EXHIBIT B: DESCRIPTION OF THE PROPOSED FACILITY OAR 345-020-0011

(b) ***Exhibit B****. Information about the proposed facility, including:*

(A) A description of the proposed energy facility, including as applicable:

(i) Major components, structures and systems, including a description of the size, type and configuration of equipment used to generate electricity and useful thermal energy;

(ii) Methods for waste management and waste disposal, including, to the extent known, the amount of wastewater the applicant anticipates, the applicant's plans for disposal of wastewater and storm water, and the location of disposal;

(iii) For thermal power plants and electric generating facilities producing energy from wind, solar or geothermal energy:

(I) A discussion of the source, quantity, availability, and energy content of all fuels (higher heating value) or the wind, solar or geothermal resource used to generate electricity or useful thermal energy. For the purpose of this sub-paragraph, "source" means the coal field, natural gas pipeline, petroleum distribution terminal or other direct source;

(II) Methods for disposal of waste heat;

(III) Approximate nominal electric generating capacity;

(iv) For transmission lines, approximate transmission line voltage, load carrying capacity and type of current;

(v) For pipelines, approximate operating pressure and delivery capacity in thousand cubic feet per day;

(vi) For surface facilities related to underground gas storage, estimated daily injection and withdrawal rates, horsepower compression required to operate at design injection or withdrawal rates, operating pressure range and fuel type of compressors;

(vii) For facilities to store liquefied natural gas, the approximate volume, maximum pressure, liquefication and gasification capacity in thousand cubic feet per hour;

(B) A description of major components, structures and systems of each related or supporting facility;

(C) The approximate dimensions of major facility structures and visible features;

Response:

The Newberry Geothermal Project ("Newberry Project" or "Project") will consist of a geothermal fluid system ("GFS"), a Power Generation Facility ("PGF"), transmission line, and associated facilities typical of a geothermal power generation plant.

A. Description of the proposed energy facility including

i. Major components, structures and systems, including a description of the size, type and configuration of equipment used to generate electricity and useful thermal energy;

Overview

The GFS will include geothermal production wells, piping systems, steam separation equipment, geothermal fluid ponds, injection pumps, and injection wells. It will also include steam-processing equipment to clean the steam before it flows to the PGF.

The PGF will consist of up to four geothermal steam turbines, depending on the quantity and quality of geothermal resource discovered during the ongoing exploratory phase of Project development. Each turbine will produce approximately 35-45MW net.. Each of the turbines will be accompanied by a condenser, gas removal system, and heat rejection system. The PGF also includes a switchyard and power distribution center for auxiliary loads. Common facilities will include one or more buildings housing a control room, warehouse, maintenance area, and other ancillary facilities.

Geothermal fluid will be produced from geothermal production wells located on well pads located within a couple miles of a PGF. The fluid will flow through above-ground pipelines to a steam handling system. The steam handling system will separate steam from the geothermal fluid at two pressures, producing high pressure (HP) and low pressure (LP) steam for use in the turbines. The spent fluid will be then pumped through the injection pipelines to injection wells.

Noncondensible gases (NCG) from the direct-contact condenser will be extracted by a gas removal system and then piped to the cooling tower stacks.

The wells will be sited to optimize the use of the geothermal resource. Proper distance must be maintained between production areas to ensure the production wells receive adequate pressure support to maintain their productivity. Injection and production must be planned so that injection occurs at a level that supports production, without allowing premature breakthrough of the injected fluids into the production area, creating a short circuit and cooler production fluid.

Geothermal Fluid System

Production wells will be located near the plant, with aboveground production pipelines that run to the PGF. Wells are expected to be drilled to a depth of approximately 6,000—10,000 feet. Numerous factors will be considered in selecting well locations, including efficient utilization of the geothermal resource, minimizing interference between wells and environmental constraints. The production wells will be spatially separated from injection wells to optimize field development and reservoir management.

The geothermal fluid will flow to high-pressure separators, where the HP steam is extracted and routed to the turbine. The liquid from the HP separator then flows to the LP separator, where LP steam is extracted and sent to the LP admission of the turbine.

Steam separators and demisters will be incorporated in the separators or as separate vessels to remove impurities from the steam before it enters the turbines.

The liquid remaining in the LP separator will be collected and then pumped from the PGF to the remote injection well pads via aboveground pipelines.

Power Generation Facility

The turbine generator system will consist of four condensing turbine generator sets with steam entering at two pressures (HP and LP). Each turbine generator set will be nominally rated at 45 to 47.5 MW, depending on which turbine is purchased. Each turbine will be coupled to a generator. The turbine-generator unit will be fully equipped with all the necessary auxiliary systems for turbine control and speed protection, lubricating oil, gland sealing, generator excitation, and cooling.

The exhaust from each turbine will be condensed by a heat rejection system. Each heat rejection system will include a condenser, cooling water pumps, and a cooling tower. Gases that enter the condenser with the steam will accumulate in the condenser and will be evacuated by the NCG removal system. The NCG system will consist of a steam jet ejector, followed by a liquid ring vacuum pump. Steam for the ejectors will be supplied from the HP steam header. NCG from the vacuum pumps will be routed to the cooling tower for dispersion in the plumes.

Liquid from the condenser will be pumped to the cooling tower. The condensation of steam will offset water lost in evaporation. The plant auxiliary cooling water loads will include the NCG removal system, turbine oil cooling system, and generator cooling.

The plant will include auxiliary systems will be installed as is typical at power plants to support the safe, reliable, and efficient production of electric power.

ii. *Methods for waste management and waste disposal, including, to the extent known, the amount of wastewater the applicant anticipates, the applicant's plans for disposal of wastewater and storm water, and the location of disposal;*

Liquid Wastes

The primary discharge will consist of spent geothermal fluid from the LP separators and excess cooling water, which is concentrated steam condensate. The flows will be pumped into the injection wells to replenish the geothermal resource.

The sanitary drains will discharge to a septic tank or other acceptable disposal system. Rain and storm drainage will be collected in the drainage water detention pond, designed for heavy storm conditions. Water accumulation will be released to the surface drainage or pumped to injection wells.

Solid Wastes

Non-Hazardous Waste

The construction of the facility will generate various types of non-hazardous solid wastes, including debris and other materials requiring removal during site grading and excavation, excess concrete, lumber, scrap metal, and empty containers. Inert solid waste from construction activities may include lumber, excess concrete, metal, and glass scrap, and empty non-hazardous containers. Management of these wastes will be the responsibility of the construction contractor(s). Typical management practices required for non-hazardous waste management include recycling when possible, proper storage of waste and debris to prevent wind dispersion, and weekly pickup and disposal of wastes to local classified landfills. The total amount of solid waste to be generated by construction activities will be similar to that generated for normal commercial construction. Facility maintenance will include removal of scale from the walls of piping and geothermal fluid handling equipment, and the removal of sludge from the geothermal fluid ponds. All non-hazardous wastes will be recycled to the extent practical and the remainder removed by a certified waste handling contractor. Office waste and general refuse will be removed by a local sanitation service.

Hazardous Waste Management

Small quantities of hazardous wastes will be generated over the course of construction, including waste paint, spent solvents, and spent welding materials. All hazardous wastes generated during facility construction and operation will be handled and disposed of in accordance with applicable laws, ordinances, regulations, and standards. Any hazardous wastes generated during construction will be moved to the hazardous waste storage area located on site. The accumulated waste will subsequently be delivered to an authorized waste management facility. Hazardous wastes will be either recycled or disposed of in a licensed Class I disposal facility as appropriate.

Minimal hazardous wastes are expected from operations and maintenance. Some hazardous wastes will be recycled, including used oils from equipment maintenance and oil-contaminated materials such as spent oil filters, rags, or other cleanup materials. Used oil will be recycled, and oil or heavy metal contaminated materials (e.g., filters) requiring disposal will be disposed of in a Class I waste disposal facility. Scale from pipe and equipment cleaning operations, and solids from the geothermal fluid pond, will be disposed of in a similar manner.

iii. *For thermal power plants and electric generating facilities producing energy from wind, solar or geothermal energy;*

I. *A discussion of the source, quantity, availability, and energy content of all fuels (higher heating value) or the wind, solar or geothermal resource used to generate electricity or useful thermal energy. For the purpose of this sub-paragraph, "source" means the coal field, natural gas pipeline, petroleum distribution terminal or other direct source;*

The primary fuel used by the plant will be the geothermal fluid. The characteristics of the geothermal fluid are not known at this time, as exploratory drilling has yet to occur.

One or more small diesel generators will be installed for construction and to supply power to start the plant from a total shutdown. These will operated for minimal periods, such as when all of the units are out of service for maintenance.

II. *Methods for disposal of waste heat*

Waste heat from the plant is primarily derived from the condensation of steam. Other sources are mechanical and electrical friction losses in the equipment. All waste heat will be rejected to the ambient air via an evaporative cooling tower. The cooling tower will be typical of other mechanical-draft cooling towers that are in common use in the industry. It will be approximately 200 ft. long, 50 ft. wide and 50 ft. tall.

III. *Approximate nominal electric generating capacity*

The ultimate nominal electric generating capacity is expected to be approximately 127 MW, defined as the minimum net electric output at the site during hot summer days. This will be achieved by the sequential completion of up to three units, each having a gross electrical generating capacity of up to 47.5 MW or by the sequential completion of up to four units, each having a gross electrical generating capacity of up to 35 MW.

iv. *For transmission lines, approximate transmission line voltage, load carrying capacity and type of current;*

A new 230 kV transmission line is part of this Project, which will carry the electrical output of the plant approximately 12 miles to an existing BPA electrical substation (La Pine Substation) at a voltage of 230 kV. The transmission line will be supported on wood poles, approximately 75 feet high using H-frame construction similar to the BPA transmission line connecting the La Pine substation to the Pilot Butte substation. The applicant has executed transmission service agreements with Bonneville Power Administration ("BPA") for long-term transmission of the Project's power output to Pacific Gas & Electric Company ("PG&E"). The Applicant has a contract with PG&E for the sale of 120 MW of Newberry Project output for a period of 20 years beginning as early as 2010.

The applicant has also contracted with BPA to study, design and construct an interconnection between the Newberry Project's 230-kV transmission line and the BPA transmission system at the La Pine Substation. BPA's commitment to construct this interconnection is dependent on its completion of an environmental review pursuant to the National Environmental Policy Act. BPA has agreed to coordinate its environmental review with the Newberry Project review to be undertaken as part of proceedings before the Energy Facility Siting Council.

The BPA interconnection will provide the Newberry Project with 140 MW of interconnection capacity, slightly more than the amount of transmission capacity covered by the BPA transmission capacity. This was negotiated to provide the Project with a slight cushion of extra interconnection capacity.

Public access to BPA's transmission and interconnection studies is limited by BPA for reasons relating to the security of its critical infrastructure. Consistent with its obligations to BPA, the applicant is willing to make summaries of these BPA studies available. The applicant is also willing to make the studies themselves available for inspection under confidentiality restrictions acceptable to the Oregon Department of Energy and BPA.

v. *For pipelines, approximate operating pressure and delivery capacity in thousand cubic feet per day;*

Not applicable.

vi. *For surface facilities related to underground gas storage, estimated daily injection and withdrawal rates, horsepower compression required to operate at design injection or withdrawal rates, operating pressure range and fire/ type of compressors:*

Not applicable.

vii. *For facilities to store liquefied natural gas, the approximate volume, maximum pressure, liquefication and gasification capacity in thousand cubic feet per hour,*

Not applicable.

B. A description of major components, structures and systems of each related or supporting facility;

The Project will be comprised of the following components, structures, and systems:

Item	Description
Roads	Two-lane roads from the main highway to the PGFs with single-lane or two lane roads from the PGFs to the well pads.
Geothermal Fluid System	Piping systems transporting the geothermal fluid from production wells to the units, a separator vessel at each unit, injection pumps, and piping from the injection pumps to injection wells.
Transmission Line	An approximate 12-mile, overhead, 3-conductor, 230 kV line carrying power from the plant to the Lapine BPA substation. The transmission towers are planned to be wood structures.
Generating Units	Three to four units including turbine, generator, condenser, cooling water pumps, gas removal system, and other auxiliaries. Each unit will use a plan area of approximately 5 acres and be approximately 50 ft. tall.
Cooling Tower	Each unit will have a 3-5 cell cooling tower. The size of the cooling tower(s) will be approximately 200 ft long, 50 ft wide, and 50 ft tall.
Central Facilities	The central facilities will include buildings to contain the central control room, offices, maintenance shop, storage area, air compressors, fire water tank and equipment, water treatment, etc. These facilities will be those customary and necessary for the operation of a geothermal plant.

[“Related or supporting facilities” means any structure, proposed by the applicant, to be constructed or substantially modified in connection with the construction of an energy facility, including associated transmission lines, reservoirs, storage facilities, intake structures, road and rail access, pipelines, barge basins, office or public buildings, and commercial and industrial structures. “Related or supporting facilities” does not include geothermal or underground gas storage reservoirs, production, injection or monitoring wells or wellhead equipment or pumps.]

C. The approximate dimensions of major facility structures and visible features

Each power generating facility site will be approximately 5 acres in size.

Approximate dimensions are included in the descriptions in the prior Section B of this Exhibit B.

EXHIBIT C: PROJECT LOCATION

OAR 345-020-0011

> *(c)* ***Exhibit C****. A description of the location of the proposed energy facility site and the proposed site of each related or supporting facility, including the approximate land area of each and identification of the Oregon Building Code Seismic Zone designation;*

RESPONSE

The Project is located within the Bend-Fort Rock Ranger District of the Deschutes National Forest in Deschutes County, south of Bend, and encompasses portions of:

Township 21S, Ranges 11 and 12 East

Township 22S, Ranges 11 and 12 East

A map showing the Project location is attached as Figure C-1. The Project layout is still being determined and the exact layout will depend on results of the geothermal exploration phase. The total Project area under consideration is approximately 9,000 acres. Of this total area, less than 5 percent would actually be utilized as part of the Project.

The project area is located in Seismic Zone 2B.