within the wetland to provide wildlife and amphibian habitat.

PGE would monitor the mitigation site for five years and would provide an annual report to DSL documenting wetland conditions and plant coverage. The monitoring report would include field data, hydrology monitoring, photographs taken from established points, data analysis, and recommendations for maintenance or remedial actions.

Temporary impacts would be alleviated by returning the impact area to the original grade, restoring the original topsoil, and re-seeding with an appropriate wetland seed mix.

Contingency Plan. The vegetative cover within the emergent portion of the mitigation area would comprise at least 80 percent native wetland plants at the end of the monitoring period, and the planted trees and shrubs would have an 80 percent survival (ASC, Exhibit J, Revised Appendix J-3, page 9).

In consultation with DSL, the Council has analyzed the proposed fill against the legal standards imposed by the Removal/Fill Law and applicable administrative rules. Through this Order, the Council directs DSL to issue a Removal/Fill Permit that authorizes the fill of up to 3,000 cubic yards of material and the removal of 4,500 cubic yards of material, provided that all unavoidable wetland impacts are fully mitigated in compliance with approved mitigation plans pursuant to the conditions in this Order and the Removal/Fill Permit.

Statutory Standards, ORS 196.825

ORS 196.825(2) provides the overall decision standard for permitting wetland fills. It provides that a permit shall be issued for filling waters of this state only after a determination that "the proposed fill would not unreasonably interfere with the paramount policy of this state to preserve the use of its waters for navigation, fishing and public recreation."

The Council finds that the proposed wetland removals and fills meet this standard because:

(a) The impacted wetlands do not now offer significant values related to public navigation, fishing, and recreation;

(b) The proposed energy facility was redesigned to avoid or minimize wetland impacts; and,

(c) PGE proposes to compensate for 0.43 acres of unavoidable impacts to wetlands by enhancing 1.5 acres of palustrine emergent and scrub shrub riverine flow-through/depressional wetlands on the site.

ORS 196.825(3) requires consideration of certain factors in determining whether to grant a removal/fill permit:

(a) The public need for the proposed fill and the social, economic or other public benefits likely to result from the proposed fill ***.

This factor addresses the public need for the proposed "fill" and not the need for the proposed "facility." This consideration takes the proposed facility as a given. The public need for the proposed fill is demonstrated because it is likely that some fill activity would be necessary to allow any industrial development at the proposed site.

Columbia County's acknowledged comprehensive land use plan contains a section called the Port Westward Exception Statement. The County found in this statement that there is a public need for land zoned RIPD and that the nearly 900-acre tract known as the Port Westward industrial area contained certain features making it uniquely appropriate for that zone. The social, economic and other public benefits from this zoning are described in detail in the County Comprehensive Plan at page 147. LCDC has acknowledged those findings, and they need not be reproduced here.

Based on site inspections by the Office and DSL, the Council finds that that any industrial development that completely avoids wetlands would be unlikely within the Port Westward industrial area because of the high incidence of wetlands in the area. PGE has made every effort to configure the facility to avoid wetlands at the site, but it could not do so entirely. Therefore, the Council finds that the proposed fill is needed for the facility to go forward, and in fact some removal-fill activity would be needed for any use of this land in the manner for which is it zoned.

(b) The economic cost to the public if the proposed fill is not accomplished.

PGE has redesigned and reconfigured the proposed facility to avoid and minimize impacts to waters of the state. Additional redesign efforts are unlikely to eliminate completely the need for the proposed fill. The economic cost to the public if the proposed fill is not accomplished is that the land that the County designated RIPD could not be fully developed. The County, in the Port Westward Exception Statement, noted that Columbia County has a shortage of industrial land and that the Port Westward industrial area has features that make it uniquely suitable for that use.

(c) The availability of alternatives to the project for which the fill is proposed.

PGE proposed the fill in conjunction with construction and operation of PWGP. "Project" means "any removal and/or fill activity or both in waters of the state. * * * " OAR 141-085-0010(31). PGE evaluated two sites adjacent to Beaver, one to the south (Site #1) and one to the north (Site #2). (See Figure J-4.6 in the ASC.). PGE rejected other sites within the 852-acre area that are not adjacent to the existing plant because the development of infrastructure (roads, gas, and raw water pipelines, etc.) would create a higher level of environmental impact. Geotechnical evaluation revealed that the soils at the site to the south of Beaver were unsuitable for the plant foundation. The site to the north of Beaver will provide a suitable foundation and is PGE's proposed location for PWGP.

PGE shifted the conceptual plant location identified in Figure J-4.6 slightly to avoid wetland impacts. PGE shifted the north site location (Site #2) further toward the northeast in order to minimize impacts to Wetland 4. PGE eliminated the corners of the original fill proposal (Fig J-4.2) to avoid even more wetland.

Approaching the generating plant, the transmission corridor traverses a broad area of flat terrain, much of which is wetlands. PGE aligned the towers to avoid utility conflicts with the process water discharge line (Towers T- 65 to T-70) and the U.S. Gypsum gas pipeline (Towers T-56 to T- 61), resulting in their placement within wetlands.

(d) The availability of alternative sites for the proposed fill.

PGE has undertaken alternative site design and transmission tower alignment to avoid and minimize potential impacts to waters of the state to the maximum extent practicable. Redesigned elements include: (1) shifting the energy facility location; (2) reducing the area of fill in Wetland 4; and, (3) locating all related or supporting linear facilities, including the natural gas pipeline, transmission line and water supply pipeline, within existing roads or upland areas to the greatest extent possible.

(e) Whether the proposed fill conforms to sound policies of conservation and would not interfere with public health and safety.

Sound conservation policies include impact avoidance, mitigation of unavoidable impacts, and, in general, compliance with relevant natural resource policies. The proposed energy facility would be consistent with the sound policies of conservation because opportunities to avoid impacts to wetlands and aquatic resources have been evaluated and incorporated in the site selection and final design layout. Siting of the energy facility and related or supporting facilities avoids sensitive habitats related to wetlands and riparian areas to the maximum extent practicable. The proposed fill would be located within an area zoned RIPD and would not interfere with public health and safety.

(f) Whether the proposed fill is in conformance with existing public uses of the waters and with uses designated for adjacent land in an acknowledged comprehensive plan and zoning ordinances.

The proposed fill is in conformance with existing public uses of the waters of the state. The area of proposed fill is within a privately owned wetland. Construction and operation of the facility would not result in a net loss of wetland function because PGE's mitigation plan would replace wetland functions by enhancing existing wetlands at a greater than 3:1 ratio within the facility site. The construction of a seasonal ponded, palustrine emergent/scrub shrub wetland would provide wildlife and amphibian habitat.

The energy facility site and surrounding lands have a zoning designation of RIPD (ASC, Exhibit K, page K-5). The facility would be compatible with the adjacent existing and planned land uses.

(g) Whether the proposed fill is compatible with the acknowledged comprehensive plan and land use regulations for the area where the proposed fill is to take place.

The proposed fill would affect land zoned RIPD. Conditional uses permitted in the RIPD zone include the storage and distribution of services, a function interpreted by the Columbia County Planning Department to include the storage and distribution of electricity service. As part of the site design review approval process, PGE must demonstrate that alteration of a wetland or riparian area would be in compliance with state and federal laws, a condition that would be satisfied upon showing that the removal/fill permit should be issued.

(h) Whether the proposed fill is for streambank protection.

The proposed fill has no relation to streambank protection.

Administrative Rule Standards, OAR 141-085-0050

OAR 141-085-0050(2) requires an evaluation of probable impacts, including cumulative impacts, of the proposed fill activity and its intended use on the water resources by considering certain factors in addition to those required by the statute:

(a) The environmental and economic consequences of the proposed fill or removal.

The proposed fill would have minimal environmental impact. PGE would implement specific mitigation measures to minimize impact to waters of the state and wildlife habitat. Additional mitigation measures and wetland replacement would be implemented to fully compensate for any unavoidable adverse impacts. There appear to be no adverse economic consequences of the fills.

(b) Direct and indirect effects of the fill or removal on submerged and/or submersible lands.

The proposed fill would have no direct or indirect effects on submerged and submersible lands.

(c) Effects of the fill or removal on the hydraulic characteristics of the fill or removal site and surrounding areas, such as water circulation, tidal fluctuation, current patterns and flood hazards.

Impacts related to construction and operation of the facility would include filling 0.43 acres of emergent/scrub shrub wetlands. Elimination of this portion of the wetland would not interfere with surrounding naturally-occurring and manmade flow regimes, or the flow patterns off the facility site. There would be no impacts to the Beaver Drainage District irrigation canals. Therefore, no permanent effect is expected on circulation, hydraulic characteristics, current patterns, or flood hazard.

(d) Effects of the fill or removal on special aquatic sites and refuges, sanctuaries and scenic waterways.

The proposed fill would not affect refuges, sanctuaries, or scenic waterways. PGE has determined that the existing on-site wetlands have only moderate functional levels. They are and have been historically disturbed and are dominated by non-native grasses, and they do not appear to possess the characteristics of "special aquatic sites."

(e) Effects of the fill or removal on water supply, water access, public recreation and aesthetics.

The proposed fill would not interfere with water supply, water access, or public recreation.

(f) Effects of the fill or removal on water quality and aquatic life and habitats.

PGE would fill 0.43 acres of wetlands that currently provide a limited contribution to the area's water quality and were rated as having a sediment-trapping function that would be affected by the fill. Though waterfowl may graze the wetland to be affected, the proposed compensatory mitigation plan would adequately compensate for water quality functions by providing a palustrine emergent/scrub shrub wetland to replace lost functions and values.

(g) Whether the proposed fill or removal activity adversely affects the health, safety and welfare of the people of this state.

The proposed fill would not adversely affect the public health, safety and welfare.

OAR 141-085-0050(3) requires consultation with local governments to determine that the proposed fills are consistent with the local comprehensive plan and ordinances and planning goals. PGE elected to obtain a Council determination of compliance with the statewide planning goals adopted by the Land Conservation and Development Commission under ORS 469.504(1)(b). The Council finds that PGE has satisfied this requirement as demonstrated in Section D. 4 and Appendix D of this Order, Land Use Standard Analysis.

OAR 141-085-0050(4) provides that no permit to fill or remove material shall be issued until certain determinations have been made:

(a) The project is consistent with the water quality and toxic effluent standards of the State of Oregon as administered by the Oregon Department of Environmental Quality and would not result in significant degradation of the waters of the state

Federal regulations and the state of Oregon require PGE to obtain an NPDES General Permit 1200-C for discharges of storm water runoff during construction of the facility. To obtain this permit, PGE must develop a Storm Water Pollution Prevention Plan ("SWPPP") for the entire construction site. The main purpose of the SWPPP is to protect local water quality by reducing pollutants in storm water discharges from the construction site.

As more fully described in Section D.7 of this Order and the conditions imposed under that Section, PGE would implement measures to control wastewater during construction, operation, and retirement of the facility. As described in Section E.1.d of this Order and the conditions imposed under that section, PGE would obtain a WPCF Permit for sanitary waste before beginning operation of the energy facility. And, as described in Section D.2.d of this Order and the conditions imposed under that section, PGE would discharge non-sanitary wastewater from the energy facility site by means of a wastewater treatment facility to be constructed by the Port of St. Helens under an NPDES permit that the Port will obtain from DEQ. Upon satisfaction of those conditions, PGE would be consistent with state water quality and toxic effluent standards.

(b) The project meets historical and archaeological site preservation requirements of ORS 390.235

As more fully described in Section D.11 of this Order, PGE has demonstrated that no archaeological sites were identified in the analysis area for PWGP. Conditions imposed under that section are designed to ensure compliance with relevant state and federal laws and regulations in the event unanticipated archaeological or historical resources are encountered during construction of the facility.

(c) There is no practicable alternative to the proposed fill or removal which would have less adverse impact on the water resources of the State of Oregon.

Avoidance of impacts on water resources was a primary consideration in selection of the final site design. PGE evaluated several design layout options in an effort to identify an alignment that minimized impacts to the environment, including wetlands and other aquatic resources. PGE selected a final site layout that provides the best balance between the multiple requirements contained in the Council's energy facility siting process. Redesign of the energy facility and related or supporting facilities was implemented to avoid impacts to jurisdictional wetlands and other regulated waters to the maximum extent practicable, while accommodating constraints placed on the facility by existing roads, utilities, structures, and

manufacturer design criteria. The final design layout of the facility reflects the avoidance and minimization of temporary and permanent impacts to water resources.

(d) The project would not adversely affect rare, threatened or endangered species in the State of Oregon.

As more fully discussed in Sections D.8 and D.9 of this Order, PGE has evaluated the analysis area for the presence of rare, threatened, and endangered species. Based on the findings and subject to the conditions recommended in Sections D.8 and D.9 of this Order, PWGP would not adversely affect rare, threatened, or endangered species in the State of Oregon.

(e) The project individually or collectively would not cause significant degradation of municipal water supplies; aquatic life and habitats; functions of the aquatic ecosystem; or recreational, aesthetic and economic values of the water resources of the state.

As more fully discussed in Sections D.6 and D.13 of this Order, PGE has demonstrated that construction and operation of the facility would not cause significant degradation of municipal water supplies. All unavoidable impacts of the proposed fill would be offset by compensatory mitigation through enhancement of existing wetlands at a 3:1 ratio in close proximity to the energy facility site. The construction of an enhanced emergent and scrub shrub wetland would provide waterfowl cover and fawning habitat for Columbia white-tailed deer, as well as habitat for amphibians and birds. Waters of the state affected by the proposed fill are not used for navigation, fishing or recreation.

(f) Appropriate and practicable steps have been taken which will minimize adverse impacts of the fill or removal on aquatic life and habitats.

PGE redesigned the energy facility and related or supporting facilities to avoid impacts to jurisdictional wetlands, streams, and ditches to the maximum extent practicable, while accommodating constraints placed on the facility by existing roads, utilities, structures, and manufacturer design criteria. The final design layout of the facility reflects the avoidance and minimization of temporary and permanent impacts to aquatic life and habitats.

Consistency with DSL Statutes and Rules

The Council finds that, subject to the conditions stated in this Order, PWGP is consistent with DSL's removal/fill permit and mitigation requirements for the reasons stated below:

- PGE has sought to avoid and minimize impacts to jurisdictional waters;
- The affected wetlands do not now offer uses related to fishing, navigation, or recreation;
- No navigable waters will be affected by PWGP;
- Proposed impacts are primarily to low quality, reed-canarygrass-dominated wetlands and higher quality wetlands have been avoided;

- PGE has addressed DSL permit application requirements and submitted the appropriate fees to the agency;
- DSL concurred on the wetlands delineation that PGE provided;
- DSL would issue a Removal/Fill Permit as directed by the Council;
- Mitigation for impacts to wetlands would be on-site and in-kind and would replace lost functions and values;
- No rare, threatened or endangered species would be adversely affected by the PWGP;
- Monitoring would be conducted for five years with an annual monitoring report submitted to DSL; and
- Contingency measures would be implemented to ensure the mitigation area meets mitigation goals and permit conditions.

The Council adopts the following conditions in the site certificate:

(1) Before beginning construction of the energy facility or the Port Westward to BPA Allston Substation Transmission Line, as appropriate, the Certificate Holder shall obtain a U.S. Army Corps of Engineers and Oregon Division of State Lands Joint Removal/Fill Permit substantially in the form of the Removal/Fill Permit in Attachment C; provided, that mitigation required under the Removal/Fill Permit shall allow for accommodation of Corps of Engineers mitigation requirements, subject to the concurrence of the Office, in consultation with the Division of State Lands and affected federal agencies.

(2) The Certificate Holder shall comply with state laws and rules applicable to the Removal/Fill Permit that are adopted in the future to the extent that such compliance is required under the respective statutes and rules.

Conclusion

The Council finds that PGE complies with OAR 345-021-0010(1)(j) and ORS 196.800-990, subject to issuance of a Removal/Fill Permit substantially in the form of Attachment C to this Order.

E.1.c. Public Health and Safety

The Requirement. Pursuant to ORS 469.310, the Council is charged with ensuring that the "siting, construction and operation of energy facilities shall be accomplished in a manner consistent with protection of the public health and safety***." State law further provides that "the site certificate shall contain conditions for the protection of the public health and safety***." ORS 469.401(2).

Discussion

The site certificate will contain conditions for the protection of the public health and safety with respect to several Council standards. However, certain public health and safety issues that are not otherwise addressed in Council standards warrant special attention: (1) the potential for cooling tower fogging and icing to affect driving conditions on public roads; (2) the potential health concerns regarding electric and magnetic fields from high-voltage transmission lines; (3)

the certificate holder's coordination with the Oregon Public Utility Commission ("PUC") to ensure that the certificate holder designs and builds the electrical transmission lines and natural gas pipelines in accordance with the appropriate codes and standards; and, (4) pipeline safety monitoring pursuant to OAR 345-027-0020(3)(b). These four issues are discussed below.

Cooling Tower Fogging and Icing. The energy facility would include two mechanical-draft cooling towers, each tower containing five cells. The cooling towers are located along the northwest side of the site. The 10 cells are oriented in a line running from southeast to northwest. This is a well-selected orientation because the wind is predominantly from directions that are not parallel to this line, thereby aiding dispersion of the water vapor.

Ground level fogging occurs when the cooling tower plume approaches ground level. Icing can occur during periods when ground level fogging coincides with freezing surface temperatures. Either event may adversely affect local driving conditions.

PGE prepared a modeling analysis that showed an average of about 139 hours of ground level fogging per year over the five-year period for which meteorological data were studied (1986-1990). (Because local data were not available, PGE used data from the Portland airport.) Ground level fogging would be predominantly over water to the north and north-northeast of the plant. The model also predicted ground level fogging would occur about 47 hours in an average year generally to the west, west northwest, and northwest of the plant, much of which is over land. Most of that ground level fogging would occur in the range of 200 meters to 500 meters from the cooling towers.

The analysis predicted icing would occur during only one year of the five-year period analyzed. During that year, icing was predicted to occur 8.4 hours. PGE predicted that all icing would occur to the west-northwest of the cooling towers.

PGE stated that the modeling analysis yields conservative estimates of ground level fogging and icing. That is, actual fogging and icing could be less than is predicted by the model. Actual weather conditions could also differ from the conditions during the 5-year period used in the modeling analysis. While the likelihood of ground level fogging or icing is small, it is not zero.

Erickson Dike Road and Kallunki Road pass within areas predicted by the model to experience fogging and icing. However, they are not public roads in the vicinity of the proposed energy facility and are lightly used. The model does not predict any ground level fogging or icing on public roads.

Because weather patterns may vary from those applied in the modeling analysis, the Council adopts the following condition:

(1) If local public safety authorities notify the Certificate Holder and the Office that the operation of the energy facility is contributing significantly to ground level fogging or icing along public roads and is likely to pose a significant threat to public safety, the Certificate Holder shall cooperate with local public safety

authorities regarding the posting of warning signs on affected roads and the implementation of other reasonable safety measures.

The Council finds that ground level fogging and icing along public roads from the operation of the energy facility is not likely and is not likely to pose a significant threat to public safety.

Transmission Lines. As discussed in Section C.1.b, PWGP and the Summit Project present a unique situation regarding the transmission lines for their facilities. Because the Council is reviewing the applications for both projects simultaneously, because they would use the same towers, and because the same company would build and operate the transmission lines, the Council has consolidated the reviews within this Order and is placing conditions for the combined lines in the site certificate for the Port Westward Generating Project.

The transmission line can be seen as two long sections and several short interconnecting segments. There are two main sections:

(1) A double-circuit, 230 kV line for PWGP and the Summit Project. The section runs in the existing Port Westward to BPA Allston Substation right-of-way ("ROW," both singular and plural) from the Summit Project tie-in adjacent to that plant to the vicinity of the BPA Allston Substation (about 10 miles long). It is entirely within the existing ROW. This line would include only a single circuit if only one energy facility, PWGP or the Summit Project, were constructed.

(2) The PWGP single-circuit, 230 kV line between the vicinity of the BPA Allston Substation and Trojan (also about 10 miles long).

PGE proposed two options for the line between the BPA Allston Substation and Trojan. Each option would require a new ROW:

- One option would be adjacent to the BPA ROW on the north side,
- The other option is adjacent to the BPA ROW on the south side.

There are short interconnecting segments:

(a) A single-circuit from PWGP to the point of the tie-in with the Summit Project on the section of the line into the BPA Allston Substation; and

(b) Separate short segments for both PWGP and the Summit Project into the BPA Allston Substation in the vicinity of the BPA Allston Substation.

Electric Fields. Strong electric fields can induce electric voltages in nearby objects, such as fences. If proper precautions are not taken, these induced voltages might result in electric shocks.

The Council has adopted a limit for electric fields from transmission lines of 9 kV per meter at one meter above the ground surface in areas that are accessible to the public. OAR 345-024-0090(1). The BPA guidelines for its transmission lines limit electric fields to a maximum of 9 kV per meter within the ROW, 5 kV per meter at the edge of the ROW, and 5 kV per meter at highway crossings. (BPA Red Book, 1993)

PGE calculated electric fields one meter above grade under existing conditions along the existing Port Westward to BPA Allston Substation ROW and along the BPA Allston Substation to Trojan ROW. The calculations showed the following.

(a) Under existing conditions, the maximum electric field is less than 3.5 kV/meter along the existing Port Westward to BPA Allston Substation ROW and about 4.5 kV/meter along the BPA Allston Substation to Trojan ROW. At the edges of the ROW, electric fields are less than 1 kV/meter.

(b) The addition of a single-circuit line to the existing Port Westward to BPA Allston Substation ROW would increase the maximum field strength to about 4 kV/meter. At the edges of the ROW, the electric field strength would remain about 1 kV/meter. The single-circuit line could be used for either PWGP or the Summit Project.

(c) The addition of a single-circuit line adjacent to the BPA Allston Substation to Trojan ROW would have a negligible effect on the electric field strength within, and at the edges of, the existing BPA ROW. Within the new PGE ROW, the electric field strength would be about 4 kV/meter everywhere and less than 0.5 kV/meter at the edges.

(d) The addition of a double-circuit line to the existing Port Westward to BPA Allston Substation ROW would yield maximum field strengths not exceeding 4 kV/meter within the ROW. Fields at the edges of the ROW would remain less than 1 kV/meter.

Because the calculated electric fields would be about 5 kV/meter at all locations within the ROW under all of the modeled conditions, BPA and Council standards would be met if any of the proposed transmission lines within the ROW were built.

PGE did not calculate the electric field strength resulting from interconnecting line segments outside of existing ROW for the existing Port Westward to BPA Allston Substation Transmission Line. These segments include the line from PWGP to the existing ROW for the existing Port Westward to BPA Allston Substation line and the short segments connecting PWGP and the Summit Project at the BPA Allston Substation. The magnitudes of voltage and current along these segments would be the same as those along the segments for which electric field strengths were calculated. Therefore, the Council does not expect electric field strengths along these segments to exceed 5 kV/meter, so PGE would meet BPA and Council standards.

For double-circuit lines, PGE modeled the lines in an A-B-C, C-B-A configuration so that the fields cancel. That is the configuration PGE uses to construct double-circuit lines.

Electric fields can induce voltages in structures, causing electric shock when the structure is touched. That is, the induced voltage causes an unwanted current to flow in a person contacting the structure. Protection can be effected by either isolating the structure to prevent contact or by grounding and/or bonding the structure. Grounding and/or bonding provides a free path for electric current through a conducting wire or metal rod to the ground, serving a function similar to that of a lightning rod. Electricity follows the path of least resistance to ground, thereby reducing the possibility of a shock hazard due to stray currents.

In addition to electrical fields, which can result in induced voltages, magnetic fields from transmission lines can induce currents in metal objects such as fences and buried pipelines. The Council has a standard that the certificate holder must be able to design, construct and operate proposed transmission lines so that induced currents will be as low as reasonably achievable. OAR 345-024-0090(2). In the ASC, PGE did not propose specific measures to minimize induced currents that may result from the interaction of electric fields with structures such as fences. In reply to an information request from the Office, PGE verified that, if a double circuit line were constructed, it would orient the conductors so that the fields tend to cancel. Furthermore, the design and operation of the transmission line must comply with Title 49, Code of Federal Regulations, Part 192, which requires that the certificate holder ensure that the cathodic protection system in the transmission line not interfere with other existing facilities. Finally, the Oregon Public Utility Commission, through the coordination required in Condition (8), below, will ensure that the transmission line is designed to minimize induced currents and voltage.

PGE has proposed a conductor arrangement that tends to cancel fields, where possible; and, proposed Conditions would require PGE to use good utility practices to minimize induced voltage and currents. Therefore, the Council finds that PGE can design, construct and operate the proposed transmission lines so that induced currents from it will be as low as reasonably achievable.

The Council adopts the following conditions:

(2) The Certificate Holder shall design the transmission lines so that alternating current electric fields shall not exceed 9 kV per meter at one meter above the ground surface in areas accessible to the public.

(3) The Certificate Holder shall design the transmission lines so that induced currents and voltage resulting from the transmission lines are as low as reasonably achievable.

(4) The Certificate Holder shall develop and implement a program that provides reasonable assurance that all fences, gates, cattle guards, trailers, or other objects or structures of a permanent nature that could become inadvertently

charged with electricity are grounded or bonded throughout the life of the transmission line.

(5) The Certificate Holder shall restore or mitigate the reception of radio and television at residences and commercial establishments in the primary reception area to the level present before operation of the transmission line at no cost to residents or businesses experiencing interference resulting from the transmission line.

(6) The Certificate Holder shall design, construct and operate the transmission lines in accordance with the requirements of the National Electrical Safety Code.

The Council finds that the proposed transmission lines are consistent with protecting public health and safety in regard to electric fields and induced currents.

Magnetic Fields. In addition to concerns about induced currents from magnetic fields, there has been concern that human exposure to magnetic fields might cause health risks. This issue has been the subject of considerable scientific research and discussion. The Council received public comments about the issue, as discussed in Section B.1 above.

The Council previously considered this issue. Based on its review, the Council concluded that the credible evidence relating low levels of exposure to health risks was inconclusive and that there was insufficient information upon which to set "health based" limits for exposure to magnetic fields. The Council recommended that, given the uncertainty as to health consequences, those who propose transmission lines under the Council's jurisdiction should use low-cost ways to reduce or manage public exposure to magnetic fields. This approach is sometimes referred to as "prudent avoidance."

Several other authorities have considered this issue and have reached conclusions similar to those of the Council. As part of the 1992 Energy Policy Act, the U.S. Congress authorized the Electric and Magnetic Fields Research and Public Information Dissemination Program. It culminated in a report by the National Institute of Environmental Health Sciences ("NIEHS") in May, 1999, entitled "Health Effects from Exposure to Power-Line Frequency Electric and Magnetic Fields" (NIH Publication No. 99-4493).

The NIEHS report includes the following conclusions.

1. The scientific evidence suggesting that extremely low frequency electric and magnetic fields ("ELF-EMF") exposures pose any health risk is weak. The only health impacts of concern are childhood leukemia and chronic lymphocytic leukemia in occupationally exposed adults. Epidemiological studies of humans show a pattern of small increased risk of leukemia with increasing exposure to ELF-EMF.

2. Mechanistic studies and experimental studies on non-humans do not indicate any increase in leukemia as a result of exposure to ELF-EMF, although sporadic findings of increases in other forms of cancer in experimental animals have been reported. A causal link that would explain the weak epidemiological evidence of increased leukemia has not been found.

3. ELF-EMF cannot be recognized as entirely safe. However, the evidence that exposure may pose a leukemia hazard is too weak to warrant aggressive regulatory concern. Passive regulatory action is warranted.

In its ASC, PGE included guidelines regarding public exposure to magnetic fields recommended by the International Radiation Protection Association (IRPA). The guideline for continuous public exposure to magnetic fields is 830 milliGauss ("mG"). PGE also tabulated limits on magnetic field strengths imposed by several states. PGE showed that only Florida has limits on magnetic field strengths. Those limits are 200 mG for 500 kV lines at the edge of the ROW; 250 mG for double-circuit 500 kV lines at the edge of the ROW; and 150 mG for 230 kV and smaller lines at the edge of the ROW.

PGE calculated the potential magnetic field strengths within the ROW and at the edges of the ROW for several possible line configurations. For purposes of this discussion of magnetic field strengths at the edges of the ROW, only the exterior edges of the ROW are of concern where the proposed PGE ROW is adjacent to the existing BPA ROW. The interior edges become, in effect, the centerline of the combined ROW. PGE's calculations showed the following.

(a) Under existing conditions, the maximum magnetic field is about 350 mG in the existing Port Westward to BPA Allston Substation ROW and about 130 mG along the BPA Allston Substation to Trojan ROW. At the exterior edges of the ROW, the magnetic fields do not exceed 84 mG.

(b) The addition of a single-circuit line to the existing Port Westward to BPA Allston Substation ROW would decrease the maximum field strength. It would increase the field strength at the edges of the ROW to no greater than 143 mG. The single circuit line could be used for either PWGP or the Summit Project.

(c) The addition of a double circuit line to the existing Port Westward to BPA Allston Substation ROW would not increase the maximum field strength in the ROW. It would increase the magnetic field at the edges of the ROW to no greater than 150 mG.

(d) The addition of a single-circuit line adjacent to the BPA Allston Substation to Trojan ROW would yield a maximum field strength no greater than 208 mG within either right of way. At the outer edges of the combined ROW, the field strength would not exceed 133 mG.

The magnetic field at the edges of the ROW in all cases meets or is lower than the most restrictive limit imposed by Florida (150 mG) and is much lower than the IRPA guideline.

It is reasonable to surmise that the short segments of line that PGE proposed to locate outside of existing ROW would create magnetic fields at ground level not exceeding the maximum calculated field strength within the ROW. The maximum projected field strengths would be less than the IRPA guidelines.

In response to an inquiry from the Office, PGE stated that on double-circuit lines it places one circuit in a reverse orientation to provide a lower magnetic field. That is, the C-phase conductor would be placed at the top of one line and at the bottom of the other and the A-phase conductor at the bottom of one line and at the top of the other. This approach takes advantage of the fact that electric and magnetic fields from multiple conductors can tend to cancel each other.

The Council adopts the following site certificate condition.

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

The Council finds that the proposed transmission lines are consistent with protecting public health and safety in regard to magnetic fields.

Coordination with the PUC. The Oregon Public Utility Commission Safety and Reliability Section ("PUC") has previously requested that the Council ensure that certificate holders coordinate with PUC staff on the design and specifications of electrical transmission lines and the natural gas pipelines. The PUC has explained that others in the past have made inadvertent, but costly, mistakes in the design and specifications of power lines and pipelines that could have easily been corrected early if the developer had consulted with the PUC staff responsible for the safety codes and standards.

The Council adopts the following condition in the site certificate to ensure timely consultation:

(8) At least 30 days before beginning preparation of detailed design and specifications for the electrical transmission line(s) or the natural gas pipeline, the Certificate Holder shall consult with the Oregon Public Utility Commission staff to ensure that its designs and specifications are consistent with applicable codes and standards.

Natural Gas Pipeline Safety. OAR 345-027-0023 provides conditions that the Council may include in the site certificate as appropriate. The Council adopts the following conditions in the site certificate:

(9) With respect to the related or supporting natural gas pipeline, the Certificate Holder shall design, construct and operate the pipeline in accordance with the requirements of the U.S. Department of Transportation as set forth in Title 49, Code of Federal Regulations, Part 192.

Conclusion

The Council finds that the siting, construction and operation of the energy facility are consistent with protection of the public health and safety, pursuant to ORS 469.310.

E.1.d. Water Pollution Control Facilities Permit

The Requirement. The development of an onsite sewage treatment system incorporating a septic tank, dosing tank, and bottomless sand filter is considered a form of wastewater discharge that requires a Water Pollution Control Facilities ("WPCF") permit from DEQ. The WPCF permit is a state level permit that falls under Council jurisdiction. Pursuant to ORS 469.401, the Council must determine whether, and under what conditions, DEQ should issue the WPCF permit. However, once DEQ has issued the permit, it continues to exercise enforcement authority over the permit.

Discussion

After completion of construction of the PWGP, PGE expects it would employ about 25 people fulltime. Sanitary facilities would produce a maximum of about 1,200 gallons per day, an average of about 500 gallons per day, and a minimum of 90 gallons per day on an intermittent basis.

Treatment of this waste would be by means of one septic tank and one dosing tank. The septic tank would be a dual compartment, pre-manufactured fiberglass unit sized at 3,000 gallons nominal capacity. Septic tank effluent would flow by gravity through effluent screens to the dosing tank. The dosing tank would be a pre-manufactured concrete tank fitted with a duplex pump package incorporating float-actuated single-impeller centrifugal pumps. The nominal capacity of the dosing tank would be 2,000 gallons. Effluent from the dosing tank would be pumped on intermittent dosing cycles to a bottomless sand filter via a flow meter and diversion valve. Final disposition of the liquid component of treated sanitary sewage would occur as the effluent flows by gravity through a sand filter profile and through the underlying soil profile. The basal area of the sand filter would be 1,200 square feet. Final disposition of the solid component of treated sanitary sewage would occur as part of the regular operations and maintenance of the system. Solids and scum would be removed by a state-licensed septage hauler and disposed of at a permitted septage receiving facility.

DEQ Requirements. Pursuant to OAR Chapter 340, Division 71, Section 130(5), persons proposing a sand filter system to serve a commercial facility must obtain a WPCF permit from

DEQ. PGE submitted its Application for New WPCF Individual Permit to DEQ on March 29, 2002 (Application No. 986243). It submitted supplemental materials to DEQ on April 9, 2002.

DEQ Recommendation

After review of the PGE application and an on-site evaluation by Columbia County staff, DEQ confirmed the evaluation of the site in relation to the proposed energy facility. See Attachment B.2. However, in the course of its groundwater prioritization, DEQ observed that the proposed drain field may be located in an area zoned such that drinking water wells may be installed within 1,000 feet of the drain field in the future. DEQ recorded the following observations:

- All domestic wells are over the 100-foot setback required by OAR Chapter 340, Division 71. In fact, there are no wells within one-half mile of the project. The initial groundwater in this area is essentially the Columbia River and can be expected to discharge to the river.

- The projected sewage flow from this facility is 1,200 gallons per day, equivalent to 2.6 residential homes located on a parcel of 19 acres. Sand filter effluent is expected to produce 10 milligrams per liter ("mg/l") biological oxygen demand ("BOD") and 10 mg/l total suspended solids ("TSS"), reduce bacteria counts by 98 to 99 percent, and lower total nitrogen by about 50 percent. The site meets Division 71 onsite rules criteria for approval of a bottomless sand filter. The proposed flows would be low. The potential to adversely affect groundwater would be negligible.

DEQ recommended that the Council approve the WPCF permit with conditions contained in Schedules A, B, D, and F of the draft WPCF permit (Attachment B.1). The Council adopts the following conditions in the site certificate:

(1) Before beginning commercial operation of the energy facility, the Certificate Holder shall demonstrate that the DEQ has issued to the Certificate Holder a Water Pollution Control Facilities Permit, substantially in the form of Attachment B.1, allowing for on-site sanitary waste disposal.

(2) The Certificate Holder shall comply with state laws and rules applicable to Water Pollution Control Facilities Permits that are adopted in the future to the extent that such compliance is required under the respective statutes and rules.

Conclusion

The Council finds that the Port Westward Generating Project meets the requirements for a WPCF permit for sanitary waste, with the conditions contained in Attachment B.1; and, the Council orders DEQ to issue PGE a WPCF permit substantially in the form contained in Attachment B.1.

E.2. REQUIREMENTS THAT ARE NOT UNDER COUNCIL JURISDICTION

E.2.a. Federally-Delegated Programs

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

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

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

(1) The Air Contaminant Discharge Permit ("ACDP") program administered by DEQ, which includes the federally delegated new source review requirements of the Clean Air Act and the Prevention of Significant Deterioration program. This authority is in ORS Chapter 468A; OAR Chapter 340, Divisions 20, 21, 22, 25, and 31. The Council notes that DEQ issued an ACDP, No. 05-0008, for the facility to PGE on January 16, 2002.

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

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

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

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

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

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

(2) Regulations of building, structure design and construction practices by the Oregon Building Codes Division under ORS Chapters 447, 455, 460, 476, 479, and 480; OAR Chapter 918, Divisions 225, 290, 301, 302, 400, 440, 460, 750, 770, and 780;

(3) Various programs addressing fire protection and fire safety and the storage, use, handling, and emergency response for hazardous materials and community right to know laws for hazardous materials, administered by the Oregon State Fire Marshal's Office, under ORS Chapters 453, 476, and 480; OAR Chapter 837, Divisions 40 and 90;

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

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

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

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

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

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

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

F. CONDITIONS REQUIRED OR RECOMMENDED BY COUNCIL RULES

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

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

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

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

F.1. MANDATORY CONDITIONS IN SITE CERTIFICATES

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

(1) The Council shall not change the conditions of the Site Certificate except in accordance with the applicable provisions of OAR 345, Division 27, in effect on the date of the Council action.

(2) Before beginning construction of the energy facility, the Certificate Holder shall submit to the Office a legal description of the site, except as provided in OAR 345-027-0023(6).

(3) The Certificate Holder shall design, construct, operate, and retire the facility:

(a) Substantially as described in the Site Certificate;

(b) In compliance with the requirements of ORS Chapter 469, applicable Council rules, and applicable state and local laws, rules and ordinances in effect at the time the Council issues the Site Certificate; and,

(c) In compliance with all applicable permit requirements of other state agencies.

(4) Except as necessary for the initial survey or as otherwise allowed for transmission lines or pipelines in this condition, the Certificate Holder shall not begin construction, as defined in OAR 345-001-0010, or create a clearing on any part of the site until the Certificate Holder has construction rights on all parts of the site. For the purpose of this condition, "construction rights" means the legal right to engage in construction activities. For transmission lines or pipelines, if the Certificate Holder does not have construction rights on all parts of the site, the Certificate Holder may nevertheless begin construction or create a clearing on a part of the site if:

(a) The Certificate Holder has construction rights on that part of the site; and,

(b) The Certificate Holder would construct and operate part of the facility on that part of the site even if a change in the planned route of the transmission line or pipeline occurs during the Certificate Holder's negotiations to acquire construction rights on another part of the site.

Beginning and Completing Construction. The proposed facility would include among its related or supporting facilities a transmission line that would contain two circuits. One circuit would interconnect PWGP to the BPA Allston Substation or to Trojan. The second circuit would interconnect the Summit Project to the BPA Allston Substation. The Council treats the transmission line with both circuits as a related or supporting facility for PWGP for purposes of compliance with Council standards. If PGE were not proposing to construct and operate the Port Westward Generating Project, the Council would require that the Summit Project include the transmission line as a related or supporting facility in its site certificate.

Because construction of the Summit Project may proceed before construction of PWGP, PGE may begin construction of the transmission line to the BPA Allston Substation before beginning construction of its energy facility. It is also possible that PGE might decide not to proceed with construction of its energy facility at all. In the event that PGE did not begin construction of the energy facility at PWGP by the date specified in the site certificate or in the event that PGE failed to complete construction of the facility by the date specified in its site certificate, then PGE or the Council would terminate the site certificate for PWGP. In any case in which the transmission line for the Summit Project were not part of a current site certificate, the Council would require Summit/Westward to amend its site certificate to include the Summit Project to BPA Allston Substation transmission line. Therefore, it is necessary that the PWGP site certificate distinguish between beginning construction of the transmission line and beginning construction of the energy facility, as well as define completion of construction.

Given these special circumstances, the Council adopts the following conditions in the site certificate:

(5) The Certificate Holder shall begin construction of the energy facility by November 8, 2004. Beginning construction of the Port Westward to BPA Allston Substation Transmission Line shall not satisfy this requirement.

(a) The Certificate Holder shall report promptly to the Office the date that it began construction of the facility, as defined in OAR 345-001-0010. In reporting the beginning of construction, the Certificate Holder shall briefly describe all work on the site performed before beginning construction, including work performed before the Council issued the Site Certificate and work performed to construct the Port

Westward to BPA Allston Substation Transmission Line, and shall state the cost of that work, pursuant to OAR 345-026-0048.

(b) If the Certificate Holder begins construction of the Port Westward to BPA Allston Substation Transmission Line, as defined in OAR 345-001-0010, prior to beginning construction of the energy facility, it shall promptly report to the Office the date it began construction of the transmission line.

(6) The Certificate Holder shall complete construction of the facility by May 8, 2007. The completion of construction date is the day by which (1) the facility is substantially complete as defined by the Certificate Holder's construction contract documents; (2) acceptance testing is satisfactorily completed; and, (3) the energy facility is ready to commence continuous operation consistent with the Site Certificate. Completion of construction of the Port Westward to BPA Allston Substation Transmission Line separately shall not satisfy this requirement.

(a) The Certificate Holder shall report promptly to the Office the date it completed construction of the facility.

(b) If the Certificate Holder completes construction of the Port Westward to BPA Allston Substation Transmission Line separately before completing construction of the facility, it shall promptly report that date to the Office.

(c) Separate completion of construction of Port Westward to BPA Allston Substation Transmission Line shall be the date that PGE makes it available to the Summit/Westward Project to transmit energy.

F.2 OTHER CONDITIONS BY RULE

This section contains conditions based on the Council's rules. In some cases, the rules propose conditions; in other cases the Council adopts the conditions, based on its rules, to make explicit certain obligations of the site certificate holder.

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

(1) With respect to the related or supporting natural gas pipeline, the Certificate Holder shall submit to the Office copies of all incident reports required under 49 CFR §192.709 that involve the pipeline.

Rights-of-Way. Pursuant to OAR 345-027-0023(6), the Council adopts the following condition in the site certificate:

(2) Before beginning operation of the energy facility, the Certificate Holder shall submit to the Office a legal description of the permanent right-of-way where the Certificate Holder has built a pipeline or transmission line within an approved corridor. The site of the pipeline or transmission line subject to the Site Certificate is the area within the permanent right-of-way. However, if the Certificate Holder completes construction of the Port Westward to BPA Allston Substation Transmission Line before beginning construction of the energy facility, the Certificate Holder shall submit to the Office a legal description of the permanent right-of-way for that segment of that transmission line, notwithstanding OAR 345-027-0023(6).

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

(3) If the Certificate Holder becomes aware of a significant environmental change or impact attributable to the facility, the Certificate Holder shall, as soon as possible, submit a written report to the Office describing the impact on the facility and its ability to comply with any affected Site Certificate conditions.

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

(4) Before beginning construction of the facility, the Certificate Holder shall implement a plan that verifies compliance with all Site Certificate terms and conditions and applicable statutes and rules. The Certificate Holder shall submit a copy of the plan to the Office. The Certificate Holder shall document the compliance plan and maintain it for inspection by the Office or the Council. However, if the Certificate Holder begins construction of the Port Westward to BPA Allston Substation Transmission Line before beginning construction of the energy facility, the applicable compliance plan shall relate to that phase of construction.

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

(5) Within six months after beginning any construction, and every six months thereafter during construction of the energy facility and related or supporting facilities, the Certificate Holder shall submit a semi-annual construction progress report to the Council. In each construction progress report, the Certificate Holder shall describe any significant changes to major milestones for construction. When the reporting date coincides, the Certificate Holder may include the construction progress report within the annual report described in Condition (6).

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

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

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

(8) The Certificate Holder shall promptly notify the Office of any changes in major milestones for construction, decommissioning, operation, or retirement schedules. Major milestones are those identified by the Certificate Holder in its construction, retirement or decommissioning plans.

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

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

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

(10) The Certificate Holder shall notify the Office within 72 hours of any occurrence involving the facility if:

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

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

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

G. General Conditions

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

(1) The general arrangement of the Port Westward Generating Project shall be substantially as shown in the ASC.

(2) The Certificate Holder shall ensure that related or supporting facilities are constructed in the corridors described in this Order and as shown in ASC and in the manner described in this Order and the ASC.

(3) During construction and operation of the energy facility, the Certificate Holder shall house the combustion turbine in an enclosure that provides thermal insulation, acoustical attenuation, and fire extinguishing media containment and that would allow access for routine inspection and maintenance.

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

(4) Before any transfer of ownership of the facility or ownership of the Certificate Holder, the Certificate Holder shall inform the Office of the proposed new owners. The requirements OAR 345-027-0100 shall apply to any transfer of ownership that requires a transfer of the Site Certificate.

Severability and Construction. The Council adopts the following condition:

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

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

(6) This Site Certificate shall be governed by the laws of the State of Oregon.

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

H. GENERAL CONCLUSION

The Council makes the following findings:

(1) That the facility complies with the standards adopted by the Council pursuant to ORS 469.501;

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

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

(4) That an exception to statewide planning Goal 4 is justified and that the facility otherwise complies with the statewide planning goals adopted by the Land Conservation and Development Commission, pursuant to ORS 469.503(4).

The Council concludes that PGE meets these requirements and that it should issue a site certificate for the Port Westward Generating Project.

I. ORDER

Based on the above findings of fact, discussions and conclusions of law, the Council determines that it shall approve the Application for a Site Certificate for the Port Westward Generating Project and that the chairperson of the Council shall execute the Site Certificate in the form of the "Site Certificate for the Port Westward Generating Project." The Site Certificate for the Port Westward Generating Project is attached to this Order and incorporated by reference into this Order. The Council directs the Oregon Department of Environmental Quality to issue a Water Pollution Control Facilities permit to the Certificate Holder that is substantially in the form of Attachment B.1 and it directs the Division of State Lands to issue a Removal/Fill Permit that is substantially in the form of Attachment C.

Ordered this 8th day of November, 2002

By: _____.

Dr. Roslyn Elms-Sutherland, Chair
Oregon Energy Facility Siting Council

ATTACHMENT A

MEMORANDUM OF UNDERSTANDING: MONETARY PATH PAYMENT REQUIREMENT

ATTACHMENT B
WATER POLLUTION CONTROL FACILITIES PERMIT (B.1) AND ANALYSIS (B.2)

ATTACHMENT C
REMOVAL/FILL PERMIT

ATTACHMENT D
LAND USE STANDARD ANALYSIS

Notice of the Right to Appeal

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

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