

EXHIBIT D: ALTERNATIVE SITES — TRANSMISSION AND PIPELINES

OAR 345-020-0011

(d) Exhibit D. If the proposed energy facility is a pipeline or a transmission line or has, as a related or supporting facility, a transmission line or pipeline that, by itself, is an energy facility under the definition in ORS 469.300, identification of at least two proposed corridors, as defined in OAR 345-001-0010, or identification of a single proposed corridor with an explanation of why alternate corridors are unlikely to better meet the applicant's needs and satisfy the Council's standards. The applicant shall include an explanation of the basis for selecting the proposed corridor(s) and, for each proposed corridor, the information described in subsections (e), (g), (i), (j), (k), (n) and (p) that is available from existing maps, aerial photographs, and a search of readily available literature;

RESPONSE

Not applicable

EXHIBIT E: PERMITS

OAR 345-020-0011

(e) Exhibit E. Identification of all federal, state and local government permits needed before construction and operation the proposed facility, legal citation of the statute, rule or ordinance governing each permit, and the name, address and telephone number of the agency or office responsible for each permit;

RESPONSE

Reference Tables

Exhibit E --Potentially Applicable Statutes Rules and Ordinances to the Extent Known

Statute Rule Ordinance	Notes & Comments
Noise OAR 340-035-0035(1)(b)(B) Department of Environmental Quality Noise standards for new industrial facilities on previously unused land	Because the facility will be constructed on a site that has not been used by any commercial or industrial noise source at any time in the last 20 years it will be subject to standards for ‘new sources located on previously unused sites.’ Silvicultural (logging) activities are not considered previous industrial or commercial operations. Deschutes County Noise Control Ordinance adopts state requirements by reference and adds a subjective standard that limits “unreasonably loud or raucous noise.” Deschutes County Code 8.08
Water Rights Ground Water Act ORS 537.505-537.796 Water Resources Department	State water rights will have to be acquired for resource and water wells. The federal Geothermal Steam Act does not affect application of state water laws. 30 § USC 1021

Exhibit E --Potentially Applicable Statutes Rules and Ordinances to the Extent Known

Statute Rule Ordinance	Notes & Comments
<p>Underground Injection Control OAR 340-044 – 0005 et seq. Oregon Department of Geology and Mineral Industries Geothermal reinjection wells for electrical power generation are regulated as Class V (EPA Classification 5A5) injection wells. The injection wells must be registered with ODEQ. OAR 340-044-0011(5)</p> <p>OAR 340-071 – 0100 et seq. Oregon Department of Environmental Quality Non-residential septic systems handling only human sanitary wastes designed to serve less than 20 people per day or with a design flow of less than 2,500 gallons per day are regulated as Class V injection systems. OAR 340-044-0011(5); OAR 340-071-160 (Permit Procedures)</p>	<p>Federally delegated to DEQ and outside of Council jurisdiction. ORS 469.401(4).</p> <p>ODEQ implements federal UIC regulation (40 CFR 144). ODEQ has an agreement with DOGAMI to implement the UIC program for high temperature wells. DOGAMI regulates geothermal resources from wells < 250 degrees F and requires a state Water Pollution Control Facilities Permit. OAR 340-044-0012; OAR 340-6005(32)</p>
<p>Stormwater Permits ORS468B; OAR 340-045-0015 (General Permit Requirements) Oregon Department of Environmental Quality Separate permits are required for storm water discharges during construction if more than one acre of land will be disturbed. (Construction Storm Water General Permit) and during operation (Industrial Storm Water Permit).</p>	<p>Federally delegated to DEQ and outside of Council jurisdiction. ORS 469.401(4).</p>
<p>Air Contaminant Discharge Permit OAR 340-216 – 0010 et seq.; 340-216-0025 (Types of Permits) Oregon Department of Environmental air quality permit will be required if actual emissions exceed state thresholds or potential emissions exceed Title V thresholds. Air emissions will consist primarily of cooling tower steam and fugitive emissions of non-condensable gasses. The content or actual emission rates of fugitive emissions have not been determined.</p>	<p>Federally delegated to DEQ. Outside of Council jurisdiction. ORS 469.401(4). Commenters on the CalEnergy proposal were concerned regarding air emissions (boron, mercury and arsenic).</p> <p>The area is in attainment for particular matter (PM10) so the lower non-attainment standards do not apply. Newberry National Volcanic Monument is not a federally designated mandatory Class I area and is not</p>

Exhibit E --Potentially Applicable Statutes Rules and Ordinances to the Extent Known

Statute Rule Ordinance	Notes & Comments
	within Oregon's Statewide Visibility Plan. 40 CFR 81.425.
Geothermal Lease Provisions 30 USC §1023 43 CFR 3200.4 Bureau of Land Management Applicant must comply with regulations, lease provisions and other written instructions from BLM which includes protections of water quality and other environmental qualities.	
State and Local Land Use Because the Project is located entirely on federal land, this requirement does not apply. To the extent it does apply, Council determination will be sought pursuant to ORS 469.504(1)(b)	Possibly two parcels of private land will be crossed in connection with transmission line; state determination of compliance per ORS 469.504(1)(b)
Forest Service Plan US Forest Service Deschutes National Forest Land and Resource Management Plan Standard/Guideline EN-13 provides that the slopes beyond the Crater can be leased following compliance with NEPA and specifies that leasing, prospecting, exploration and development must be in accordance with the Scenic Views and General Forest Management Areas.	The USFS reviews and concurs with BLM approval of post lease activities.
Cultural Resources 43 CFR 3209.0-5(d) US Forest Service Surface disturbing operations must be cleared for cultural resources.	
NEPA 42 USC §§ 4321-4370.	BPA will issue a separate ROD upon completion of the environmental process on the proposed interconnection

Exhibit E --Potentially Applicable Statutes Rules and Ordinances to the Extent Known

Statute Rule Ordinance	Notes & Comments
US Forest Service and BLM NEPA review is needed for federally permitted projects.	of the Project to the BPA transmission system. Although these are federal actions not part of the Oregon siting process, they are mentioned for completeness.
Endangered Species Act Review 16 USC §§ 1531-1544 US Forest Service and BLM ESA consultation required for federally permitted projects.	A biological assessment will be needed to assess if the Project is likely to affect protected species. Although this is a federal action not part of the Oregon siting process, it is mentioned for completeness.
Hazardous Waste ORS Ch. 466 Construction: handling and disposal of hazardous waste generated during construction delegated to construction contractors. Operating power plant may be a small quantity or conditionally exempt generator. Likely subject to used oil regulations. Used Oil Regulations: OAR 340-111-0000 et seq. Generator Regulations: OAR 340-102-0010 et seq.	

Non-Applicable Statutes Rules and Ordinances to the Extent Known

Statute Rule Ordinance	Notes & Comments
<p>Wetlands/stream crossings OAR 141-085 Department of State Lands A fill/removal permit may be needed if 50 cubic yards or more of material is removed, filled or altered within any waters of the state.</p> <p>33 U.S.C. 1344. Clean Water Act Section 404 US Army Corps of Engineers</p> <p>A 404 permit may be needed for placement of fill in surface waters including wetlands under federal jurisdiction</p> <p>USFS Deschutes Land and Resources Management Plan requires a buffer zone adjacent to surface waters. The size of the buffer area is determined by the Deputy State Directory for Mineral Resources, BLM and US Forest Service</p>	<p>No fill/removal within jurisdictional waters is planned. Road access is expected to be from FS roads to north and so no crossing of Paulina Creek to the south will be needed.</p> <p>Based on an initial review of the topographic map it does not appear that there are intermittent water ways at the site.</p> <p>There are no essential salmonid habitat or scenic waterways in the Project area.</p>
<p>Water Pollution Control Facilities Permit ORS 522.019 OAR 340-045-0015 Oregon Department of Environmental Quality This is a state permit (non federally delegated) for discharges to groundwater.</p>	<p>As a practical matter, the BLM lease may require compliance with state laws pertaining to sanitation, water quality, wildlife safety and reclamation including the WPCF permit. Water quality issues regarding reinjection will have to be addressed during the siting and NEPA processes.</p>

Non-Applicable Statutes Rules and Ordinances to the Extent Known

Statute Rule Ordinance	Notes & Comments
Carbon Dioxide Emissions ORS 469.409 OAR 345-021 Geothermal facilities are not within the definition “nongenerating facilities” covered under the carbon dioxide standards for new energy facilities	To the extent the facility has CO ₂ emissions, it will be assessed in the air permit
Utility Crossing State Highway OAR 734-055. Oregon Department of Transportation. ODOT permit is needed for location of utility structures with a state highway right of way	No state highway crossings anticipated
Stack Height Notice 14 CFR 77.13 Federal Aviation Authority. Permit required for structures over 200 feet tall	All structures under 200 feet
Design/Operation Council has no jurisdiction over design or operational issues which excludes: employee health and safety; building code compliance; wage and hour/labor issues; and local government fees/charges. ORS 469.401(4)	

Council Standards

Organizational Expertise

0AR 345-022-0010

Retirement & Financial Assurance

0AR 345-022-0050

Land Use

0AR 345-022-0030

Statewide planning goals

Soil Protection

0AR 345-022-022

Protected Areas

0AR 345-022-0040(1)(b)

Includes Newberry National Volcanic Monument

Scenic & Aesthetic Values

0AR 345-022-0080

Significant adverse impacts to values identified as important in federal or local land use plans

Recreation

0AR 345-022-0100

Protected Species

0AR 345-022-0070

Structural

0AR 345-022-0020

Historic Cultural Agricultural Resources

0AR 345-022-0090

Public Service

0AR 345-022-0110

Waste Minimization

0AR 345-022-0120

Fish & Wildlife Habitat

0AR 345-022-0060

Potentially Involved Environmental Agencies

- Bureau of Land Management – Prineville District Bureau
- US Forest Service -Deschutes National Forest
- US Fish and Wildlife Service
- Bonneville Power Administration
- US Corps of Engineers

- Deschutes County Planning Department
- Oregon Water Resources Department
- Oregon Parks and Recreation Department
- Oregon Department of Fish and Wildlife
- Oregon Department of Transportation
- Department of Geology and Mineral Industries

EXHIBIT F: PROPERTY OWNER INFORMATION

OAR 345-020-0011

(f) Exhibit F. A list of the names and mailing addresses of all owners of record, as shown on the most recent property tax assessment roll, of property located within or adjacent to the proposed corridor(s) the applicant has identified in subsection (d) and property located within or adjacent to the site of the proposed facility. In addition to incorporating the list in the NOI, the applicant shall submit the list to the Office of Energy in electronic format suitable to the Office for the production of mailing labels. Property adjacent to the proposed site or corridor means property that is:

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

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

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

RESPONSE

The proposed site and supporting facilities are located within a forest zone (Bend-Fort Rock Ranger District of the Deschutes National Forest). The only potential property owners other than the USFS are:

A 116.28 parcel of land located in the NE ¼ of the SE ¼ of Section 18, T 22 S, R 11 E, Deschutes County owned by:

Oregon Department of Transportation
17450 Finley Butte Road
La Pine, OR 97739

A portion of the W ½ of the SE ¼ and the E ½ of the SW ¼ of Section 29, T 21 S, R 11 E of Deschutes County at 53200 Hwy 97, La Pine, OR owned by:

Kelldano Ranch LLC
P.O. Box 3323
Sunriver, OR 97707

EXHIBIT G: PROJECT MAPS

OAR 345-020-0011

(g) Exhibit G. A map or maps showing:

(A) The proposed locations of the energy facility site, and all related or supporting facility sites, in relation to major roads, water bodies, cities and towns, important landmarks and topographic features;

(B) The proposed locations of the corridors the applicant has identified under subsection (d) in relation to major roads, water bodies, cities and towns, important landmarks and topographic features;

(C) The study area(s) for the proposed facility as defined in OAR 345-001-0010;

(D) The topography of the study area(s) including streams, rivers, lakes, major roads and contour lines;

(E) All protected areas in the study area as defined in OAR 345-001-0010 for impacts to protected areas; and

(F) The location of any wetlands identified in the Statewide Wetland Inventory of the Division of State Lands that are on or adjacent to the site;

RESPONSE

The Project is located in Deschutes County south of Bend as shown in Figure C-1. The Project layout will be developed once information from the geothermal exploration phase is completed.

There are no known wetlands within the Project area.

EXHIBIT H: NON-GENERATING FACILITY

OAR 345-020-0011

(h) Exhibit H. If the proposed facility is a non-generating energy facility for which the applicant must demonstrate need under OAR 345-023-0005, identification of the rule in Division 23 of this chapter under which the applicant intends to demonstrate need and a summary statement of the need and justification for the proposed facility;

RESPONSE

The proposed geothermal Project is not a “non-generating facility” for which the applicant must demonstrate need under OAR 345-023-0005

EXHIBIT I: LAND USE

OAR 345-020-0011

(i) Exhibit I. A statement indicating whether the applicant intends to satisfy the Council's land use standard, OAR 345-022-0030, by obtaining local land use approval under ORS 469.504(1)(a) or by seeking a Council determination under ORS 469.504(1)(b).

RESPONSE

The applicant intends to satisfy the Council's land use standard by seeking a Council determination of compliance with the Council's land use standard under ORS 469.504(1)(b).

EXHIBIT J: ENVIRONMENTAL IMPACT SUMMARY

OAR 345-020-0011

(j) Exhibit J. Identification of significant potential environmental impacts of construction and operation of the proposed facility on the study areas, including those impacts affecting air quality, surface and ground water quality and availability, wildlife and wildlife habitat, threatened and endangered plant and animal species, historic, cultural and archaeological resources, scenic and aesthetic areas, recreation, and land use;

RESPONSE

The area in and around the Project has been previously inventoried and reviewed in conjunction with NEPA analyses for a number of other activities that were proposed, approved by the Forest Service, and implemented. These include timber sales, thinning projects, road construction, snowmobile trails, geothermal exploration well pads, and an earlier full scale geothermal exploration, development, and production project (which did not lead to any completed geothermal power plant). As a result, there is a great deal of existing information about the resources and predicted effects that can be referenced.

Air Quality

Potential sources for air emissions would be: dust during construction and road use, well testing, equipment exhaust, and steam release during power plant operation. Fluid chemistry will be evaluated during the exploration phase (currently in progress), and the Project will be designed with state of the art controls, mitigation, and monitoring to specifically address the noncondensable gases within the fluids in order to protect air quality.

The Project would operate in accordance with DEQ permits and requirements for air quality.

Surface Water Quality and Availability

The only surface water features or riparian areas along the western flank of Newberry Volcano is Paulina Creek. The only natural surface water features are in the Newberry Caldera: East Lake, Paulina Lake, and Paulina Creek (flowing out of Paulina Lake). There are no anticipated impacts to surface water quality and no issue with availability.

Ground Water Quality and Availability

The shallow ground water aquifer in the lease area is encountered approximately 600 to 1,000 feet below the surface. Geothermal wells will be drilled to much greater depths and will be cased to fully protect shallow ground water zones. Furthermore, well pads and facilities will be designed so there is no runoff.

Ground water will be needed for drilling operations, plant construction and basic plant maintenance. This water would come from water wells drilled to depths of approximately 600 to 1,000 feet and would be permitted in accordance with state regulations.

Ground water quality would not be affected, and ground water availability will be based on successful water wells and state permitting.

Wildlife and Wildlife Habitat

The Project area has a number of wildlife species common to the general area. A site-specific analysis will be conducted to identify habitat types and species with the Project area. Siting of facilities will attempt to utilize areas that have already been disturbed, such as by timber harvest, roads, or other commercial or forest management activities.

The Project will have some flexibility in the determination of exact locations for well pads, power plant, and ancillary facilities. If areas are identified as being more desirable as wildlife habitat, they could potentially be avoided during site planning, or other mitigation measures could be incorporated. Wildlife and wildlife habitat are not expected to be significantly or adversely affected.

Threatened and Endangered Plant and Animal Species

No listed or proposed threatened, endangered, or sensitive (TES) plant or wildlife species are known to occur in the area, and no suitable habitats have been identified in or near the Project area. Site-specific field surveys will be conducted. The Project is not expected to affect any TES plant or wildlife species

Historic, Cultural, and Archaeological Resources

All areas considered for site disturbance will be surveyed for historic, cultural, and archaeological resources, and will only be used if approved by the federal agencies. Based on the surveys, any discovered sites can potentially be avoided or findings can be retrieved, documented and recorded, depending on the situation and consideration by the federal and state agencies. With these mitigation measures in place, there will be no adverse affects to these resources.

Scenic Areas

Most of the Project is within the General Forest management area of the Deschutes National Forest, which has a scenery objective of “modification”. A portion of the Project may be within the Scenic Views management area, with a more restrictive scenery objective.

It is expected that past timber harvest or management activities and the existing network of roads will continue to dominate the visual character of the disturbed landscape. The Project will be designed to blend in with the existing landscape as much as possible by using topography and vegetation and by siting in disturbed areas, and would not be readily apparent to the casual forest visitor. Effects to scenic resources will be analyzed and mitigated as needed to blend in and conform to National Forest standards and guidelines for the area.

Recreation

While this area does not offer a unique recreational experience that cannot be found in other locations nearby, there are some incidental or dispersed recreation activities that may occur in the general area, including big game hunting and snowmobiling. Signs would be posted to make

hunters and other visitors aware of the Project, and snowmobile trails may need to be relocated somewhat.

There are no developed recreation sites or points of interest on the project site. The Newberry caldera, as well as other locations within the nearby Newberry National Volcanic Monument (Monument), have a number of recreational sites and points of interest, which attract visitors. The Project would be located entirely outside the Monument boundaries, and would not conflict with the Monument or with the federal legislation that created it.

The Project would provide an opportunity to provide interpretive information about geothermal energy and the geology of the region and could be coordinated with Forest Service programs.

Land Use

The full Project, except possibly a portion of the electrical transmission line, would be located entirely on National Forest lands, and would be implemented in accordance with direction from the Deschutes National Forest's Land and Resource Management Plan, which guides activities on these federal lands. Geothermal leasing, exploration, and development are accepted uses of National Forest land in this area. The Project would be reviewed by the USDA Forest Service and the USDI Bureau of Land Management (BLM) in an Environmental Impact Statement, and approved by the BLM.

EXHIBIT K: COMMUNITY IMPACT SUMMARY

OAR 345-020-0011

(k) Exhibit K. Information about significant potential adverse impacts of construction and operation of the proposed facility on the ability of communities in the study area to provide the services listed in OAR 345-022-0110;

RESPONSE

The Project will be situated in a remote location on federal land within the Deschutes National Forest, approximately 5 miles off the main state highway (Highway 97). It is approximately 10 miles from LaPine and Sunriver, and 25 miles from Bend.

Sewer and Water Services

The Project will include on-site facilities for sewer and water needs and will not require local service from community facilities. Water will be supplied from wells drilled on or near well pads and at the power plant facility, where conditions are suitable and in accordance with state regulations. Once the plant is operational, geothermal water will be used for cooling, thereby limiting the need for fresh ground water. Septic tanks and drain fields, or more advanced systems, will be designed and incorporated into the Project design and layout, also in accordance with state regulations.

Storm Water Drainage

Well pads and facilities will be designed to accommodate and contain water and fluids so there would be no off-site storm water drainage. There will be no need for systems to be provided by a local community.

Solid Waste Management and Recycling

Many of the materials and supplies for construction and operation are specialty industrial products and provided by companies which specialize in the particular equipment or material. These materials are often recycled through the original provider. Intensive recycling programs will be in place to minimize the amount of solid waste. Any specialty items (such as drill bits, steel, etc.) to be discarded will be sold, recycled, or appropriately disposed of.

Solid waste that is more commonly associated with a construction site or commercial facility will be properly disposed of by hauling to local landfills or transfer stations.

Housing, Schools, and Shopping

Approximately 300 people will be involved from time to time during the construction and development phase. About 150 of these people will be from outside the local area. There will be some crew quarters or camping areas available on site, but most employees and contractors will need temporary housing from local communities. Most employees and contractors will use local communities to shop for food and basic items. La Pine and Bend would likely be the most convenient and economical to the employees. Most of the contractors would not bring families with them and there would likely not be a noticeable effect on schools during this phase.

Once the power plant is operational, about 26 employees would be employed full time. Although it is desirable to fill positions from the local area as much as possible, it is expected that about 50 percent would come from outside the area in order to meet requirements of specialized technical and professional positions. These employees would live in nearby communities, may have families, and would contribute to the local community.

EXHIBIT L: WATER SOURCES AND USE

OAR 345-020-0011

(L) Exhibit L. Information about water requirements the applicant anticipates for construction and operation of the proposed facility, including:

(A) A description of each source of water and the applicant's estimate of the amount of water the facility will need from each source;

(B) If a new water right is required, the approximate location of the points of diversion and the estimated quantity of water to be taken at each point;

(C) For operation, the source of cooling water and the estimated consumptive use of cooling water, based on annual average conditions;

RESPONSE

The project will require approximately 200 to 400 gallons per day of fresh water for general use by employees and general plant maintenance. No fresh water will be used during normal operations for cooling the plant, as geothermal condensate will be used as cooling water.

The applicant intends to supply fresh water from ground water wells drilled on or near the well pads and power plant facilities. This use would be under the approval of the state water rights program.

EXHIBIT M: CARBON DIOXIDE EMISSIONS

OAR 345-020-0011

(m) Exhibit M. If the proposed facility would emit carbon dioxide, an estimate of the gross rate of carbon dioxide emissions, a table listing all the factors that form the basis for calculating the estimate, and a statement of the means by which the applicant intends to comply with the applicable carbon dioxide emissions standard under OAR 345-024-560, OAR 345-024-600, or OAR 345-024-630.

RESPONSE

The Project is a geothermal power plant and does not burn fossil fuels. While noncondensable gases, including carbon dioxide, are always associated with geothermal production, the amount is a small fraction compared to fossil fuel powered power plants and therefore does not significantly increase carbon dioxide emissions.

EXHIBIT N: STATUTE EVALUATION

OAR 345-020-0011

(n) Exhibit N. Identification, by legal citation, of all state statutes and administrative rules and local government ordinances containing standards or criteria that the proposed facility must meet for the Council to issue a site certificate, other than statutes, rules and ordinances identified in Exhibit E, and identification of the agencies administering those statutes, administrative rules and ordinances. The applicant shall analyze and describe any problems the applicant foresees in satisfying the requirements of any such statute, rule or ordinance.

RESPONSE

None

EXHIBIT O: SITE CERTIFICATION SCHEDULE

OAR 345-020-0011

(o) Exhibit O. A schedule stating when the applicant expects to submit an application for a site certificate;

RESPONSE

The applicant expects to submit an Application for Site Certificate on or about November 15, 2008.

EXHIBIT P: STATE COMMISSION ON INDIAN SERVICES CONSULTATION

OAR 345-020-0011

(p) Exhibit P. Evidence of consultation with the State Commission on Indian Services to identify each appropriate tribe to consult with regarding the proposed facility's possible effects on Indian historic and cultural resources;

RESPONSE

Although a letter to the Commission on Indian Services requesting them to identify each appropriate tribe to consult has not been sent, the applicant has contacted both the Confederated Tribes of Warm Springs and the Klamath Tribe as part of the exploration phase of the Project. The applicant plans to continue consultation with them and any other appropriate tribe moving forward:

Confederated Tribes of Warm Springs
1233 Veterans St
Warm Springs, OR 97761

The Klamath Tribes
501 Chiloquin Blvd
P.O. Box 436
Chiloquin, OR 97624