

**EXHIBIT A**

**GENERAL INFORMATION ABOUT THE APPLICANT**

OAR 345-021-0010(1)(a)

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**A.1 NAME AND ADDRESS OF APPLICANT AND CONTACT PERSON**

**OAR 345-021-0010(1)(a)(A)** *The name and address of the applicant including all co-owners of the proposed facility, the name, mailing address and telephone number of the contact person for the application, and if there is a contact person other than applicant, the name, title, mailing address and telephone number of that person.*

Response: Portland General Electric Company (Applicant or PGE), an Oregon corporation, is submitting this Application for Site Certificate (ASC) for a nominal 900-megawatt (MW) natural gas–fueled energy facility and certain related and supporting facilities to be built near Boardman in Morrow County, Oregon.

Applicant’s name and address:

Portland General Electric Company  
121 SW Salmon Street  
3WTC-BR05  
Portland, OR 97204

Contact Person, address, and phone number:

Ray Hendricks  
Portland General Electric Company  
121 SW Salmon Street  
3WTC-BR05  
Portland, OR 97204  
503-464-8519  
Ray.Hendricks@pgn.com

**A.2 PARTICIPANT INFORMATION**

**OAR 345-021-0010(1)(a)(B)** *The contact name, address, and telephone number of all participating persons, other than individuals, including but not limited to any parent corporation of the applicant, persons upon whom the applicant will rely for third-party permits or approvals related to the facility, and, if known, other persons upon whom the applicant will rely in meeting any facility standard adopted by the Council.*

Response: No other participants are anticipated at this time, with the exception of potential third-party permits that would be obtained by the construction firm selected to build the facility. PGE anticipates that these third-party permits may include permits for obtaining aggregate and other construction materials, transporting materials to the site, and other building-related permits that are typically obtained immediately prior to construction activities, and PGE anticipates that these permits would meet the facility standards adopted by the Council.

### A.3 CORPORATE INFORMATION

**OAR 345-021-0010(1)(a)(C)** *If the applicant is a corporation, it shall give:*

- (i) *The full name, official designation, mailing address and telephone number of the officer responsible for submitting the application;*

Response:

Portland General Electric Company  
121 SW Salmon Street  
Portland, OR 97204

Responsible Officer:

Stephen Quennoz  
Vice President, Nuclear & Power Supply/Generation  
Portland General Electric  
121 SW Salmon Street  
1WTC1702  
Portland, OR 97204  
503-464-8928

- (ii) *The date and place of its incorporation;*

Response: PGE was incorporated on July 25, 1930, in the State of Oregon.

- (iii) *A copy of the articles of incorporation and its authorization for submitting the application; and*

Response: A copy of PGE's Articles of Incorporation is provided in Appendix A-1, and a letter of authorization is provided as Appendix A-2.

- (iv) *In the case of a corporation not incorporated in Oregon, the name and address of the resident attorney-in-fact in this state and proof of registration to do business in Oregon.*

Response: Not applicable.

### A.4 MISCELLANEOUS INFORMATION

**OAR 345-021-0010(1)(a)(D)** *If Applicant is a wholly owned subsidiary of a company, corporation, or other business entity, in addition to the information required by OAR 345-021-0010(1)(a)(C), it shall give the full name and business address of each of the applicant's full or partial owners.*

**OAR 345-021-0010(1)(a)(E)** *If Applicant is an association of citizens, a joint venture or a partnership, it shall give (i) the full name, official designation, mailing address, and telephone number of the person responsible for submitting the application; (ii) the name, business address and telephone number of each person participating in the association, joint venture or partnership and the percentage interest held by each; (iii) proof of registration to do business in Oregon; (iv) a copy of the articles of association, joint venture agreement or partnership agreement and a list of its members and their cities of residence; and (v) if there are no articles of association, joint venture agreement or partnership agreement, Applicant shall state that fact over the signature of each member.*

**OAR 345-021-0010(1)(a)(F)** *If Applicant is a public or governmental entity, it shall give (i) the full name, official designation, mailing address and telephone number of the person responsible for submitting the application; and (ii) written authorization from the entity's governing body to submit an application.*

**OAR 345-021-0010(1)(a)(G)** *If Applicant is an individual, the individual shall give his or her mailing address and telephone number.*

Response: None of the requirements listed under A.4 are applicable.



# **APPENDIX A-1**

## **PGE Articles of Incorporation**

The Articles of Incorporation are included in electronic format on the attached disc.





# **EXHIBIT B**

## **GENERAL INFORMATION ABOUT THE PROPOSED FACILITY**

OAR 345-021-0010(1)(b)

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## B.1 INTRODUCTION

**OAR 345-021-0010(1)(b)** *Information about the proposed facility, construction schedule and temporary disturbances of the site.*

Response: The Carty Generating Station would be a natural gas fueled combined-cycle generating plant producing up to 900 megawatts (MW) of electrical power. Portland General Electric Company (PGE) would construct the Carty Generating Station in two blocks; each block would consist of a combination of one or more high efficiency combustion turbine generator(s) (CTG[s]) and heat recovery steam generators(s) (HRSG[s]) and a steam turbine generator (STG).

Within this Application for Site Certificate (ASC), the term “Site” includes the proposed location of the energy facility and its related or supporting facilities; for the Carty Generating Station, the Site covers approximately 2,400 acres. “Site Boundary” is the perimeter of the approximately 2,400-acre Site. Within the approximately 2,400-acre Site there are three areas. The “Energy Facility Site” area refers to approximately 90 acres of the Site near Carty Reservoir that includes fenced areas that would enclose proposed buildings and structures, and fenced areas containing evaporation ponds. An approximately 15-acre fenced switchyard located west of the Energy Facility Site is also included in the acreage of the Energy Facility Site; this switchyard will be called the Grassland Switchyard. The “transmission line right-of-way (ROW)” includes an existing transmission line<sup>1</sup> and occupies approximately 1,400 acres extending westward to the existing Slatt substation, located approximately 18 miles west of the proposed Energy Facility Site. Of the approximately 910 acres remaining within the Site Boundary, land in the vicinity of the Energy Facility Site and the Grassland Switchyard would be used as temporary laydown, fill stockpiling, and staging areas; the remainder is included as a buffer to the Energy Facility Site. Figure B-1 provides an overview of the Site and Site Boundary. Figure B-2 presents the location of the Energy Facility Site, including laydown areas, approximate transmission line alignments, and approximate switchyard location. See Exhibit C for a description of the proposed facility location.

This exhibit includes a complete description of the proposed facility. Since the Carty Generating Station would be a natural gas fueled combined-cycle generating plant, Oregon Administrative Rule (OAR) 345-021-0010(1)(b)(A)(vii) and OAR 345-021-0010(1)(b)(A)(viii) are not applicable to this ASC and are omitted from this exhibit.

## B.2 SUMMARY

In each block, natural gas CTG(s) would produce electricity, with the exhaust gases from the CTG(s) supplying heat to the HRSG(s). Steam produced in the HRSG(s) would be used to

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<sup>1</sup> For the purposes of this application the term “transmission line” refers to any wire transmitting electricity.

power the STG to produce additional electricity. Duct burners fueled by natural gas in the HRSG(s) would allow for production of additional steam and additional electricity from the STG. Steam exhausted from the STG would be condensed in a water-cooled condenser, with the resultant condensate returned to the HRSG(s) to produce additional steam. Water used for cooling in the water-cooled condenser would be routed to a cooling tower where the water would be cooled before being pumped back through the condenser.

If required for starting the CTG(s) or to maintain the plant in a ready to start condition, a natural gas-fueled auxiliary boiler would be provided to supply steam when none is available from the HRSG(s).

Generator transformers would be constructed to step up the voltage produced by both blocks to 500 kilovolts (kV). Transmission lines would connect the generator transformers to the new 500-kV Grassland Switchyard. From the Grassland Switchyard, PGE would utilize the existing 500-kV Boardman to Slatt transmission line and construct a new 500-kV single circuit or double circuit transmission line for transmission of energy produced. Exhibit AA – Electric and Magnetic Fields provides additional detail regarding how energy would be transmitted via the existing and new transmission lines.

In each block, the CTG(s) and STG(s) would be located within a generation building to control noise during operation and to allow a controlled atmosphere for maintenance activities. A separate control and administrative building would provide space for plant controls and offices for plant personnel for both blocks. A separate water treatment building would provide a location for the equipment necessary to purify the raw water, producing de-mineralized water for use in the steam cycle of both blocks.

The Carty Generating Station would be located near the existing Boardman Plant and would be accessed from Interstate 84 and Tower Road. The Energy Facility Site is currently clear of any significant structures or vegetation; it would be leveled, with any topsoil stockpiled for reuse at the conclusion of construction. Elevation would be established to minimize any materials needed to be permanently stockpiled or brought in to support construction. It is anticipated that, except for structures with high overturning moments, spread footing and slab on grade foundations would be used to support the plant equipment and buildings.

Temporary office facilities, construction parking, and construction laydown areas would be established within the Site Boundary. Areas disturbed during construction would be seeded and returned to their native state after construction is complete; a Revegetation and Noxious Weed Control Plan is available in Exhibit P, Appendix P-4. Figure B-2 provides a general overview of the Energy Facility Site, including temporarily disturbed areas near the Energy Facility Site. Figure B-3 provides a general site plan, and Figure B-4 provides a detailed potential facility layout.

## **B.3 CARTY GENERATING STATION**

This section provides a complete description of the major components, structures, and systems of the proposed facility. Supporting or related facilities are described in section B.4.

### **B.3.1 Nominal and Average Electric Generating Capacity**

**OAR 345-021-0010(1)(b)(A)(i)** *The nominal electric generating capacity and the average electrical generating capacity, as defined in ORS 469.300.*

Response: Nominal electric generating capacity is defined in Oregon Revised Statutes (ORS) 469.300 as the maximum net electric power output of an energy facility based on the average temperature, barometric pressure, and relative humidity at the Site during times of the year when the facility is intended to operate. The nominal electric generating capacity of the Carty Generating Station would depend on the capabilities of the CTG(s) and STG(s) selected for the application but is expected to be up to 900 MW once both blocks are constructed.

Average electrical generating capacity is defined as the peak generating capacity of the facility divided by a factor determined by the type of facility. There are three categories of energy facilities; wind and solar facilities have a factor of 3.00, geothermal facilities have a factor of 1.11, and all other facilities have a factor of 1.00. Since the proposed facility utilizes natural gas, the factor applied to the peak generating capacity is 1.00, making the nominal and average electrical generating capacity the same. The average electrical generating capacity of the proposed Carty Generating Station would also depend upon the capabilities of the CTG(s) and STG(s) selected for the application but is expected to be up to 900 MW once both blocks are constructed.

### **B.3.2 Major Components, Structures, and Systems and Site Plan**

**OAR-345-021-0010(1)(b)(A)(ii)** *Major Components, structures and systems, including a description of the size, type and configuration of equipment used to generate electricity and useful thermal energy.*

Response: The Carty Generating Station would include two blocks of combined cycle power plant. Each block would have the following major components, structures, and systems.

#### **Combustion Turbines**

Each CTG would have an inlet air filter to ensure that combustion air does not contain any contaminants that could cause physical damage to the rotating parts of the CTG. The CTG(s) would have a single shaft containing a compressor section and a turbine section. The rotating shaft of the CTG(s) would be connected to a generator to produce electrical power at a 60-cycle alternating current (AC). The compressor section in the CTG(s) would compress the inlet air and supply compressed air to the combustion section of the CTG(s), where natural gas would be

supplied to provide combustion. The exhaust from the combustion section would pass through the turbine section, rotating the CTG rotor, which, in turn, would rotate the generator rotor, producing 60-cycle AC electrical power.

### **Heat Recovery Steam Generator**

Hot gases would exit the CTG(s) into three-pressure HRSG(s), where the available energy in the exhaust gas is used to produce high pressure (HP), intermediate pressure (IP), and low pressure (LP) steam before discharging the exhaust gas through exhaust stacks to the atmosphere. One HRSG would be provided for each CTG. Additional heat input into the HRSG(s) would be provided by duct burners that would burn natural gas. The additional heat would produce additional steam that could be used when the required plant electrical output exceeded what could be produced by the CTG(s) and the STG using only the steam from the CTG(s) exhaust.

### **Steam Turbine Generator**

In each block, steam produced in the HRSG(s) would be supplied to an STG, where the steam would be routed through the steam turbine to turn the steam turbine rotor. The steam turbine rotor would be connected to a generator, producing 60-cycle AC power. The HP steam flows into the HP section of the STG. Steam exhausted from the HP section would be routed back to the HRSG(s) for reheating and then combined with IP steam produced in the HRSG(s) before being injected into the IP section of the STG. Exhaust steam from the intermediate section of the STG would be combined with LP steam from the HRSG(s) and then injected into the LP section of the STG.

### **Condenser and Cooling Tower**

The exhaust from the LP section of the steam turbine would connect to a condenser that would cool the steam to a point where it would condense from steam to water. The condenser would operate at a vacuum to increase the efficiency of the LP section of the STG. Cooling for the condenser would be provided by circulating water, which would be cooled in a mechanical draft wet cooling tower. The condensate would then be returned to the HRSG(s), where it would again be heated to steam, and the process would then be repeated. Vacuum pumps would be provided to remove air from the condenser for the initial startup and to remove air entering the condenser during operation.

### **Auxiliary Boiler**

To support rapid startup of the plant, an auxiliary boiler would be provided to maintain some level of heat in the HRSG(s), provide cooling steam to the CTG(s), if required, and maintain seals on the STG so vacuum could be maintained in the condenser. Natural gas would be provided as the fuel source for the auxiliary boiler.

## **Transformers and Grassland Switchyard**

Electrical output from the CTG(s) and STG would be connected to generator step-up transformers to raise the voltage to 500 kV. The transformers would be connected by overhead line to the 500-kV Grassland Switchyard for transmission of the power generated to customers.

## **Buildings**

A generation building for each block would be provided to enclose the CTG(s), STG, and their auxiliaries. Separate smaller buildings would be provided for the boiler feed pumps, chemical feed equipment, and other similar equipment where protection from the elements or containment of noise produced by the equipment is required. Separate water treatment, administration, control, and warehouse buildings would contain equipment that is common to both blocks.

## **Fencing and Roads**

The plant would be accessed from Tower Road. A paved loop road approximately 24 feet wide would be provided for normal truck and operator vehicle traffic and would connect with Tower Road. The loop road would be approximately 2,500 feet in length; there would be spur roads off of the loop road to provide access to buildings and portions of the Energy Facility Site. Crushed stone and pavement would be located within the Energy Facility Site and in areas where regular maintenance activities with mobile cranes or forklifts are anticipated. A chain-link fence with three strands of barb wire would surround the Energy Facility Site. Fencing and roads would be common to both blocks.

To the greatest extent possible, access roads for the maintenance of the new transmission line would utilize existing roads currently used for maintenance of the existing transmission line. Exhibit J discusses sections of the existing access road that would be permanently rerouted to avoid wetlands. A small portion of the existing access roads extend outside the Site Boundary; in these areas roads would not be rerouted or modified in any way. PGE does not anticipate constructing any permanent gravel access roads along the transmission line route; however, temporary access roads will be necessary. Temporary access roads may utilize existing access roads to the extent possible; consist of an entirely new 19-mile temporary access road along the length of the transmission line; or a combination of the two. Within the ASC, impact areas have been calculated based on the maximum anticipated length of approximately 19 miles.

Temporary access roads will be dirt roads, unless significant winter construction occurs. If significant winter construction occurs, temporary gravel access roads would be constructed by placing a barrier (fabric) between existing grade and the gravel. PGE may also construct temporary access roads by laying mats for equipment to drive over. All temporary access roads would be removed and revegetated according to the Revegetation and Noxious Weed Control Plan (see Exhibit P, Appendix P-4).

## **Dimensions**

**OAR-345-021-0010(1)(b)(A)(iii)** *A site plan and general arrangement of buildings, equipment and structures.*

**OAR-345-021-0010(1)(b)(C)** *The approximate dimensions of major facility structures and visible features.*

Response: A general and detailed site plan; general arrangement of buildings, major components, structures, and systems; and a detailed layout of interconnecting pipelines are shown on Figures B-3, B-4, and B-5, respectively.

The Carty Generating Station would be located within a fenced enclosure consisting of approximately 90 acres. Visible features of the Carty Generating Station would include the generation buildings, CTG inlet air filters, outdoor HRSG(s), HRSG exhaust stack(s), mechanical draft cooling towers, a water treatment building and water tanks, a control and administration building, and generator transformers and auxiliary transformers. Up to four evaporation ponds, a total of approximately 58 acres, would be required depending on the method of disposal of wastewater (see Exhibits O and V).

Construction of both blocks, the switchyard, and evaporation ponds would require a total of approximately 40 acres of temporary construction facilities on land adjacent to the Carty Generating Station. Approximately 9 acres of the 40 acres of temporary disturbance would be associated with the evaporation ponds.

The CTG portion of the generation building would be a metal roof and metal wall steel building with a low bay roof over the generator at an elevation of approximately 45 feet above grade and a high bay over the turbine with a roof height of approximately 95 feet. The low bay area would have a depth of approximately 60 feet and the high bay a depth of approximately 70 feet. The length of the CTG portion of the building would depend on the CTG manufacturer, but each is expected to be between approximately 130 and 250 feet. The intake air filter for the combustion turbine(s) would be located on top of the CTG low bay roof, with the face of each inlet air filter being approximately 50 feet wide and 40 feet tall.

The STG portion of the generation building would be constructed of materials similar to the CTG portion of the building and would share a common wall with the CTG portion of the building. The length of the STG portion of the building would be turned 90 degrees with respect to the length of the CTG portion of the building. The STG portion of each building is expected to be approximately 120 feet long, 55 feet wide, and 95 feet high.

Each HRSG would be an outdoor metal structure occupying a footprint of approximately 150 by 40 feet. Three insulated drums would be located on top of each HRSG at an elevation of approximately 100 feet. Each HRSG would connect to the back of a CTG building, extending



lengthwise perpendicular to the length of the CTG building, and on the opposite side of the low bay roof over the generator. Each HRSG would connect to a steel exhaust stack approximately 200 feet tall.

Each mechanical draft cooling tower would include a concrete basin surrounding a water cooling medium contained within a paneled structure mounted on support legs within the concrete basin, with fans located on top of the paneled structure. Each fan would be located within an open top bell-shaped housing to exhaust air that has been pulled under and through the water-cooling medium. The cells of the cooling towers would be arranged either one or two wide, with the maximum number of cells not expected to exceed 12. Cooling tower dimensions are expected to be in the order of 400 by 65 feet or 300 by 120 feet, with the top of the paneled structure approximately 40 feet above grade and top of the fan exhaust bell housing approximately 50 feet above grade. The height of the paneled structure and fan exhaust bell housing would remain constant for the range of the cooling tower footprint dimensions.

The water treatment building and the control/administration building would be pre-engineered metal buildings with metal roofs and side wall panels. The water treatment building is expected to be approximately 200 feet long, 100 feet wide, and 35 feet tall. The control/administration building would be approximately 135 feet long, 100 feet wide, and 20 feet tall.

### **B.3.3 Fuel and Chemical Storage Facilities**

**OAR-345-021-0010(1)(b)(A)(iv)** *Fuel and chemical storage facilities, including structures and systems for spill containment.*

Response: Natural gas used as fuel for the Carty Generating Station would not be stored on site. Fuel is further discussed in section B.3.5. Chemicals used for various water treatment processes would be stored in permanent aboveground tanks, portable plastic tanks, or totes. Fuel used for vehicles would not be stored on site. Chemicals (anhydrous ammonia) used in emission control processes would be stored in steel horizontal sealed storage tanks with appropriate secondary containment. Miscellaneous chemicals and lubricants would be stored in a warehouse or other Carty Generating Station buildings. Compressed gases would be stored in rented tanker trailers specifically designed for the contained gas or in returnable cylinders secured to prevent falling. The chemicals anticipated to flow into and out of the Carty Generating Station are listed in Exhibit G, along with measures to prevent and contain spills.

### **B.3.4 Fire Prevention and Control**

**OAR-345-021-0010(1)(b)(A)(v)** *Equipment and systems for fire prevention and control.*

Response: A fire protection system would be provided and designed to meet the requirements of the Oregon Fire Code, as amended from time to time, the Uniform Fire Code in effect at the time of construction, and all other applicable fire protection standards in effect at the time of construction. The fire protection system would include a fire water system, a carbon dioxide

(CO<sub>2</sub>) extinguishing system provided with the CTG(s), portable fire extinguishers, and smoke detection system. A loop road system within the Energy Facility Site will connect to Tower Road. The road will be paved with asphalt, approximately 24 feet wide with approximately 52 foot turning radius.

The fire water system would include a fire water supply loop, fire hydrants, sprinkler systems, and hoses placed at appropriate locations. The Carty Generating Station would be connected to the existing Boardman Plant fire water system; therefore separate fire water storage and/or additional fire water pumps would not be required. The fire water system would provide for the maximum fire flow demand of the fixed fire protection system, expected to be approximately 2,000 gallons per minute (gpm) plus a hose stream of 500 gpm, for an expected capacity of approximately 2,500 gpm total. The reserved water storage required for two hours' fire flow is equal to 300,000 gallons. Actual fire flow requirements would be determined based on detailed design using the 2-hour fire flow criteria for dedicated fire water storage.

The normally unoccupied high temperature enclosures of the combustion turbine would be protected by a CO<sub>2</sub> system provided by the combustion turbine vendor. If a fire were to be detected, an alarm would sound alerting personnel prior to the discharge of CO<sub>2</sub>.

Portable fire extinguishers would be placed at key locations within the Carty Generating Station. The type and number of portable extinguishers would conform to code requirements.

Outdoor oil-filled generator step-up transformers and auxiliary transformers would be surrounded by fire rated walls as required to provide the necessary fire barriers between the transformers and between the transformers and other occupied or flammable structures.

### **B.3.5 Source, Quantity, and Availability of Fuel**

**OAR-345-021-0010(1)(b)(A)(vi)(I)** *A discussion of the source, quantity and availability of all fuels proposed to be used in the facility to generate electricity or useful thermal energy.*

Response: The CTG(s) and HRSG duct burner(s) would use natural gas as fuel. For an approximately 900-MW nominal generating plant, the total natural gas consumption of the facility is anticipated to be about 150 million standard cubic feet/day. The Carty Generating Station would be served by a lateral gas line that would carry natural gas from an existing pipeline operated by Gas Transmission Northwest Corporation (GTN), a TransCanada Company, to the Carty Generating Station. The existing pipeline carries sufficient capacity to supply the fuel required to operate the Carty Generating Station. The interconnecting lateral would tap the GTN pipeline approximately 15 to 25 miles south of the proposed Energy Facility Site. This interconnecting lateral would be approximately 16 to 20 inches in diameter.

The Carty Lateral would be owned, constructed, and operated by GTN, a wholly owned interstate pipeline subsidiary of TransCanada Corporation, as an integrated part of its existing

interstate pipeline system. GTN has informed PGE that “[c]onstruction and operation of interstate pipelines are subject to the jurisdiction of the Federal Energy Regulatory Commission pursuant to the Natural Gas Act of 1938. Section 1(c) of the Natural Gas Act provides an exemption from interstate regulation, known as the “Hinshaw Exemption” in certain instances where gas does not leave a state. However, the Hinshaw Exemption does not apply to a physically integrated local branch of an interstate pipeline company. *See, e.g., Louisiana Power & Light Company v. FPC*, 483 F. 2d 623 at 632-3 (5th Cir. 1973); *K N Wattenberg Transmission LLC*, 90 FERC ¶61,321 (2000); *reh’g denied*, 93 F.E.R.C. P61,041 (2000); *reh’g denied* 94 F.E.R.C. P61,189 (2001).”

Further, GTN has stated that “GTN would file an application with FERC to construct the Carty Lateral under Section 7 of the Natural Gas Act (15 U.S.C. 717, *et seq.*) and Section 157 of the Commission’s regulations (18 C.F.R. § 157, *et seq.*). GTN’s application for the Carty Lateral will also be subject to Part 380 of the FERC’s regulations, implementing the National Environmental Policy Act (18 C.F.R. Part 380).”

### **B.3.6 Process Flow**

**OAR-345-021-0010(1)(b)(A)(vi)(II)** *Process flow, including power cycle and steam cycle diagrams to describe the energy flows within the system.*

Response: Figure B-6 provides a power cycle and steam cycle diagram to describe the energy flows within the Carty Generating Station system.

### **B.3.7 Disposal of Waste Heat**

**OAR-345-021-0010(1)(b)(A)(vi)(III)** *Equipment and systems for disposal of waste heat.*

Response: In each block, a wet cooling tower would be used to dispose of waste heat. The wet cooling tower would provide the necessary cooling water for the condenser where steam exhausted from the STG would be cooled and condensed to condensate. Waste heat would be removed in the cooling tower by the process of evaporation. A circulating water system would transfer cold water from each cooling tower basin to its corresponding condenser and closed cooling water heat exchangers, returning the heated water back to the cooling tower for cooling. Makeup water to the cooling towers would be obtained from plant wastewater streams and from Carty Reservoir.

Blowdown from the cooling towers would be sent back to Carty Reservoir and/or to evaporation ponds. Exhibits O and V discuss water uses and wastewater disposal, respectively.

### **B.3.8 Fuel Chargeable to Power Heat Rate**

**OAR-345-021-0010(1)(b)(A)(vi)(IV)** *The fuel chargeable to power heat rate.*

Response: The Carty Generating Station would not be a co-generation facility; therefore, all of the fuel used is chargeable to the heat rate. For the purposes of this exhibit, the fuel chargeable to power heat rate has been calculated as the net heat of electric power production using the following formula:

$$FCP = (FI - FD) \times (10^6 / P)$$

Where:

- FCP = Fuel chargeable to power heat rate,
- FI = Expected fuel input to the facility (Btu/hr) (HHV)
- FD = Average fuel displaced by co-generation (Btu/hr) (HHV)
- P = Net output of the facility in kW

Calculation:

- FI = 5,950 MBTU/hr
- FD = 0
- P = 861,000 kW
- FCP = 6,910 BTU/kWh (HHV)**

The calculated FCP is approximate and will depend on the actual CTG(s), HRSG(s), and STG(s) selected, along with the amount of HRSG duct firing being used.

#### **B.4 RELATED AND SUPPORTING FACILITIES MAJOR COMPONENTS, STRUCTURES, AND SYSTEMS**

**OAR 345-021-0010(1)(b)(B)** *A description of major components, structures and systems of each related or supporting facility.*

Response:

##### **Co-Ownership of Related and Supporting Facilities**

Under the Agreement for Construction, Ownership, and Operation of the Number One Boardman Station on Carty Reservoir dated as of October 15, 1976, between PGE, Idaho Power Company, and Pacific Northwest Generating Company, PGE has the right to construct and operate on Carty Reservoir additional generating units and to utilize facilities of the Boardman plant that may be used in common with the new generating units, including, but not limited to, the reservoir, pumping facilities, pipelines from the Columbia river, roads, railroad spurs, docks, parking lots, fencing and transmission facilities.<sup>2</sup> A copy of said agreement is included as Appendix B-1 to the ASC.

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<sup>2</sup> See Section 19 of the Agreement for Construction, Ownership and Operation of the Number One Boardman Station on Carty Reservoir dated as of October 15, 1976.

## **Grassland Switchyard**

A 500-kV, AC, open-air switchyard, called the Grassland Switchyard, would be located west of the Carty Generating Station. The Grassland Switchyard would be a leveled and graveled area approximately 750 by 775 feet (approximately 15 acres), surrounded by a security fence. The switchyard would include 500-kV circuit breakers and disconnect switches to allow for clearing faults on the connected transmission lines and for maintenance of the circuit breakers and transmission lines. The breakers would be arranged for ultimate connection in a breaker and one half configuration. Steel take-off towers would be provided for termination of 500-kV overhead transmission lines that would connect the Grassland Switchyard with the plant generator step-up transformers and outgoing transmission lines. A small building would be included to provide a controlled environment for the protective relaying and communication equipment. Temporary disturbances associated with construction of the Grassland Switchyard are expected to be approximately 6 acres located in the vicinity of the switchyard. The existing 500-kV Boardman to Slatt transmission line would be routed through the Grassland Switchyard via a new transmission lead from the Boardman Plant to the new switchyard.

## **Transmission Line**

Transmission lines would be constructed from the Carty Generating Station step-up transformers to the new Grassland Switchyard, and an individual transmission line would be built for each block. The transmission lines leading from the Carty Generating Station to the Grassland Switchyard would be approximately 0.75 miles in length and would require approximately four transmission line towers for each line (a total of eight towers for both blocks). Approximately one acre of land would be temporarily disturbed at the base of each tower during construction; and up to one mile of a 20-foot wide temporary access road would be constructed. The towers would be lattice-type steel towers approximately 100 to 150 feet tall and spaced approximately 1,000 feet apart.

From the Grassland Switchyard, PGE would utilize the existing 500-kV Boardman to Slatt transmission line and construct a new 500-kV single circuit or double circuit transmission line for transmission of energy produced. Temporary disturbances resulting from the use of the existing transmission line would be associated with connecting the new Grassland Switchyard to the existing transmission line. Construction of the new line would include the disturbances associated with construction of new towers, construction of a new approximately 18-mile temporary access road, and stringing of the new lines. Details regarding the temporary disturbances associated with the new transmission lines and using the existing transmission line are provided in Exhibit C. If the Boardman Plant is decommissioned, the transmission line lead from the Boardman Plant to the Grassland Switchyard would be removed and the remaining transmission lines would remain operational as part of the Carty Generating Station.

## **Interconnecting Water Pipelines**

Multiple water pipelines associated with the Carty Generating Station would be connected to the existing Boardman Plant facilities (shared facilities). Shared facilities with pipelines essential to the Carty Generating Station include the intake structure for raw service water, wastewater discharge structure for discharge to Carty Reservoir, the potable water system, the sanitary sewer, fire water supply, and the demineralized water supply. The pipes would be installed either below or above grade, with trenches under road and railroad crossings.

Areas where these interconnecting pipelines may be installed are located in places that have already been disturbed by the existing Boardman Plant or would be disturbed during the construction of the Carty Generating Station. Utility interconnects, shown on Figure B-5, include the specific proposed locations of the service water supply pipeline and existing intake structure, wastewater, the potable water system, the sanitary sewer, fire water, and a below-grade electrical raceway. Demineralized water would be transported from the Boardman Facility to the Carty Generating Station through a pipeline located in the same utility interconnect corridor as the other interconnections. Each of these interconnects are shown in relationship to the Site Boundary and the Boardman Plant site boundary. The interconnections are considered related and supporting facilities for the Carty Generating Station; however, since they connect to existing Boardman Plant facilities, which will be shared by the two plants, a portion of the interconnections lies within the Site Boundary, and a portion of them lies within the site boundary for the Boardman Plant. Shared facilities are operated under the Boardman Site Certificate.

From Carty Reservoir, water passes into the existing intake structure through two separate water systems to the Boardman Plant: a circulating water system and a service water system. The existing systems are described below, followed by a description of how the Carty Generating Station would be integrated into the existing structures.

The existing Circulating Water System is a 180,000-gpm withdrawal, half of which is taken from each of two bays. Each bay is protected from floating debris by a bar grate and a traveling water screen. A 90,000-gpm submersible pump is suspended in each bay. Circulating water is delivered to the Boardman plant condenser through a 96-inch pipe and returned to the reservoir discharge channel through another 96-inch pipe after removing the heat from the turbine exhausts.

The existing Service Water System is a 14,000-gpm withdrawal with an electric fire water pump and three service water pumps supplied from a 48-inch header protected from floating debris by a bar grate and traveling screen. The three service water pumps are each capable of 7,000 gpm, so two are run at a time. The service water pumps discharge through a 75-micron screen to protect the downstream heat exchangers. The service water is delivered to the Boardman plant

through 36-inch pipes. The return pipe discharges to the same discharge channel as the circulating water.

The same 48-inch intake pipe that supplies the Boardman Plant service water was terminated with a flange end just outside of the intake structure building to allow for future expansion. There is no isolation on the 48-inch pipe, so it would have to be plugged at the bar grate to remove the flange to extend the pipe. Service water for the Carty Generating Station would be connected at this point and the required pumping system constructed as an addition to the intake structure. There would be no need to modify the in-water portion of the intake structure; however, there would be changes to the equipment layout within the existing building, and a new enclosure would be attached to the existing building. The existing heating, ventilating, and air conditioning (HVAC) system would be moved a few feet southwest from its existing location to make room for the new Carty Generating Station enclosure and equipment; the new enclosure would be supplied by the existing HVAC system by leaving the shared wall open. A new monorail system for extracting pumps for maintenance would also be installed. From this point, the service water would be directed through a 14-or 16-inch PVC pressure pipe for approximately 5,000 feet along the proposed utility corridor to the Carty Generating Station.

If the Boardman Plant is decommissioned, the Site Boundary of the Carty Generating Station maybe amended to incorporate the areas occupied by the essential shared facilities: intake structure, discharge structure, demineralized water supply and fire water supply, and the sanitary sewer; unless another generating facility retaining the shared facilities and subject to EFSC jurisdiction is located at the Boardman plant site. The potable water supply is currently located entirely within the Site Boundary; therefore, modification of the Site Boundary would not be necessary for the potable water connection. The sanitary sewer is currently located to the east of the Site Boundary. The Site Boundary would need to be extended to the east by a minimum of 550 feet at the southern end and 950 feet at the northern end to incorporate the sanitary sewer ponds. The intake structure is located approximately 625 feet to the southeast of the Site Boundary, and the discharge structure is located approximately 850 feet to the southeast.

## **Carty Reservoir**

Carty Reservoir is a wastewater and cooling pond for the Boardman Plant and would be a shared facility. Carty Reservoir would provide service water to the Carty Generating Station and would potentially receive cooling tower blow down and wastewater from the wastewater collection sump. The reservoir also stores water used to irrigate nearby agricultural fields. Because the area is arid, all the water for filling and maintaining the reservoir is pumped through pipes from the Columbia River, approximately 10 miles to the north. When full, at a surface elevation of 677 feet above mean sea level (MSL), the reservoir has a capacity of 38,000 acre-feet (12 billion gallons), a surface area of approximately 1450 acres (2.3 square miles), and a maximum depth of 77 feet. The average pool elevation for the reservoir since 1990 has been

approximately 667 to 668 feet above MSL. At this elevation, the reservoir surface area is approximately 1,100 acres and contains approximately 26,000 acre feet of water (8.5 billion gallons). The reservoir is not used for recreation, and there is no public access to it.

PGE constructed Carty Reservoir beginning in 1976 and completed construction by November 1977. Water was first pumped into the reservoir in January 1978, and the reservoir was filled by early 1980. The reservoir is in Six Mile Canyon, which slopes downward from the reservoir to the Columbia River. In the vicinity of the reservoir, the canyon is dry and has no natural surface water. The reservoir was constructed by excavating earth and rock from the floor of the canyon to form two dams that now lie across the canyon at the northwestern and northeastern edges of the reservoir (known as the West and Saddle Dams, respectively).

Water leaves Carty Reservoir only through withdrawals for use at the Boardman Plant or on nearby agricultural fields; through evaporation from the surface of the reservoir; and through underground seepage from the reservoir. There is no surface discharge or seepage from the reservoir to Six Mile Canyon. Seepage at the West Dam is captured in a buried toe drain and pumped back into the reservoir, and, there is a concrete emergency spillway adjacent to the West Dam.

Carty Reservoir is currently within the Site Boundary of the Boardman plant; if the Boardman Plant is decommissioned, the Site Boundary of the Carty Generating Station would be amended to incorporate Carty Reservoir and all associated pumping facilities and seepage collection systems, unless another generating facility retaining the Carty Reservoir and subject to EFSC jurisdiction is located at the Boardman plant site. The reservoir would continue to operate under the Carty Generating Station Site Certificate.

Additional information regarding Carty Reservoir is available in Exhibit V.

### **Utility Lines**

A below-grade electrical raceway would connect the new plant to the existing Boardman Plant. Figure B-5 contains details regarding the location of the raceway. The raceway would contain communication cables to connect the plant phone and data highway systems into the existing Boardman Plant communication and data highway systems. In addition, electric power cables may be installed to allow for transmission of auxiliary power from the existing Boardman Plant to the Carty Generating Station in emergency operating conditions. Utility lines would be installed in areas already disturbed by the existing Boardman Plant or areas that would be within the Energy Facility Site. If the Boardman Plant is decommissioned, the facilities associated with phone and data highway systems would remain and the Carty Generating Station Site Certificate would be amended to incorporate those facilities, unless another generating facility retaining the utility lines and subject to EFSC jurisdiction is located at the Boardman plant site.



## Evaporation Ponds

Lined evaporation ponds may be constructed to receive process wastewater from the Carty Generating Station if all the wastewater is not discharged to Carty Reservoir. Processes that may discharge to evaporation ponds include CTG water wash wastes, cooling tower blowdown, wastewater from the neutralization tank for water demineralization, wastewater from multimedia filtration, plant equipment and drains (after passing through an oil/water separator), and evaporative cooling blowdown. Wastewater disposal options are discussed in more detail in Exhibits O and V.

The evaporation ponds proposed in this ASC were sized to hold 390 acre-feet per year. Each pond has a unique shape to fit the constraints of the construction site, but in general the ponds are 10 to 15 acres in size and 8 feet deep, with a water-side side slope of 3:1. When sizing the evaporation ponds, an evaporation rate of 48 inches per year was used. The actual size and/or number of evaporation ponds constructed will depend on the amount of wastewater that is ultimately determined will be released to Carty Reservoir. To construct all four of the proposed evaporation ponds, approximately 67 acres will be disturbed and 58 acres will be permanently disturbed. A permanently disturbed area of 58 acres would result in approximately 50 acres of evaporative surface area. Evaporation ponds are discussed further in Exhibit V.

## Roads

The Carty Generating Station loop roads would be paved and would connect to the existing Tower Road. The loop road would be approximately 24 feet wide and approximately 2,500 feet in length; it would have spur roads leading to individual buildings and areas of the Site that require additional access.

## Temporary Construction Facilities

Additional areas in the vicinity of the Energy Facility Site would be provided for construction offices, construction parking, construction laydown, and temporary storage of soil displaced during the construction process. Similar temporary construction areas would be provided in the vicinity of the Grassland Switchyard. Temporary disturbances are described in Exhibit C.

## B.5 CORRIDOR SELECTION ASSESSMENT

**OAR 345-021-0010(1)(b)(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, a corridor selection assessment explaining how applicant selected the corridor(s) for analysis in the application. In the assessment, applicant shall evaluate the corridor adjustments the Department has described in the project order, if any. The applicant may select any corridor for analysis in the application and may*

*select more than one corridor. However, if applicant selects a new corridor, then applicant must explain why the applicant did not present the new corridor for comment at an informational meeting under OAR 345-015-0130. In the assessment, the applicant shall discuss the reasons for selecting the corridor(s).*

Response: Not Applicable. Under ORS 469.300(11) the transmission line itself does not constitute an energy facility, as it is proposed to be constructed entirely within 500 feet of an existing corridor occupied by a high voltage transmission line with a capacity of 230,000 volts or more (the existing line is 500 kV). Therefore, a corridor selection assessment is not required.

By placing the new lines mostly within the existing corridor, PGE anticipates that any impacts from construction would be minimized, as most of the land required for the transmission line would be located within existing ROWs. This is consistent with recommendations by resource management agencies, including the Oregon Department of Fish and Wildlife, to utilize existing corridors to the extent possible to minimize impacts.

## **B.6 TRANSMISSION LINE AND PIPELINE**

**OAR 345-021-0010(1)(b)(E)** *For any pipeline or transmission line, regardless of size:*

- (i) The length of the pipeline or transmission line.*
- (ii) The proposed right-of-way width of the pipeline or transmission line, including to what extent new right-of-way will be required or existing right-of-way will be widened.*
- (iii) If the proposed corridor follows or includes public right-of-way, a description of where the facility would be located within the public right-of-way, to the extent known. If the applicant proposes to locate all or part of a pipeline or transmission line adjacent to but not within the public right-of-way, describe the reasons for locating the facility outside the public right-of-way. The applicant must include a set of clear and objective criteria and a description of the type of evidence that would support locating the facility outside the public right-of-way, based on those criteria.*
- (iv) For pipelines, the operating pressure and delivery capacity in thousand cubic feet per day and the diameter and location, above or below ground, of each pipeline*
- (v) For transmission lines, the rated voltage, load carrying capacity, and type of current and a description of transmission line structures and their dimensions.*

Response: PGE would utilize the existing 500-kV Boardman to Slatt transmission line and construct a new 500-kV single circuit or double circuit transmission line for transmission of

energy produced. The proposed natural gas pipeline lateral is not included within the scope of this ASC. The gas pipeline lateral is subject to FERC jurisdiction and will be permitted as a separate project by FERC. As discussed in Section B.3.5, the Carty Lateral would be owned, constructed, and operated by GTN as an integrated part of its existing interstate pipeline system. GTN has informed PGE that “[c]onstruction and operation of interstate pipelines are subject to the jurisdiction of the Federal Energy Regulatory Commission pursuant to the Natural Gas Act of 1938. Section 1(c) of the Natural Gas Act provides an exemption from interstate regulation, known as the “Hinshaw Exemption” in certain instances where gas does not leave a state. However, the Hinshaw Exemption does not apply to a physically integrated local branch of an interstate pipeline company. *See, e.g., Louisiana Power & Light Company v. FPC*, 483 F. 2d 623 at 632-3 (5th Cir. 1973); *K N Wattenberg Transmission LLC*, 90 FERC ¶61,321 (2000); *reh’g denied*, 93 F.E.R.C. P61,041 (2000); *reh’g denied* 94 F.E.R.C. P61,189 (2001).”

Further, GTN has stated that “GTN would file an application with FERC to construct the Carty Lateral under Section 7 of the Natural Gas Act (15 U.S.C. 717, *et seq.*) and Section 157 of the Commission’s regulations (18 C.F.R. § 157, *et seq.*). GTN’s application for the Carty Lateral will also be subject to Part 380 of the FERC’s regulations, implementing the National Environmental Policy Act (18 C.F.R. Part 380).”

The transmission line ROW is approximately 18 miles long. Starting at the easternmost end of the existing transmission line, the existing ROW is approximately 125 feet wide for the first 2 miles; it then increases to 700 feet for the next 15 miles before decreasing to 525 feet for the last mile prior to entering the Slatt substation. PGE anticipates that the ROW at the easternmost end would be widened prior to construction of the new transmission line; the ROW at the western end may stay at 525 feet or may be expanded to 700 feet. The transmission line includes public ROW only where it crosses Highway 74.

Transmission line towers of the existing Boardman to Slatt transmission line are, on average, 100 to 150 feet tall and spaced approximately 1,000 feet apart. The new transmission line towers would be spaced at intervals similar to the spacing of the existing transmission line towers.

## **B.7 CONSTRUCTION SCHEDULE**

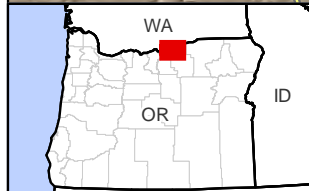
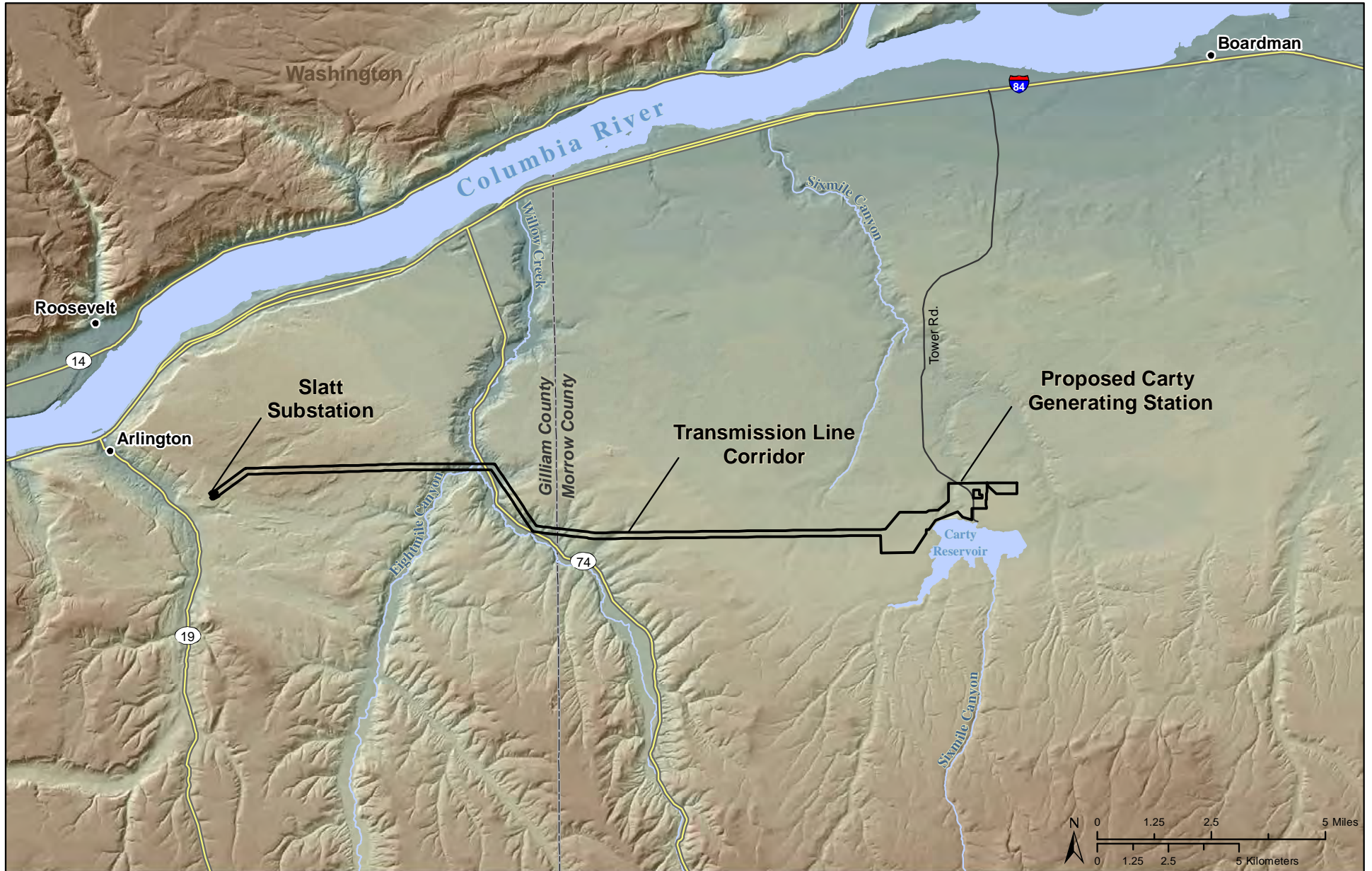
**OAR 345-021-0010(1)(b)(F)** *A construction schedule including the date by which the applicant proposes to begin construction and the date by which the applicant proposes to complete construction. Construction is defined in OAR 345-001-0010. The applicant shall describe in this exhibit all work on the site that the applicant intends to begin before the Council issues a site certificate. The applicant shall include an estimate of the cost of that work. For the purpose of this exhibit, “work on the site” means any work within a site or corridor, other than surveying, exploration or other activities to define or characterize the site or corridor, that the applicant anticipates or has performed as of the time of submitting the application.*





Response: Construction of Block 1 is expected to take place between 2013 and 2015. The start date for construction for Block 2 has not been established, but is expected to lag behind construction of Block 1 by at least six months. No construction activities related to the proposed Carty Generating Station are expected prior to 2012.

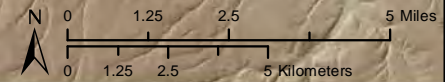
PGE anticipates that it will issue a notice to proceed with construction of Block 1 to its contractor in the second quarter of 2013, with operations starting in the first quarter of 2016. PGE's notice to proceed for Block 2 is expected in the third quarter of 2016, with operations starting in the second quarter of 2019.

Some factors that may affect the construction schedule of Block 2 are PGE's portfolio requirements, availability and cost of equipment, construction materials and labor, and accessibility of capital.

While the period from receipt of permits to construction to commercial operation is expected to be approximately 32 months, the timeframe for significant construction-related impacts (such as traffic and public service demands from surrounding communities) is not expected to exceed 27 months. The first few months of the total construction schedule would involve site preparation and planning and mobilization efforts that would not require a significant work force and are not expected to have any significant impact on traffic or other public services. The final few months involve running the completed plant to demonstrate its ability to perform reliably and in accordance with the performance guarantees and would also not require a significant work force and are not expected to have any significant impact on traffic or other public services.



-  Site Boundary
-  City
-  County Boundary
-  Major Road



**Figure B-1**  
**Project Overview**  
**PGE Carty Generating Station**  
**Morrow & Gilliam County, Oregon**  
**Application for Site Certificate**







- |                                |                                   |  |                                    |
|--------------------------------|-----------------------------------|--|------------------------------------|
| Proposed Energy Facility Site  | <b>Transmission Lines</b>         | Existing Boardman to Slatt Substation 500kV Centerline | Site Boundary                      |
| Temporary Construction Areas   | Proposed Line to Slatt Substation | Proposed Line(s) to Grassland Switchyard               | Existing Boardman Evaporation Pond |
| Proposed Grassland Switchyard  | Sewer Line                        | Proposed Grassland Switchyard to Existing Slatt Line   | Tower Road                         |
| Utility Interconnect Corridor* |                                   |  |                                    |

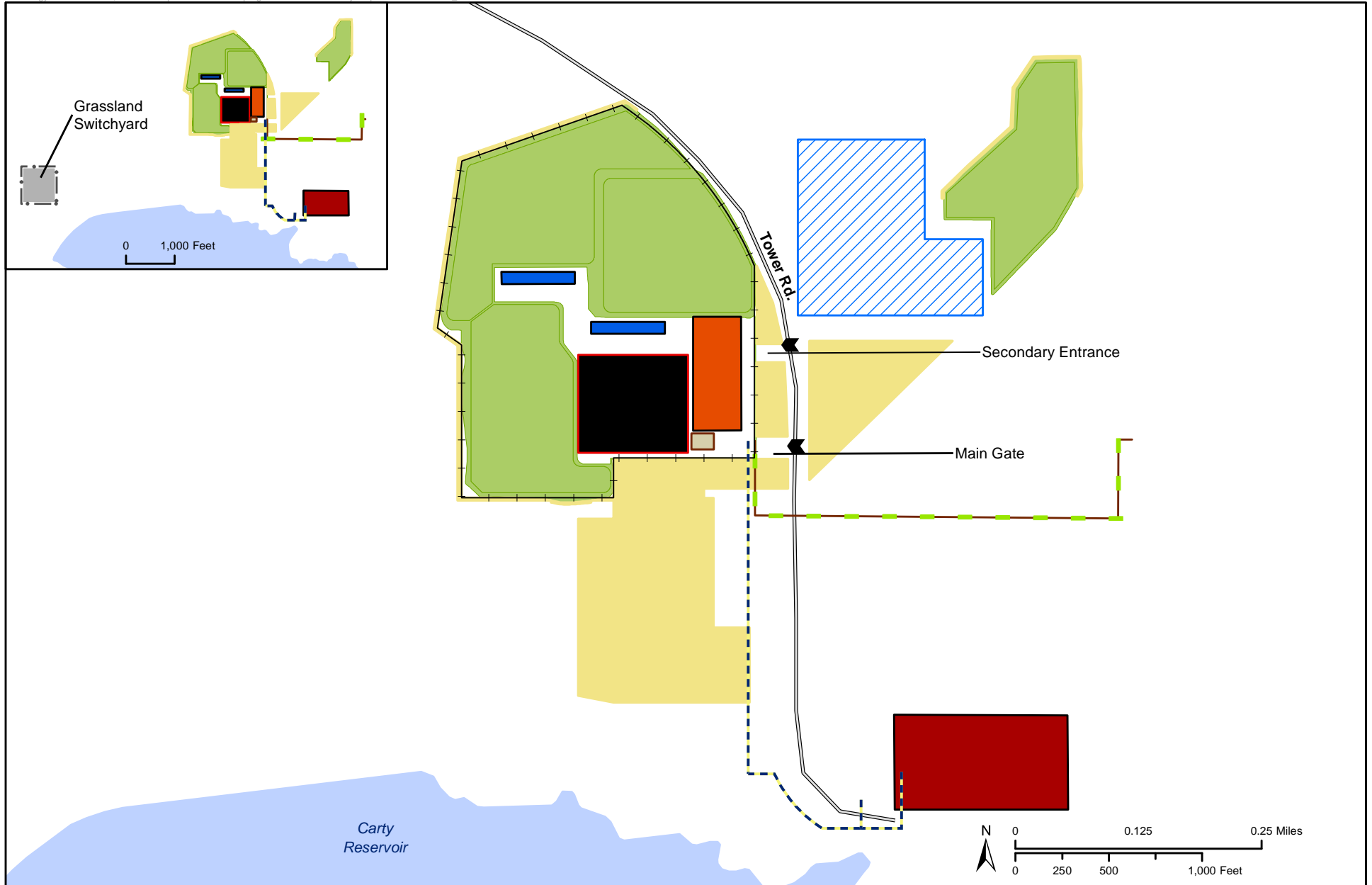
**Figure B-2**  
**Energy Facility Site**  
**PGE Carty Generating Station**  
**Application for Site Certificate**

\* See Figure B-5 for details of the utility corridors.









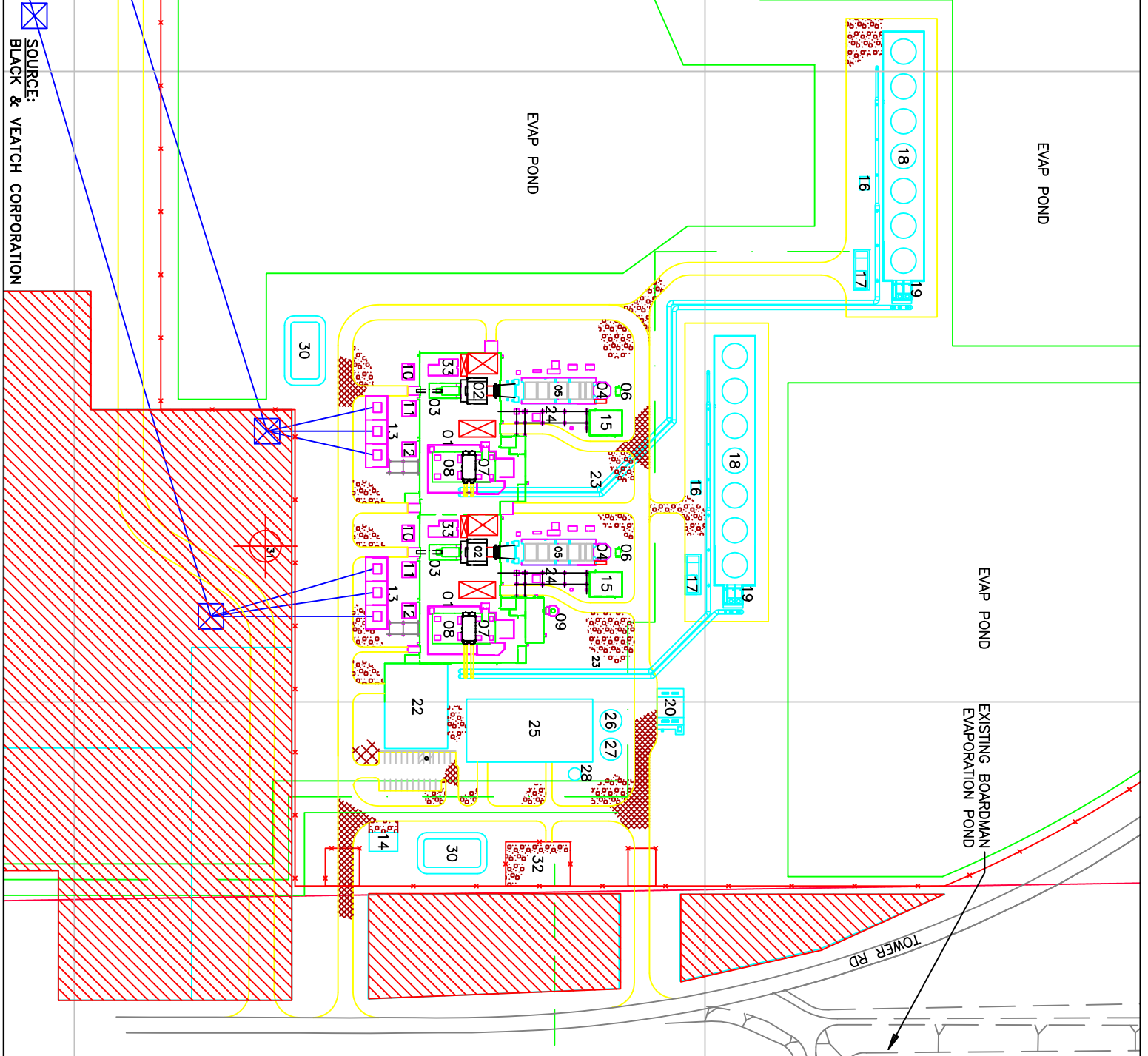
- |                             |                  |                                    |                               |
|-----------------------------|------------------|------------------------------------|-------------------------------|
| Plant                       | Evaporation Pond | Boardman Plant                     | Energy Facility Fence         |
| Temporary Construction Area | Cooling Tower    | Grassland Switchyard               | Utility Interconnect Corridor |
| Support Facilities          | Parking          | Existing Boardman Evaporation Pond | Sewer Line                    |
|                             |                  | Entrance Locations                 | Tower Road                    |

Note: Locations are approximate.

**Figure B-3**  
**Carty Generating Station Site Plan**  
**PGE Carty Generating Station**  
**Application for Site Certificate**







SOURCE:  
BLACK & VEATCH CORPORATION

EVAP POND

EVAP POND




EXISTING BOARDMAN  
EVAPORATION POND

TOWER RD


FACILITIES LEGEND

ID	FACILITY
01	GENERATION BUILDING
02	COMBUSTION TURBINE
03	COMBUSTION TURBINE GENERATOR
04	HEAT RECOVERY STEAM GENERATOR STACK
05	HEAT RECOVERY STEAM GENERATOR
06	CONTINUOUS EMISSION MONITOR ENCLOSURE
07	STEAM TURBINE
08	STEAM TURBINE GENERATOR
09	AUX BOILER STACK
10	CT SFC TRANSFORMER
11	AUXILIARY TRANSFORMER
12	STANDBY TRANSFORMER
13	GENERATOR STEP-UP TRANSFORMER
14	SPARE GENERATOR STEP-UP TRANSFORMER
15	BOILER FEED PUMP BUILDING
16	COOLING TOWER ELECTRICAL FEED BUILDING
17	CIRCULATING WATER CHEMICAL FEED BUILDING
18	COOLING TOWER
19	CIRCULATING WATER PUMPS
20	AMPHIBIOUS AMMONIA TANKS AND CONTAINMENT
21	OIL/WATER SEPARATOR (BURIED)
22	ADMIN & CONTROL BUILDING
23	CIRCULATING WATER LINES (BURIED)
24	UTILITY PACK
25	WATER/WASTEWATER TREATMENT BUILDING
26	SERVICE WATER STORAGE TANK
27	DEMINERALIZED WATER STORAGE TANK
28	NEUTRALIZATION TANK
29	EVAPORATION POND
30	STORMWATER RUNOFF POND
31	EXISTING BOILING WELL
32	NATURAL GAS METERING / REGULATION STATION
33	CT LUBE OIL AREA

LEGEND

 GRAVEL  
 TEMPORARY CONSTRUCTION AREA  
 PAVED

APPROXIMATE SCALE IN FEET

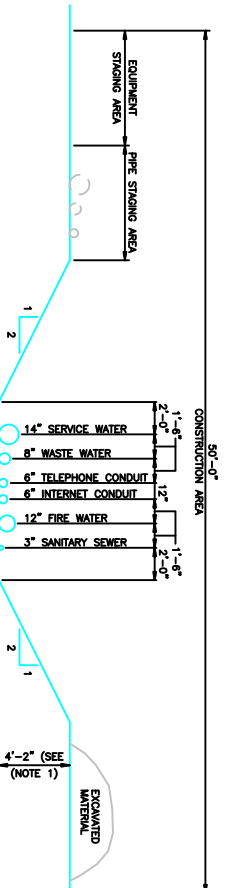
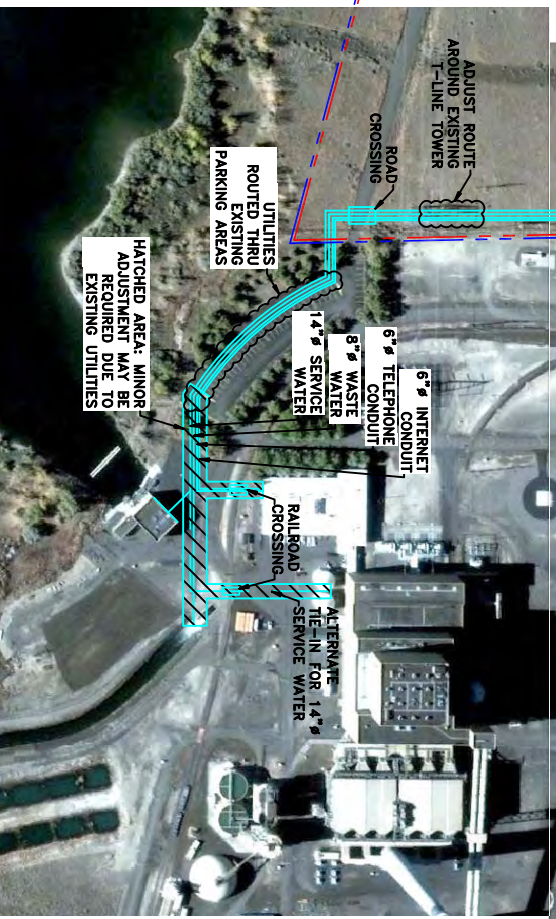


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 Portland, Oregon  
 Global Environmental Specialists

FIGURE B-4  
 DETAILED FACILITY LAYOUT  
 CARY GENERATING STATION  
 MORROW COUNTY, OREGON

JOB#: 002784.PG05.01 Date: JANUARY 2011  
 File Name: 2784PG05D.DWG P.L.: E. WHITE





**NOTES:**  
 1. ASSUME MINIMUM 3'-0" SOIL COVER.

**LEGEND**

- - - GARTY SITE BOUNDARY
- - - BOARDMAN SITE BOUNDARY

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 Portland, Oregon  
 International Specialists in the Environment

FIGURE B-5  
 UTILITY INTERCONNECTS  
 PGE GARTY GENERATING STATION  
 APPLICATION FOR SITE CERTIFICATE  
 REVISION 1 MAY 2010

JOB#: 002784.PG05.01 Date: JANUARY 2011  
 File Name: 2784PG05.DWG P.M.: E. WHITE



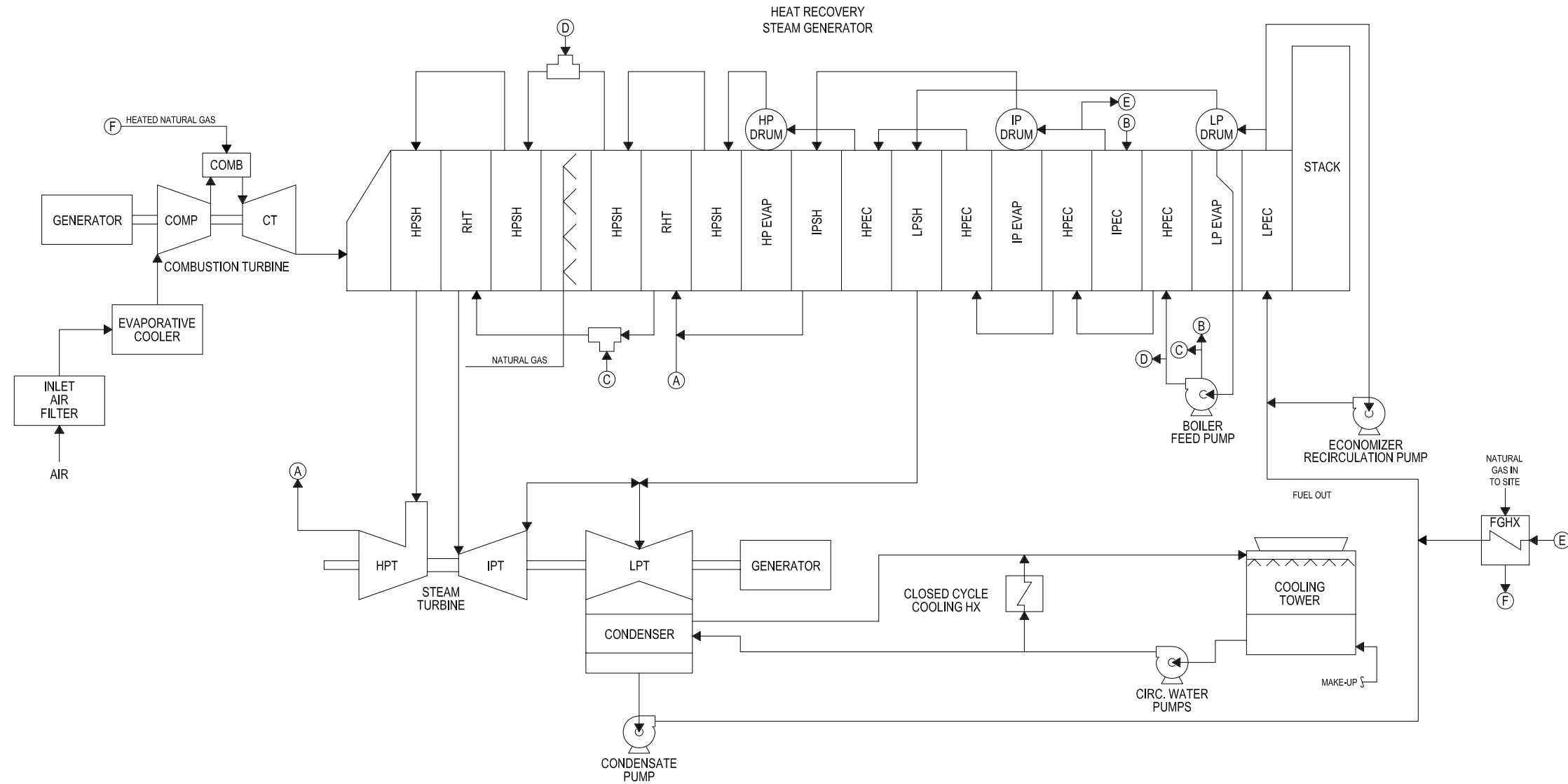
SOURCE:  
 BLACK & VEATCH CORPORATION



**LEGEND:**

- HP EC - HIGH PRESSURE ECONOMIZER
- HP EVAP - HIGH PRESSURE EVAPORATOR
- HP SH - HIGH PRESSURE SUPERHEATER
- HPT - HIGH PRESSURE TURBINE
- IP EC - INTERMEDIATE PRESSURE ECONOMIZER
- IP EVAP - INTERMEDIATE PRESSURE EVAPORATOR
- IP SH - INTERMEDIATE PRESSURE SUPERHEATER
- IPT - INTERMEDIATE PRESSURE TURBINE
- LP EC - LOW PRESSURE ECONOMIZER
- LP EVAP - LOW PRESSURE EVAPORATOR
- LP SH - LOW PRESSURE SUPERHEATER
- LPT - LOW PRESSURE TURBINE
- RHT - REHEATER

(A) INDICATES CONTINUED ON THIS DRAWING



# CARTY GENERATING STATION COMBINED CYCLE

NUMBER OF COMPONENTS DEPENDENT ON  
TECHNOLOGY SELECTED

B&V PROJECT 162110

**NOT TO BE USED  
FOR CONSTRUCTION**  
THE DISTRIBUTION AND USE OF THE NATIVE FILE FORMAT  
OF THIS DRAWING OUTSIDE OF BLACK & VEATCH IS  
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PURPOSES ONLY.

MAY09231 61 ACAD 16.1s (LMS Tech)  
03/27/09 07:39:41

NO.	DATE	FOR CERTIFICATE	BY
REVISIONS AND RECORD OF ISSUE			

I HEREBY CERTIFY THAT THIS DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF	
SIGNED	DATE

<b>BLACK &amp; VEATCH</b> CORPORATION	DRAWN
ENGINEER	DATE

PORTLAND GENERAL ELECTRIC CARTY GENERATING STATION	OVERALL PROCESS FLOW DIAGRAM

FIGURE B-6





# **APPENDIX B-1**

## **Agreement for Construction, Ownership and Operation of the Number One Boardman Station on Carty Reservoir**



RESTATED

AGREEMENT FOR CONSTRUCTION

OWNERSHIP AND OPERATION

OF THE

NUMBER ONE

BOARDMAN STATION ON CARTY RESERVOIR

Dated as of October 15, 1976



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INTRODUCTORY NOTE: This agreement has been restated to include:

- Amendment dated 9/30/77
- Second Amendment dated 10/31/77
- Amendment dated 1/23/78
- Third Amendment dated 2/15/78
- Fifth Amendment dated 3/15/94

Amendments dated 12/16/76 (Income Tax Agreement) and 9/1/79 do not revise the language of the original Agreement and therefore are included as separate documents attached to this Restated Agreement.

Typographical errors in the original executed agreement have not been corrected and are indicated by "[sic]".

This Restated Agreement is prepared for the convenience of the Boardman Owners. Although every attempt has been made to produce an accurate, unified document, reliance may be placed only on the original agreement and amendments.

AGREEMENT FOR CONSTRUCTION  
OWNERSHIP AND OPERATION  
of the

NUMBER ONE  
BOARDMAN STATION ON CARTY RESERVOIR

THIS IS AN AGREEMENT between PORTLAND GENERAL ELECTRIC COMPANY, a corporation of Oregon, herein called "PGE" and PACIFIC NORTHWEST GENERATING COMPANY, a cooperative corporation of Oregon herein called "Cooperative", and IDAHO POWER COMPANY, a corporation of Maine, herein called "IPCO", each individually called "the Party", collectively called "the Parties".

R E C I T A L S

PGE is an investor owned electric utility company subject to regulation by the Public Utility Commissioner of Oregon. IPCO is an electric utility subject to the regulatory jurisdiction of the Public Utility Commissioner of Oregon, the Federal Power Commission and other bodies. Cooperative is a cooperative corporation of Oregon comprised of electric cooperatives or other utilities financed by the Rural Electrification Administration and organized under the laws of any state within the Bonneville Power Administration Service Area.

In order to achieve the economies of size, the Parties propose to plan, finance, construct, acquire, operate, own and maintain, each with an undivided interest in common, facilities comprising a coal fired plant for the generation of electricity of approximately 500 megawatts net electric capacity.

The Parties recognize that IPCO will normally desire to schedule its average annual entitlement during the summer months while PGE will normally desire to schedule its average annual entitlement during the winter months, and that it is mutually beneficial to cooperate in scheduling the operation of the Project in such a manner so as to realize this objective to the extent possible under prevailing conditions without jeopardizing either Party's firm energy capability.

PGE has acquired certain interests in real property located in Morrow County, Oregon which is to be the site for the Carty Reservoir and several electric generating plants including the Number One Boardman Station (herein sometimes called the "Project"). PGE has entered into certain contracts for engineering and construction management, for the supply of turbine generator equipment, coal, and has or will file necessary applications for certificates, licenses and permits to construct and operate the Project. IPCO has entered into a contract to purchase a coal fired boiler for an electrical generating unit of nominal 500 megawatt capacity.

Now then, for and in consideration of the mutual covenants and agreements hereinafter set forth, the Parties do hereby mutually agree as follows:

1. DEFINITIONS (a) "Costs of Construction" means all costs attributable to the selection, planning, acquisition and construction of the Project and of making it ready for operation, including all costs relating to the boiler (minus \$1.5 million to be contributed by IPCO) and administrative and general costs pursuant to Section 5, but excluding Costs of Fuel, allowance for funds used during construction and taxes assessed directly against an individual party. Credits relating to Costs of Construction, including insurance proceeds, shall be applied to such costs when received.

(b) "Costs of Fuel" means all costs attributable to the supply of coal, including all direct labor costs related thereto and administrative and general costs pursuant to Section 5(e), excluding interest during construction. Credits relating to fuel shall be applied to Costs of Fuel when received.

(c) "Costs of Operation" means all costs attributable to the operation and maintenance of the Project, but excluding Costs of Fuel and taxes assessed directly against an individual party, including administrative and general costs determined pursuant to Section 5(c), and subsequent to the Date of Operation, repairs and renewals and



replacements necessary to assure design capability. Credits relating to such costs, including insurance proceeds, shall be applied to Costs of Operation when received.

(d) "Costs of Capital Additions" means all costs applicable to the selection, planning, acquisition and construction of additions, improvements or betterments to the Project, including an appropriate allocation of administrative and general costs applicable to the Number One Boardman Station, but not including any additional generating facilities. Proceeds from salvage realized from replaced property shall be deposited in the Operating Trust Account and be distributed in accordance with the Ownership Shares in the cost of the capital addition.

(e) "Date of Operation", for the purposes of this Agreement only, means the date fixed by PGE as the point in time when power can be generated from the Generating Plant pursuant to Schedules submitted the Parties but does not denominate "commercial operation" nor any determination for regulatory purposes with respect to the various participants.

(f) "Generating Plant" means the boiler, the turbine-generator and related structures and facilities, coal handling facilities, facilities for switching and transformation and transmission to the BPA substation, currently known as "BPA's Slatt Substation", and replacements thereto and appropriate equipment, spare parts and initial operating supplies, but excluding fuel.

(g) "Labor Costs" shall mean all payroll, related employee benefit costs and employee expenses of all direct employees of the Parties, other than the officers and principal department heads, chargeable to the project.

(h) "Output" means the net capacity and energy from the Generating Plant which can be made available at the BPA substation.

(i) "Ownership Share" of a Party means the decimal fraction specified in Section 2(a) or as may be adjusted pursuant to Sections 16, 17 and 21. In all cases Ownership Share shall be computed to three decimal places (i.e., the nearest one thousandth of the total).

(j) "Plant Real Property" means Section 34, Township 3 North, Range 24 East, the "ash disposal" areas and nonexclusive easements required for the operation of the Project, as depicted on Exhibit A, in Morrow County, Oregon and any interest in real property subsequently acquired for the Project, all subject to the conditions requiring the conveyance of such fee interests and easements necessary or appropriate to permit the placement and operation of other facilities, as provided in Section 19 hereof, on the said parcel of real

property, the prohibition of partition and conditions contained in Section 2 and the reverter described in Section 25.

(k) "Project" means the Number One Boardman Station consisting of (i) Generating Plant, (ii) Plant Real Property, (iii) fuel derived from the AMAX Inc. contract dated October 1, 1974, and rights relating to that fuel, (iv) all licenses, permits and rights necessary for construction and operation of the Project, (v) signs, landscaping, recreational and information facilities, (vi) roads, railroad spurs, docks, parking lots, fencing and similar facilities, (vii) railroad cars and engines, if owned, and (viii) all cash in the Construction and Operating Trust Accounts and all things acquired with funds from such accounts.

(l) "Project Consultant" means an individual or firm having a national reputation for expertise in the field of the matter or item referred to it, appointed for the resolution of a difference regarding a matter or item referred to it. A different Project Consultant may be appointed for each matter or item referred.

(m) "Prudent Utility Practice" means any of the practices, methods and acts engaged in or approved by a significant proportion of the electrical utility industry prior to the time of the reference, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at the lowest reasonable cost consistent with reliability, safety and expedition. Prudent Utility Practice shall apply not only to functional parts of the Project, but also to appropriate structures, landscaping, painting, signs, lighting and other facilities and public relations programs reasonably designed to promote public enjoyment, understanding and acceptance of the Project. Prudent Utility Practice is not intended to be limited to the optimum practice, method or act to the exclusion of all others, but rather to be a spectrum of possible practices, methods or acts.

2. OWNERSHIP, RIGHTS AND OBLIGATIONS: (a) The Parties shall have title to the Project as tenants in common and shall, as co-tenants with an undivided interest therein and subject to the terms of this Agreement, own the Project, have the related rights and obligations, participate in its Construction and Operation and be entitled to its Output in the same ratio as their Ownership Share as follows:

(1) Cooperative shall own .100 subject to the following:

Cooperative has arranged interim financing from the National Rural Utilities Cooperative Finance Corporation (CFC) sufficient to pay its Costs of Construction through June 30, 1978. In the event by June 30, 1978, that Cooperative is unable to secure a Rural Electrification

Administration guaranteed long-term loan sufficient to pay all of Cooperative's Ownership Share of the estimated Costs of Construction required to be paid pursuant to this Agreement, and upon written notice by Cooperative to PGE on or before July 31, 1978, PGE will pay to Cooperative, within 180 days of the date of such notice, all amounts owed to CFC by Cooperative less any unexpended funds. Upon such payment PGE's Ownership Share shall be increased accordingly and Cooperative shall cease to be a Party and all its rights and obligations under this Agreement shall terminate.

Prior to Cooperative's obtaining long-term financing Cooperative's interest in the Project shall be evidenced solely by this Agreement. When Cooperative obtains such long-term financing, PGE shall execute and deliver to Cooperative a deed for its Ownership Share of the Project in the form attached to this Agreement as Exhibit B.<sup>1, 3, 4</sup>

(2) IPCO shall own .100

(3) PGE shall own .800 less any Ownership Share transferred by it pursuant to Section 21.

(b) Each Party shall promptly and with all due diligence take all necessary action in aid of all regulatory approvals, licenses and permits necessary to carry out its obligations under this agreement.

(c) Each Party shall, from time to time on request, execute deeds, bills of sale and whatever other documents may be necessary in addition to this agreement to evidence title. Changes in a Party's Ownership Share pursuant to Sections 16 or 17 shall take place by virtue of this Agreement and without any further act, except such regulatory approval as may be required.

(d) The Parties expressly waive any right of partition of the Project and the real or personal property related thereto, whether by partition in kind or sale and division of the proceeds thereof, until the End of the Project as described in Section 25.

(e) Nothing in this agreement shall create a partnership, joint venture, association or, except as provided in Sections 7 and 10, a trust. Each Party shall severally bear its Ownership Share of all obligations, including the supply of energy for station use when not generated by the Project, and liabilities relating to the Project as they arise. No Party shall have a right or power to bind any other Party without its written consent, except as provided in this agreement.

(f) Each Party and its designees shall have the right to go upon and into the Project at any time subject to the rules and regulations of public authorities having jurisdiction thereof and to the necessity of efficient and safe construction and operation of the

Project, but PGE alone shall have possession and control of the Project for all the Parties.

(g) In order to provide unified management of the Project, each Party authorizes and designates PGE alone to construct and thereafter operate and maintain the Project under the terms of this agreement; provided, however, that PGE shall not be deemed to have the status or responsibility of an independent consultant, contractor or engineer.

(h) In construction and operation of the Project, each Party shall act without compensation other than reimbursement of costs and expenses as provided herein. In consideration thereof, each Party expressly agrees that each other Party individually, its agents and employees, (but not any Architect-Engineer or contractor) shall not be liable to such agreeing Party for any claims or damage, including claims or damage covered by insurance, based on or arising from a negligent act or omission of an agent or employee of such other Party, in connection with ownership, construction or operation of the Project, and that payment of such claims shall be Costs of Construction or Costs of Operation as appropriate. Each Party shall cause its insurers to waive any rights of subrogation against each of the other Parties, its agents or employees for losses, costs, damages or expenses arising out of the construction, operation, maintenance or repair of the Project.

3. ENGINEERING AND OPERATION DECISIONS: (a) At the time of the execution of this agreement and thereafter from time to time, each Party shall appoint one member to the Engineering Committee and when requested by PGE each Party shall appoint one member to the Operating Committee. Each Committee shall meet at such times as may be agreed or upon three days' written notice by any member, and shall keep written minutes of its meetings. Each member of a Committee shall have the right to vote the Ownership Share of the Party appointing such member. Any action which may be taken at a meeting of a Committee may be taken without a meeting by individual action taken in writing by members of the Committee.

(b) The Parties may and, where this agreement requires it, PGE shall submit matters (including, without limitation, estimates and schedules) relating to Construction or Operation of the Project to the appropriate Committee, and matters not disapproved by a member of such Committee within the time after submission specified in the submittal, which shall not be less than specified in this agreement (or if no time is specified in this agreement, not less than seven days) shall be deemed approved by such member. Matters disapproved by a member shall be segregated by such members so that the exact items of difference are identified and, subject to the provisions of Section 10(a), 12(b) and 18 with respect to the matters therein provided, items so identified shall be referred by PGE to the Project Consultant. Each member which, within the limited time, disapproves an item shall, at the time of such

disapproval, state in writing his reasons and what alternative is acceptable. Items not so identified shall be deemed approved.

(c) The Project Consultant shall be appointed by PGE upon unanimous agreement of the Committee making the reference. In the absence of such agreement, PGE shall request the Chief Judge of the United States District Court for the District of Oregon to appoint the Project Consultant.

(d) The Project Consultant shall consider all written arguments and factual materials which have been submitted to it by any member within ten days following its appointment, and as promptly as possible, after the expiration of such period make a written determination as to whether any disapproved item referred to it would or would not have been consistent with Prudent Utility Practice. If the Project Consultant determines that the item referred to it was not consistent with Prudent Utility Practice, then and only then it shall recommend what would, under the same circumstances, have met such test.

(e) Matters or items found by the Project Consultant to be consistent with Prudent Utility Practice shall become immediately effective. Matters or items found by the Project Consultant to be inconsistent with Prudent Utility Practice shall be modified to conform to the recommendation of the Project Consultant or as the appropriate committee otherwise agrees and shall become effective as and when modified.

(f) The cost of employing the Project Consultant and the related expenses of its determination shall be a Cost of Construction or a Cost of Operation, as appropriate, if the Project Consultant determines that the item referred to it was not consistent with Prudent Utility Practice. If the Project Consultant determines that the item referred to it was consistent with Prudent Utility Practice, such costs shall be borne by the Parties whose members on the Committee disapproved such item, in proportion to their Ownership Shares.

(g) PGE shall have the right, but not the duty, to proceed with an item prior to the time allowed under Paragraph 3 (b) or which has been disapproved by a member of a Committee; provided, however, if PGE takes such action on an item disapproved, and if the determination made by the Project Consultant is that the item was not consistent with Prudent Utility Practice, then PGE shall individually bear the net increase in the Cost of Construction (including, if required, cost of removal) or Cost of Operation of such action to the extent it was inconsistent with what the Project Consultant determined would, under such circumstances, have met such test.

(h) No member of a Committee (or such member's successor) shall disapprove (i) matters which were submitted to the Committee pursuant to the terms of this agreement and not disapproved within the

time allowed, (ii) items found by the Project Consultant to have been consistent with Prudent Utility Practice, or items as modified by the Project Consultant, or (iii) items where costs were borne by PGE individually, or (iv) items with a cost less than \$100,000.

4. CONSTRUCTION AND LICENSING: (a) PGE shall, in consultant with the appropriate committee, diligently pursue whatever action is necessary or appropriate to seek and obtain all Oregon and general licenses, permits and other rights and regulatory approvals necessary to construction and operation of the Project for itself and on behalf of the other Parties. However, IPCO itself will obtain and pursue whatever action is necessary to obtain all license, permits and regulatory approvals from the State of Idaho. The Parties acknowledge that there is no assurance that such permits, licenses and approvals will be obtained.

(b) PGE shall prosecute construction of the Project in accordant with Prudent Utility Practices and plans and specifications for the Project as prepared or approved by the Project Architect-Engineer. PGE shall schedule the Date of Operation to be, on or before September, 1980, and shall use its reasonably best efforts in accordance with Prudent Utility Practice to meet such schedule but no representation is made that such construction will be completed as scheduled.

(c) PGE shall keep the members of the Engineering Committee fully informed of all matters PGE deems significant with respect to construction of the Project where practicable in time for the members to comment thereon before decisions are made and of such other matters as requested by any member. PGE shall submit bids and proposed contracts involving more than \$500,000 to the Engineering Committee before taking action thereon.

(d) IPCO has previously entered into Purchase Order Number Pioneer D-1 to Foster Wheeler Energy Corp. dated August 8, 1974, for the construction and delivery of a steam boiler. IPCO will cause such modification of the boiler as is necessary to conform to the specification for the Generating Plant as approved by the Project Architect-Engineer and will take all those steps necessary to physically contribute the boiler to the Project. The costs of the boiler, modifications, and delivery to the Project, but not the cost of boiler erection, shall be borne directly by IPCO. All such costs, less \$1.5 million, shall be deemed to be Costs of Construction. To the extent that investment tax credit and depreciation on the portion of the excess investment of IPCO over and above its proportional share of the plant, including, but not limited to, the \$1,500,000 differential for the purchase price of the boiler and the costs of modification of the boiler, may be allowable as a deduction for income tax purposes, IPCO shall be solely entitled to these deductions for Federal income tax purposes. IPCO will use its best efforts to transfer the warranties for

the boiler to all the Parties as their interest appears on the date on which the warranty period begins to run. If it is not possible to perfect such transfer, IPCO will permit the use of its name or execute any assignments so as to perfect in the Parties the best possible rights to pursue any warranty claims that may arise against the supplier.

(e) PGE will comply with all provisions of the Equal Opportunity Clause and the Certificate of Nonsegregated Facilities as set forth in Exhibit C attached hereto and made a part hereof.

(f) PGE has entered into contracts relating to the Project listed in Exhibit D. The Parties ratify and approve the said contracts.

5. REIMBURSEMENT FOR ADVANCES: (a) At the time this Agreement is executed, Cooperative shall pay PGE its Ownership Share of the Costs of Construction, and Cooperative and IPCO shall each pay PGE their respective Ownership Share of the Costs of Operation and Costs of Fuel, if any, advanced by PGE plus PGE's administrative and general and financial costs related thereto.

(b) Thereafter, PGE shall be reimbursed from the Construction Trust Account for Costs of Construction advanced by it after this Agreement has been executed by all Parties for, among other things; (i) Labor Costs, (ii) other Costs of Construction expended for the benefit of the Project, including, without limiting the generality of the foregoing, equipment, materials, supplies, travel and construction power, and (iii) administrative and general costs determined pursuant to Section 5(d). The Parties, other than PGE, shall be reimbursed from the appropriate trust for advancements on account of Labor Costs made thereafter with the consent of PGE as part of the Costs of Construction.

(c) PGE shall be reimbursed from the Operating Trust Account for Costs of Operation and Costs of Capital Additions, properly segregated, advanced by it for, among other things; (i) Labor Costs, (ii) other operating costs expended for the benefit of the Project, including, without limiting the generality of the foregoing, equipment, materials, supplies and travel, (iii) administrative and general costs.

(d) The Construction Budget submitted pursuant to Section 6 shall include an amount for PGE's administrative and general costs. Administrative and general costs for each year shall be included in the Construction Budget and shall be paid from the Construction Trust Account in equal monthly installments on the payment date nearest the middle of each month.

(e) PGE shall be reimbursed from the respective trust accounts for Costs of Fuel advanced by it for, among other things; (i) Labor Costs relating to Costs of Fuel, (ii) other costs expended for Costs of Fuel including without limiting the generality of the

foregoing, equipment, materials, supplies and travel, and (iii) administrative and general expense relating to Costs of Fuel in the same manner as administrative and general expenses relating to Costs of Operation.

6. CONSTRUCTION BUDGET: An initial budget of the amounts expected to be expended for specific items of Costs of Construction in each month from the date of this agreement to December 31, 1976, and in each quarter thereafter to the Date of Operation has been submitted to the Parties and is hereby approved. By September 1 of each year until the completion of construction, PGE shall submit to the Engineering Committee an updated budget, supported by detail adequate for the purpose of comprehensive review, describing the items of Costs of Construction and the amounts expected to be expended therefor in each month during the next calendar year and in each quarter thereafter. Such budgets shall become effective unless disapproved within thirty days after submittal. Construction budgets shall be changed by PGE from time to time during a calendar year as necessary to reflect substantial changes in construction schedules, plans, specifications or costs, and when so changed shall be resubmitted to the Engineering Committee. Such changes applicable to the current calendar year shall be subject to disapproval for only seven days following submission.

7. CONSTRUCTION PAYMENTS: (a) PGE shall establish a separate Construction Trust Account in a bank located in the State of Oregon and having qualifications meeting all requirements imposed upon depositories for any of the Parties. Except for the payments made pursuant to Section 5(a) and the direct payments made by IPCO with respect to the boiler, all moneys for Costs of Construction of the Project and for payments relating to Costs of Fuel prior to the establishment of the Operating Trust Account shall be deposited therein and PGE shall withdraw and apply funds therefrom as necessary.

(b) Upon execution of this agreement, each Party, shall pay into the Construction Trust Account an amount proportionate [*sic*] to its Ownership Share of a working fund of \$100,000 and each Party, shall thereafter continue proportionately to maintain such fund at such amount, or such other amount as the Operating Committee shall determine.

(c) Excepte [*sic*] as otherwise agreed by the Parties, each Monday PGE shall notify each Party, of the cash requirement for construction and reimbursement of the working fund expected to be paid during that calendar week and, whether or not such amounts are apesified [*sic*] in the budget, each Party shall deposit an amount proportionate to it Ownership Share in the Construction Trust Account on the last banking day of such week; provided, however, that in the event of an immediate requirement for funds, PGE may notify the Parties and each Party shall promptly deposit in the Construction Trust Account an amount determined on the above basis.



(d) Until such time as the total estimated costs of the boiler including modifications and delivery to be paid by IPCO, but less \$1.5 million, is less than IPCO's Ownership Share of the total accumulated Costs of Construction IPCO shall have no obligation to make deposits in the Construction Trust Account on account of Costs of Construction and PGE and Cooperative shall each make such deposits in the proportions its Ownership Share bears to .90. IPCO shall make directly, when due, all payments in respect to the construction, modifications, and delivery of the boiler. When IPCO has paid all amounts relating to the boiler, an appropriate adjustment will be made between the Parties so that the sum of IPCO's payments, less \$1.5 million, is equal to its Ownership Share of the accumulated Costs of Construction.

(e) Upon completion of the construction of the Project, acceptance of the Generating Plant by PGE and settlement of all the obligations relating to construction PGE shall close the Construction Trust Account and distribute to each Party its Ownership Share of any balance remaining.

8. OPERATION: PGE shall carry out operation and maintenance of the Project so as to meet the requirements of government agencies having jurisdiction in the matter, in accordance with Prudent Utility Practice, giving due consideration to the recommendations of the Operating Committee and to the manufacturers' warranty requirements. Subject to the foregoing, and to the provisions of Section 12, PGE shall operate and maintain the Project so as to produce the amounts of energy scheduled by the Parties within their respective Ownership Shares of the net capacity of the Generating Plant.

9. OPERATION AND CAPITAL ADDITIONS BUDGETS: (a) On or before September 1 of the year prior to the year when the Date of Operation is expected to occur, PGE shall submit to the Operating Committee a budget of the Costs of Operation and Costs of Capital Additions other than Elective Capital Additions, for each month from the expected Date of Operation to the next succeeding January 1, and if the Date of Operation occurs subsequent to September 1 in any calendar year, a similar budget for the next succeeding calendar year. Thereafter, on or before each September 1, PGE shall submit to the Operating Committee a similar budget for each month for the next succeeding calendar year. Each budget shall be supported by detail adequate for the purposes of each Operating Committee member and shall show, among other things, staffing allocation, PGE services and calculations of administrative and general expenses. Such budget shall become effective unless disapproved within thirty days after submittal.

(b) The Effective Budget shall be changed; (i) to include costs occasioned by an emergency, (ii) to provide for repairs, renewals, replacements or additions necessary to achieve design peak and energy capability, or (iii) to provide for an expenditure required by

governmental authority or an expenditure required by Section 16. Promptly after the occurrence of any of the above events, and promptly after the occurrence of other circumstances requiring the expenditure of funds not contemplated in the effective Operating Budget, PGE shall submit a revised budget to the Operating Committee. Costs incurred by PGE in the exercise of Prudent Utility Practice prior to the time a revised budget becomes effective shall be added as incurred to the amounts due under the Budget. The revised budget shall become effective unless disapproved within seven days after submittal.

10. OPERATING PAYMENTS: (a) On the Date of Operation or such earlier time as the Operating Committee shall agree, PGE shall establish an Operating Trust Account in a bank located in the State of Oregon and having qualifications meeting all requirements imposed upon depositories for any of the Parties. Prior to the Date of Operation, each Party shall deposit in such Account its Ownership Share of a working cash fund of \$50,000, or such other amount as the Operating Committee shall determine. All moneys received by PGE as operator of the Project on account of the Project, except Costs of Construction shall be deposited in such account, and PGE shall withdraw and apply funds as necessary.

(b) No later than the last business day prior to the first and fifteenth day of each month, each Party shall deposit in the Operating Trust Account one-half of such Party's Ownership Share of the amount budgeted for that month in the effective Budget adjusted for deviation between budget and actual expenses; provided, however, that when a revised Operating Budget becomes effective during a month, each Party shall immediately deposit in the Operating Trust Account such Party's Ownership Share of any increase effectuated by the revised Operating Budget for that month.

11. FUEL: (a) PGE shall exercise the rights of each Party, reflecting each such Party's desires in proportion to its Ownership Share, in accordance with the terms of the contract with AMAX Inc. dated October 1, 1974. Each Party shall be responsible for and shall own coal delivered in an amount equivalent to such resultant share. Payments due on account of coal delivered under the AMAX contract shall be made to PGE. PGE shall give each of the Parties notice of the date and amount due on account of each delivery, and late payment charges, if any, shall be paid for by the Party responsible therefor.

(b) In addition to coal acquired pursuant to (a) above, any Party shall have the right to bring on the Plant site and store and use in obtaining generation from the plant, coal from sources other than AMAX so long as such coal meets the requirements of the Oregon Nuclear and Thermal Energy Council Certificate.

(c) All coal deliveries to the plant, as well as coal consumed by the plant, will be accounted for both in tons and average Btu per pound in accordance with the accepted standards within the industry. PGE shall set up an accounting system to record the Btu of coal delivered for and consumed for the account of each Party. Coal in storage shall be owned by each Party in terms of Btu as determined from that Party's net deliveries and consumption.

(d) Once each 12 months, or as otherwise agreed by the Parties, PGE shall survey the total coal in storage to determine the amounts of coal in the storage pile. If the coal in the storage pile, as determined by such survey, is greater or less than the coal accounted for pursuant to (c) above, each Party's coal account will be increased or decreased, as the case may be, pro rata to the average of the daily balances of coal in storage for each Party during the period since the previous survey, or by such other method as may be agreed upon by the Parties. If such adjustment results in any Party having a negative coal inventory, such Party shall make arrangements to eliminate his negative position as soon as reasonably possible.

(e) If casualty or other forces cause a sudden or rapid loss of coal in coal storage, such loss shall be estimated or surveyed, as may be appropriate in the circumstances, and each Party's coal inventory reduced pro rata to its amount of coal inventory prior to such loss to adjust the total coal inventory for the estimated loss.

(f) Each Party is entitled to store coal for his account in an amount up to his Ownership Share of the total available coal storage capacity. Prior to commencing storage of coal in the Project, the Parties shall agree upon the volume of such total available storage capacity as should be appropriate for anticipated operation of the Project. If a Party determines that some greater amount of storage will be required for his own use, and the other Parties do not wish to share pro rata in any additional storage capacity, PGE will endeavor to accommodate the needs of such Party and the entire incremental cost of providing and utilizing any such additional storage made available shall be the responsibility of the Party requesting same.

(g) Each Party shall, in good faith, schedule delivery and use of his coal to avoid use of coal storage capacity in excess of his share of total storage capacity. Since any such excess will utilize facilities and incur costs for which the other Parties are paying, such excess shall be deemed to have utilized the storage capacity of all other Parties having unused capacity in proportion to such other Party's shares of total storage capacity. Such determinations shall be made at the beginning of each day, and the Party having such excess inventory shall make payments to the other Parties based on each such Party's total cost of coal storage facility ownership, operation, and maintenance times the ratio of the excess stored with such Party to such Party's share of total storage capacity.

(h) If an excess of coal exists pursuant to (g) above and no arrangements have been made for transfer of ownership or use thereof, then in the event that no storage space remains so that the Parties whose shares of available storage capacity cannot accept deliveries of coal to which they are entitled, a transfer of coal ownership will ensue. A portion of the excess inventory equal to the delivery so displaced will be transferred in ownership to the Party rejecting such delivery.

12. RIGHTS TO OUTPUT, SCHEDULING: (a) Each Party shall be entitled to receive as scheduled all or any part of its Ownership Share of the Output of the Generating Plant except as such Party may from time to time assign all or any part of such Output to another Party as herein provided.

(b) Parties desiring to schedule power other than uniformly during the year in proportion to their Ownership Share may make assignments of all or portions of their Ownership Share of Output in units of months or fractions thereof from one Party to another ("Percent Share Months"), in exchange for a reassignment of Percent Share Months from such other Party during a subsequent period of time. In lieu of electing to make such exchanges a Party may agree to sell Percent Share Months at its fully distributed costs. The Parties shall have the right of first refusal to enter into any such arrangements.

(c) Not later than December 31, 1976, the Parties shall agree upon any such transactions, pursuant to Section 12(b), which will take place during the period ending June 30, 1981, and by December 31 of each year subsequent to 1976 shall agree upon any transactions to be made during the 12 month period beginning with July 1 of the fourth year following. Once made, such transactions will remain in effect unless changed by mutual agreement in conformity with the provisions of this Section.

(d) The Parties may, but shall not be obligated to, make exchanges of coal ownership to facilitate implementation of this Section.

(e) Output from the Project shall be scheduled as follows:

(1) Each Party shall, by 10:00 a.m. each day, inform PGE's dispatcher of its desired schedule of hourly generation for the following day, except that schedules for Sundays, holidays and the day following in each instance shall be submitted by 10:00 a.m. of the last preceding weekday. Each Party, however, will have the right to change its schedule on shorter notice to reflect changes in its requirements.

(2) If schedules of hourly generation would require a rate of change in excess of the prescribed limit for the Generating

Plant, each Party whose scheduled rate of change is in excess of the Ownership Share to which it is entitled of such prescribed limit shall be limited proportionately so that the total rate of change will be within the limit.

(3) Except as provided in paragraph (4) following, if fulfilling the requested schedules of the Parties would require operation of the Generating Plant at an operating level below the minimum prescribed, the Parties whose schedules are greater than the Ownership Share to which they are entitled of such minimum generation will receive such schedules and each of the other Parties shall schedule and take, in addition to its desired schedule, a portion of the additional generation required to bring the plant up to its minimum generation level. Such portion shall be in proportion to the amount by which each Party's desired schedule falls short of its Ownership Share of the minimum generation.

(4) A Party may require that the Generating Plant not be operated by assuring delivery of alternative capacity and energy to the plant point of delivery (or as otherwise mutually agreed) for the Parties desiring operation of the plant. Such delivery would be required in amounts up to that which would have been available to such Parties from the Ownership Shares to which they are entitled during such period of non-operation. Any Party making such assured deliveries shall accept ownership from the recipients of such capacity and energy, of coal equal in amount to that which would have been required to generate such energy at the Generating Plant.

(f) PGE shall schedule Generating Plant outages and notify the other Parties as far in advance as practicable. It is recognized that pre-scheduled major outages of the Generating Plant may result in differing impacts on the Parties. Accordingly, such major outages will be scheduled in an attempt to equalize the burdens on the Parties. If the Operating Committee does not disapprove such outage within five days, the Generating Plant shall be shut down in accordance with such schedule. Notwithstanding the foregoing, PGE may shut the Generating Plant down to avoid hazard to any person or property. To the extent that scheduled major outages affect Percent Share Months exchanged or sold pursuant to this Section, and mutually acceptable remedies are not readily available, then appropriate adjustments to the scheduled Percent Share Months transactions shall be mutually agreed upon.

(g) When testing of plant facilities requires, generation each Party shall make provision for acceptance of its Ownership Share of such generation. PGE will notify the Parties of test schedules as far in advance as possible.

(h) Except as modified by the provisions of subsection (d)(4) [sic] above, during any hour in which the Generating Plant does not generate its station use and losses, PGE's dispatcher shall notify the Parties and each Party shall arrange for delivery of its Ownership Share of such energy to the Generating Plant.

13. ACCOUNTING: (a) PGE shall keep separate, complete and accurate account of all deposits in and withdrawals from the Construction Trust Account and each of the Parties shall keep complete and accurate accounts of all costs incurred by it for which it is to be reimbursed from such Account.

(b) PGE shall keep separate, complete and accurate account of all deposits in and withdrawals from the Operating Trust Account and complete and accurate account of all costs incurred for which it is reimbursed from such Account.

(c) All accounts shall be kept so as to permit conversion to the system of accounts prescribed for electric utilities by the Federal Power Commission. The allocation of costs by PGE between Costs of Construction and Costs of Operation pursuant to this agreement, shall be binding on the Parties only for purposes of this agreement. The manner in which accounts are kept pursuant to this agreement is not intended to be determinative of the manner in which they are treated in the books of account of the Parties.

(d) Each Party shall have the right at any reasonable time to examine the separate books of account kept by PGE pursuant to this section and all supporting data and to examine the books of account and all supporting data and documents relating to amounts for which any Party is to be reimbursed, and to examine and copy all plans, specifications, bids and contracts relating to the Project.

(e) PGE shall, by the 15th of each month, supply to each Party a complete itemized account of all deposits in and withdrawals from the trust accounts during the previous month, together with adequate details of property retirements, removal costs and salvage, and together with an itemization of the basis for reimbursement made to PGE from such account during each month. PGE shall cause the Project costs to be audited by independent Certified Public Accountants of national reputation acceptable to all the Parties at approximately annual intervals and when such accounts are closed. Copies of such audits shall be supplied to each Party.

(f) Any contract with any consultant or contractor of PGE providing for reimbursement of costs or expenses of any kind shall require the keeping and maintenance of books, records, documents and other evidence pertaining to the costs and expenses incurred or claimed under such contract to the extent, and in such detail, as will properly reflect all costs related to this Agreement and shall require such

books, records, documents and evidence to be made available to the Parties at all reasonable times for review and audit for a period of three years after final settlement of the applicable contracts. Each of the Parties shall have the right to examine and copy all plans, specifications bids and contracts relating to the Project.

14. INSURANCE: PGE shall maintain in force, for the benefit of the Parties as their interests shall appear, as a Cost of Construction or a Cost of Operation, as appropriate, such insurance as the Parties may agree upon, but not less than will conform to Prudent Utility Practice. PGE shall keep the other Parties informed as to the status of insurance in force and if it does so, PGE shall not be liable for any failure to insure or inadequacy of coverage.

15. UNCONTROLLABLE FORCES: No Party shall be in default in performance of any obligation hereunder, except the payment of money, if such failure of performance is due to causes which such Party could not have reasonably been expected to avoid and by the exercise of reasonable diligence the Party is unable to overcome.

16. DAMAGE TO THE PROJECT: (a) In the event that (i) after the Date of Operation the Project suffers damage resulting from causes other than ordinary wear, tear or deterioration, to the extent that the estimated cost of repair as unanimously agreed by members of the Operating Committee, or, if they cannot agree within a period of six months from the date of damage, as determined by the Project Consultant, exceeds the estimated available proceeds, if any, of insurance maintained pursuant to Section 14 by less than \$50,000,000, or (ii) prior to the Date of Operation the Project suffers damage to any extent, and in either of such events, if the Parties do not unanimously agree that the Project shall be ended pursuant to Section 25, PGE shall promptly submit a revised Construction or Operating Budget, as appropriate, and shall proceed to repair the Project, and each Party shall pay as budgeted, into the appropriate Trust Account, its Ownership Share of the cost thereof.

(b) If, after the Date of Operation, the Project suffers damage to the extent that the estimated cost of repair exceeds the estimated available proceeds of insurance, if any, by more than \$50,000,000 as determined in Section 16(a), the appropriate committee shall agree upon, or if they cannot so agree within six months from the date of damage, the Project Consultant shall determine, the estimated value of the Project as and when repaired. Thereafter, each Party which, within a reasonable time to be determined by the appropriate committee, gives notice in writing to the other Parties of its desire that the Project be repaired, shall, in the proportion that its Ownership Share bears to the total of the Ownership Shares of all Parties giving such notice, pay into the appropriate Trust Account, as budgeted in a revised budget, all of the cost of repair. If any Party has given such notice, the Ownership Share of each Party which does not

give such notice shall, at the end of the reasonable time which was determined by the appropriate committee, be reduced to the extent determined by the following formula:

$$S_r = S_o \left[ \frac{V - (C - I)}{V} \right]$$

where

V = Estimated value of the Project as repaired  
 C = Estimated cost of repair  
 I = Estimated Insurance proceeds  
 S<sub>o</sub> = Ownership Share prior to loss  
 S<sub>r</sub> = Reduced Ownership Share

At the same time, the amount of such reduction shall be added to the Ownership Share of Parties giving such notice in the proportion that the Ownership Share of each bears to the total of the Ownership Shares of all Parties giving such notice.

(c) If, after the Date of Operation, the Project suffers damage to the extent that the estimated cost of repair as determined in Section 16(a) exceeds the estimated available proceeds, if any, of insurance maintained pursuant to Section 14 by more than \$50,000,000 and no Party gives the notice required by Section 16(b), the Project shall be ended pursuant to Section 25.

17. DEFAULT: (a) Upon failure of a Party to make any payment when due or, except as excluded by Section 15, perform any obligation of an owner herein, any other Party may make written demand upon said Party, and if said failure is not cured within sixty days from the date of such demand, it shall, at the expiration of such period, constitute a default. If a Party in good faith disputes the existence or extent of such failure, it shall, within said 60-day period, make such payment or perform such obligation under written protest directed to the other Parties. Such dispute shall be submitted to the Project Consultant who shall determine the extent of the obligation of the Party disputing such failure and any payments shall be adjusted accordingly. A Party in default shall have no right to the output of the Project, to have representation on any committee, nor to exercise any other right of a Party. In such event, the defaulting Party's Ownership Share of power and energy may be sold during the period of default for the benefit of the defaulting Party (to third parties or other Parties to the agreement) and the proceeds applied to the amounts owed by such Party. Payments not made when due may be advanced by the other Parties and, if so advanced, shall bear interest until paid at the rate of 1% per month or the highest lawful rate, whichever is lower.

(b) If such default results from the nonpayment of capital costs, as defined in the Federal Power Commission Uniform System of Accounts, and continues for a period of four months, the defaulting



Party shall afford the other Parties the right (but they shall not have the obligation) for an additional period of two months, by notice in writing, to elect to undertake the payment of such capital costs in full. In such case, any advances of such capital costs previously made pursuant to Section 17(a), and any additional payments necessary to pay such capital costs in full, shall be for the account of the paying Party, and the defaulting Party's Ownership Share shall, at the time of such election, be reduced to the extent determined by the following formula:

$$S_r = S_o \left[ \frac{V - A}{V} \right]$$

where

- V = Estimated value of the Project including estimated capital costs, as agreed by the appropriate committee or, if it cannot agree, as determined by the Project Consultant
- A = Such capital costs plus interest on any part advanced
- S<sub>o</sub> = Ownership Share prior to default
- S<sub>r</sub> = Reduced Ownership Share

At the same time, the amount of such reduction shall be added to the Ownership Shares of the other Parties in the proportion that the amount so advanced by each bears to the total amount advanced.

(c) In addition to the rights granted in this Section 17, any non-defaulting Party may take any action, in law or equity, to enforce this agreement and to recover for any loss or damage, including reasonable attorneys' fees and costs incurred by reason of such default.

18. ELECTIVE CAPITAL ADDITIONS: At any time a Party determines that a capital addition, improvement or betterment which is not necessary to assure design capability or is not required by governmental agencies, is required or useful, the Party shall prepare a cost estimate, including an appropriate allocation of Administrative and General Costs of PGE, of such capital addition, and if the Parties agree, PGE shall proceed with construction and installation, the costs to be borne by the Parties in their Ownership Share, unless otherwise agreed to at the time. However, PGE alone or any other Party alone or together with any other Party may have such additions made at its own expense, provided that such addition does not diminish the entitlement or increase the costs of the other Parties.

19. ADDITIONAL FACILITIES: (a) PGE, either individually or jointly with other entities, public or private, shall have the right to construct and operate on the Carty Reservoir (subject to the provisions of subsection (c) below), additional generating units and necessary appurtenances thereto on the Plant Real Property and elsewhere

and in connection therewith to acquire ownership of the land to be used for such additional facilities not to be used in common and an undivided ownership and right to common use of the Project components and common facilities and to move or modify Project components and common facilities to the extent that such use, move or modification does not (1) unreasonably interfere with operation of the Project and (2) is reasonably necessary or convenient to operation of the additional facilities.

(b) In the event that additional generating units are to be constructed on the Carty Reservoir and all the Parties hereunder do not participate in the ownership of such generating units with the same Ownership Share as hereunder, then the Parties hereunder will convey to the Participants in such additional facilities as their interest appears:

1. Good and marketable fee title to the land which will underlie the additional generating plant and any additional related facilities which will not be used in common with the Project;
2. A proportionate undivided interest in common, in proportion to the number of generating units, in those facilities of the Project which may be used in common by the owners of the additional generating units including, but not limited to, the reservoir, pumping facilities, pipelines from the Columbia River, roads, railroad spurs, docks, parking lots, fencing and transmission facilities;
3. A non-exclusive easement over the remainder of the Plant Real Property, except for the land underlying the Generating Plant not to be used in common, for all purposes necessary or appropriate to the construction, operation and maintenance of the additional generating units;

and shall be reimbursed by the Participants so as to apportion equitably the costs of Plant Real Property conveyed in fee and held as tenants in common and the cost of Project facilities to be used in common. Participants in such additional facilities shall pay all costs of moving or modifying Project components. Cost of operation of Project components used for benefit of additional facilities shall be divided and borne on the basis of use. If the Parties cannot agree, PGE shall submit any matter under this subparagraph to the Operating Committee, if one has been appointed, otherwise to the Engineering Committee, pursuant to Section 3.

(c) To the extent PGE, individually or jointly with any other entity decides to construct and operate additional fossil generating units on the Plant Real Property, each of the other Parties shall have the right to participate in the ownership of such units to

the extent it elects, but not to exceed its Ownership Share hereunder, under terms and conditions substantially similar to this Agreement, taking into account intervening changes in construction, ownership and operating costs and conditions. Such right shall be exercised with respect to each individual additional generating unit as set out below and may not be cumulated for application against later generating units.

(d) All of the rights of the Parties described in subsection (c) above, shall be subject to the following limitations:

(1) If a Party elects to participate pursuant to subsection (b) above, it will so advise PGE in writing within ninety (90) days of the receipt by it of written notice from PGE of PGE's intention to construct such an additional generating unit. Prior to sending such notice, PGE shall make available to each of the Parties any relevant information it has concerning the proposed additional generating unit;

(2) Such rights are not assignable by a Party to any other entity without the consent of PGE except to a corporation whose stock or other ownership is wholly owned by the Party or except to a successor corporation to a Party resulting from a corporate reorganization in which there is no substantial change in beneficial ownership;

(3) PGE, unless otherwise mutually agreed, shall be the Operator of any generating plants constructed under the terms of this section.

20. INVESTMENT: PGE shall have the right, but not the obligation, to invest funds (except Cooperative's funds) in the Construction Trust Account or in the Operating Trust Account in legally issued obligations of the United States or the State of Oregon and the net proceeds from such investments shall be deposited in the Account from which it came and credited to the Parties which contributed to funds so invested.

21. TRANSFER AND ASSIGNMENTS; SECURED INTERESTS:

This agreement shall be binding upon and shall inure to the benefit of successors and assigns of the Parties; provided, however, that no transfer or assignment of other than all of a Party's interest in the Project and under this agreement to a single entity shall operate to give the assignee or transferee the status or rights of a "Party" hereunder and no transfer or assignment hereunder shall operate to increase the number of representatives of any Party on any committee; except, however, that PGE shall have the right to transfer and assign, prior to the Date of Operation, that portion of its Ownership Share in excess of .50 to one or more entities, public or private. Each such

entity shall, on such transfer, be a Party and be represented on all committees.

Except as provided in Sections 16 and 17 of this agreement, the undivided interest of any Party in the Project, the property, real or personal, related thereto, and under this agreement may be transferred and assigned as follows, but not otherwise:

(a) To any mortgagee, trustee or secured party, as security for bonds or other indebtedness of such Party, present or future; and such mortgagee, trustee or secured party may sell such interest in foreclosure or other suitable proceedings and the purchaser at any such foreclosure sale or sales shall succeed to all right, title and interests of such Party;<sup>2</sup>

(b) To any corporation or other entity acquiring all or substantially all the property of the Party making the transfer;

(c) To any corporation or entity into which or with which the Party making the transfer may be merged or consolidated;

(d) To any corporation or entity the stock or ownership of which is wholly owned by the Party making the transfer;

(e) To any corporation or entity in a contemporaneous transaction constituting a financing arrangement under which the Party's control of its Ownership Share is subject to defeat only on default;

(f) To any other financially responsible person; provided that except with the consent of all Parties no interest, except as a security interest, in the Project shall be sold or assigned to an entity not authorized to participate in common facilities; and provided further, the Party shall first offer to transfer or assign such interest to the other Parties proportionately at the amount of and on terms and conditions not less advantageous than those which it is willing to accept for a transfer or assignment to such other person. Such offer shall remain open for a reasonable period but not less than three months; and if the offer of the selling Party's interest is not accepted by the other Parties porportionately [*sic*], the entire offer may be accepted by one of the other Parties or in different proportions among the other Parties as such Parties may mutually agree.

(g) Any interest or assignment permitted hereunder (except as provided by subsections (a) and (e)) is expressly conditioned on such transferee or assignee assuming the obligations of the assigning Party (pro rata if less than all the Party's Ownership Share) under this agreement. Transfer or assignment shall not relieve a Party of any obligations hereunder except to the extent agreed to in writing by all the other Parties, except the transfer or assigned by PGE of its

Ownership Share in excess of .50 as provided herein, shall so relieve PGE of any obligation as to such Share.

22. TRAINING: PGE shall carry out a familiarization and training program to maintain adequate staffing, engineering and operation of the Project and the expenses thereof shall be part of the Costs of Construction or Costs of Operation as appropriate. Each Party shall be entitled, in proportion to its Ownership Share and within the limits of operating efficiency and safety requirements, to use of the facilities of the Project for the training of its own employees for staffing of other facilities or the engineering and operation thereof. Any increase in the Costs of Construction or the Costs of Operation resulting from such training shall be borne by the Parties employing such trainees.

23. NOTICES: Any notice or document required to be given under this Agreement shall be effective when given in person or sent by registered or certified mail, postage prepaid, addressed to the person and at the address designated in writing by the respective Party. Any Party may at any time, and from time to time, change its designation of the person to whom notice shall be given by giving notice to all other Parties.

24. RULE AGAINST PERPETUITIES: If the duration of any term or condition of this Agreement shall be subject to the rule against perpetuities, or to a similar or related rule, then the effectiveness of such term or condition shall not extend beyond (i) the maximum period of time permitted under such rule, or (ii) the specific applicable period of time expressed in this Agreement, whichever is shorter. For the purpose of applying any such rule, the measuring lives in being shall be those of the officers and directors of PGE shown in its 1975 Annual Report together with all such listed persons' children and grandchildren living on the date of execution of this Agreement.

25. END OF THE PROJECT: When the Generating Plant can no longer be made capable, consistent with the Prudent Utility Practice as determined (if necessary) by the Project Consultant, of producing electricity, or is not licenseable [sic], or when the Project is ended pursuant to Section 16, or when the Parties otherwise agree to end the Project, PGE shall sell for removal all salable parts of the Project, to the highest bidders; provided, however, that the Plant Real Property shall revert to PGE. After deducting all costs of termination of the Project including, without limiting the generality of the foregoing, the cost of decommissioning, razing all structures and disposing of the debris and meeting all requirements of Federal, State or local law, PGE shall close the appropriate Trust Account and, if there are net proceeds, distribute to each Party its Ownership Share of such proceeds, including the value of the Plant Real Property as determined by agreement of all the Parties, or in the absence of such agreement, by the Project Consultant. In the event such cost of ending the Project

exceeds available funds, each Party shall pay its Ownership Share of such costs incurred.

26. SPECIAL REQUIREMENTS WITH RESPECT TO COOPERATIVE: (a) Materials and Supplies. In the performance of this Contract there shall be used only such unmanufactured articles, materials and supplies as have been mined or produced in the United States, and only such manufactured articles, materials and supplies as have been manufactured in the United States substantially all from articles, materials, or supplies mined, produced, or manufactured, as the case may be, in the United States: Provided, that foreign articles, materials or supplies may be used in the event and to the extent that the Administrator shall expressly in writing authorize such use pursuant to the provisions of the Rural Electrification Act of 1938, being Title IV of Public Resolution No. 122, 75th Congress, approved June 21, 1938. PGE agrees to submit to Cooperative such certificate or certificates, signed by PGE and all subcontractors, with respect to compliance with the foregoing provisions as the Administrator of the Rural Electrification Administration from time to time may require.

(b) PGE shall, with respect to all facilities which may be part of the Project, comply with applicable water and air pollution control standards and other environmental requirements imposed by federal or state statutes or regulations including any environmental impact statement made by the Rural Electrification Administration. PGE will perform the work in such a manner as to maximize preservation of aesthetics and conservation of natural resources, and minimize marring and scarring of the landscape, erosion of soils and oil spillage. There will be no depositing of trash in streams or waterways. Herbicides, other chemicals or their containers will not be deposited in or near streams or waterways.

(c) In the event PGE fails to comply with any provision, of subparagraph (a) and (b) Cooperative's sole remedy shall be to require PGE to purchase Cooperative's Ownership Interest at the fair value thereof which shall be determined by the Project Consultant.

27. CLEAN AIR ACT AMENDMENT OF 1990: (a) The Parties hereby select Richard J. Hess, 121 SW Salmon Street, Portland, Oregon 97204, as their choice for the initial designated representative for the Project. The Parties hereby select Thomas H. Kingston, PO Box 499, Boardman, Oregon 97818, as their choice for the initial alternate designated representative for the Project. After consultation with Cooperative and IPCO, if practicable, PGE shall select the successors to the designated representative and the alternate designated representative. PGE shall immediately notify the Parties of the selection and within seven (7) days of making such selection, PGE shall submit the name of the individual selected to the Operating Committee for unanimous ratification by the Parties pursuant to Section 3 of this Agreement. If ratification of the successor to the DR or Alternate DR

is not unanimous, PGE shall repeat the process until a successor is unanimously ratified by the Parties.

(b) Provided the DR and Alternate DR sign a certificate substantially identical to Exhibit E to this Agreement the Parties hereby delegate to the DR and the Alternate DR the Parties' respective authority to perform on the Parties behalf the fiduciary duties and responsibilities assigned to the DR and Alternate DR by the Act, the Regulations, and this Section 27. If the DR or Alternate DR is an employee or an agent of a Party, his or her liability to the other Parties shall be limited as provided in the second sentence of Section 2(h). The Parties agree to be fully bound by and liable for any actions taken or submissions made by the DR and the Alternate DR in performing their duties under the Act, the Regulations, and this Section 27 insofar as such actions or submissions are in conformity with the Act, the Regulations, and this Section 27. The Parties agree to be bound by any lawful order issued to the DR or the Alternate DR by the EPA or a court of competent jurisdiction regarding the Project. Any Party with a purchaser of power from the Project under a "life-of-the-unit firm power contractual arrangement" as defined in the Act and the Regulations shall assure the arrangement with such purchaser will comply with the Act and the Regulations and shall arrange to have Allowances or proceeds of Allowances held or distributed in proportion to such purchaser's contractual reservation or entitlement. A Party's costs associated with a "life-of-the-unit firm power contractual arrangement" shall not be Costs of Operation of the Project, but such costs shall be borne by the Party incurring them.

(c) The DR shall perform all the duties required by 40 C.F.R. Part 72, Subpart B, along with any other duties required by the Act, the Regulations, and this Section 27. The Alternate DR shall perform the duties of the DR in the event the DR is not able to perform his or her duties as set forth above because of absence or any other reason.

(d) The DR and the Alternate DR shall file with the EPA a certificate of representation conforming to the requirements of the Act and the Regulations.

(e) The DR shall submit reports to the Parties no less frequently than quarterly describing the actions carried out by him or her under the Act, the Regulations, and this Section 27 and any other significant matters pertaining to his or her duties. A report stating the Project's actual emissions, heat rate, total net generation and each Party's net generation for each month shall be submitted by PGE to Cooperative and IPCO at least quarterly commencing in 1995. Reports will be provided to the Parties within thirty (30) days of the end of each quarter. The DR shall submit reasonable periodic reports more frequently if requested in writing by any Party.

(f) The Parties agree that the Allowances allocated to the Project by EPA and the proceeds from the direct sale or auction by EPA of any such Allowances shall be owned by the Parties in proportion to the Parties' respective Ownership Share. Within twenty (20) business days of notice of the initial allocation and recordation of the Allowances by the EPA to the Project's unit account, the DR shall execute and file with the EPA the forms necessary to distribute PGE's Ownership Share of the Allowances to an Allowance Tracking System account designated by PGE ("PGE's General Account"), Cooperative's Ownership Share of the Allowances to an Allowance Tracking System account designated by Cooperative ("Cooperative's General Account"), and IPCO's Ownership Share of the Allowances to an Allowance Tracking System account designated by IPCO ("IPCO's General Account"). All matters pertaining to PGE's General Account and the Allowances therein, including, but not limited to, the deduction and transfer of any Allowances in PGE's General Account, shall be undertaken only by PGE's authorized account representative. All matters pertaining to Cooperative's General Account and the Allowances therein, including, but not limited to, the deduction and transfer of any Allowances in Cooperative's General Account, shall be undertaken only by Cooperative's authorized account representative. All matters pertaining to IPCO's General Account and the Allowances therein, including, but not limited to, the deduction and transfer of any Allowances in IPCO's General Account, shall be undertaken only by IPCO's authorized account representative. Unless expressly required herein, the DR and the Alternate DR shall not otherwise sell, dispose of, or transfer any Party's Allowances held in the Project's unit account without the written authorization of the Party. Within twenty (20) business days of receipt by the DR or the Alternate DR of any proceeds from the direct sale or auction by EPA of any Allowances held in reserve by EPA which were allocated to the Project, the DR or Alternate DR, as applicable, shall pay to each Party its respective Ownership Share of such proceeds, together with interest, if any, that may have accrued thereon.

(g) Prior to the allowance transfer deadline of January 30 (or such other date as required in the Act or Regulations) or ten (10) working days after receiving the Project's actual emissions, total net generation and each Party's net generation information for the year from PGE, whichever occurs first beginning with the year 2001 and continuing each year thereafter, each of the Parties shall transfer to the Compliance Sub-Account for the Project the number of Allowances, in proportion to its respective net generation from the Project, to ensure that the Project is in compliance with the applicable requirements relating to emissions of SO<sub>2</sub> for the preceding year.

For example, if the total Project's emissions for a year equal 12,000 tons of SO<sub>2</sub>, and the Parties' proportions of total net generation from the Project are 9.0%, 12.0%, and 79.0% for Cooperative, IPCO and PGE respectively, then the required Allowance transfers shall be 1,080 (.09



x 12,000) for Cooperative, 1,440 (.12 x 12,000) for IPCO and 9,480 (.79 x 12,000) for PGE.

PGE will transmit to the Parties the Project's actual emissions, total net generation and each Party's net generation information for the year no later than January 15 of the following year. Each of the Parties will use its best efforts to transfer the Allowances as soon as it receives the information from PGE. If the number of Allowances transferred by a Party to the Compliance Sub-Account for the Project exceeds the number of Allowances required to be transferred by that Party under this Section 27(g), the DR or Alternate DR shall transfer the excess Allowances back to the Party.

(h) Major decisions regarding compliance with the Act and the Regulations shall be reviewed by the Parties pursuant to the procedures in this Agreement governing review and approval of major decisions pertaining to the Project. The subject matter for such major decisions includes, but is not limited to, the submittal of compliance plans and significant amendments thereto; permit applications and significant amendments thereto; response to and resolution of enforcement actions against the Project; and other significant matters pertaining to compliance by the Project with the Act or Regulations.

(i) With exception of those costs associated with the purchase and sale of Allowances for a Party's own account, all costs necessary for the Project to comply with the Act, the Regulations and this Section 27, including the costs associated with the DR and Alternate DR which are related solely to the Project shall be treated as Costs of Operation or Costs of Capital Additions, as appropriate, under this Agreement. Costs associated with the purchase and sale of Allowances for a Party's own account shall be borne by the Party or Parties incurring such costs.

(j) PGE shall maintain separate accounts in accordance with generally accepted accounting principles and practices, if applicable, of (i) the Allowances transferred to and from the Project's unit account; (ii) any proceeds from the direct sale or auction by EPA of any Allowances held in reserve by EPA which were allocated to the Project; and (iii) the costs associated with the DR and the Alternate DR which are related solely to the Project. Cooperative and IPCO shall have access to these books and accounts during normal business hours to the extent required to audit and verify any transactions, proceeds and costs.

(k) PGE shall protect, defend, indemnify, and hold harmless Cooperative and IPCO, their officers, directors, and employees against and from any and all liability, suits, loss, damage, claims, actions, costs or expenses of any nature, including court costs and reasonable attorney fees at trial or on appeal, arising from or caused by any breach by PGE of its obligations under this Section 27, including

but not limited to a failure by PGE to provide or timely provide sufficient Allowances under Section 27(g) above to ensure that the Project is in compliance with the Act and the Regulations.

Cooperative shall protect, defend, indemnify, and hold harmless PGE and IPCO, their officers, directors, and employees against and from any and all liability, suits, loss, damage, claims, actions, costs or expenses of any nature, including court costs and reasonable attorney fees at trial or on appeal, arising from or caused by any breach by Cooperative of its obligations under this Section 27, including but not limited to a failure by Cooperative to provide or timely provide sufficient Allowances under Section 27(g) above to ensure that the Project is in compliance with the Act and the Regulations.

IPCO shall protect, defend, indemnify, and hold harmless PGE and Cooperative, their officers, directors, and employees against and from any and all liability, suits, loss, damage, claims, actions, costs or expenses of any nature, including court costs and reasonable attorney fees at trial or on appeal, arising from or caused by any breach by IPCO of its obligations under this Section 27, including but not limited to a failure by IPCO to provide or timely provide sufficient Allowances under Section 27(g) above to ensure that the Project is in compliance with the Act and the Regulations.

The indemnifications set forth in this Section 27(k) shall survive termination or expiration of this Agreement. Amounts paid by a Party as indemnification under this Section 27(k) shall not be Costs of Operation or Costs of Capital Additions of the Project.

(l) The terms used in this Section 27 shall have the definitions as set forth in the Recitals to the Fifth Amendment to this Agreement and the Act and Regulations. In the event of a difference between the definitions as set forth in the Recitals to the Fifth Amendment to this Agreement and as set forth in the Act and Regulations, the definitions as set forth in the Recitals to the Fifth Amendment to this Agreement shall control.

DEED AND BILL OF SALE

PORTLAND GENERAL ELECTRIC COMPANY, an Oregon corporation, Grantor, conveys to the PACIFIC NORTHWEST GENERATING COMPANY, a cooperative corporation of the State of Oregon, Grantee, an undivided 10 percent interest, in the following as tenant in common with Grantor:

1. That real property in Morrow County, Oregon more particularly described in Exhibit I, attached hereto and incorporated herein, and all equipment and facilities now and hereafter constructed or installed thereon.
2. A non-exclusive easement for all purposes necessary or appropriate to the construction, operation and maintenance of the Generating Plant, described in Exhibit II (the Agreement for Construction, Ownership and Operation of the Number One Boardman Station on Carty Reservoir, dated the 15th day of October, 1976, attached hereto and incorporated herein), in, upon, over and across the following described real property situated in Morrow County, Oregon:

That real property described in Exhibit III attached hereto and by this reference made a part hereof.

3. Such non-exclusive easements and rights of way upon, under, over and across said real property as Grantee requires in respect of Grantee's undivided interest hereinabove granted and conveyed for the (a) construction, operation and maintenance of the hereinabove described facilities in their location as now or hereafter constructed in or on portions of said real property; (b) construction and installation of additions, replacements and repairs to said facilities; and (c) access to said facilities for the foregoing purposes.
4. All facilities and improvements now or hereafter installed, constructed and made in, upon, over and across that real property described in Exhibit III, which relate to and are required for the construction, operation and maintenance of said Generating Plant.

When the Project, as described in Exhibit II (the Agreement for Construction, Ownership and Operation of the Number One Boardman Station on Carty Reservoir dated October 15, 1976, attached hereto and

incorporated herein) is ended pursuant to the provisions of Section 25 of said Agreement, the real property hereby conveyed shall revert to the Grantor, and as a condition of the making and acceptance of this conveyance, Grantee covenants that, upon request of Grantor, Grantee, then shall execute appropriate quitclaim deeds conveying to Grantor their respective interests in said real estate.

Grantor covenants with Grantee, and by acceptance hereof Grantee covenants with Grantor that it expressly waives any rights of partition of the property hereby conveyed until the End of the Project as set forth in said Agreement.

This instrument is executed for the purpose of carrying out the terms and provisions of said Agreement (Exhibit II), and in the event of conflict between the provisions of said Agreement and the foregoing, the provisions of said Agreement with respect to the estates hereby created and the obligations and duties of the parties shall be paramount.

This instrument and the terms and provisions hereof, subject to the provisions of said Agreement shall inure to the benefit of and be binding upon the successors and assigns of Grantor and Grantee.

This conveyance is subject to easements, rights-of-way, restrictions, reservations and other encumbrances of record.

## EXHIBIT C

A. Equal Opportunity Clause. During the performance of this Contract, PGE agrees as follows:

1. PGE will not discriminate against any employee or applicant for employment because of race, color, religion, sex or national origin. PGE will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex or national origin. Such action shall include, but not be limited to, the following: Employment, upgrading, demotions or transfer, recruitment or advertising; layoff or termination; rates of pay or other forms of compensation; and selection of training, including apprenticeship. PGE agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this Equal Opportunity Clause.
2. PGE will, in all solicitations or advertisements for employees placed by or on behalf of PGE, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex or national origin.
3. PGE will send to each labor union or representa [sic] of workers, with which it has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representative of PGE's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
4. PGE will comply with all provisions of Executive Order 11246 of September 24, 1965, and the rules, regulations and relevant orders of the Secretary of Labor.
5. PGE will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to its books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
6. In the event of PGE's noncompliance with the Equal Opportunity Clause of this Contract or with any of the said

rules, regulations, or orders, this Contract may be cancelled [*sic*], terminated, or suspended in whole or in part, and PGE may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as provided by law.

7. PGE will include this Equal Opportunity Clause in every subcontract or purchase order unless exempted by the rules, regulations, or order of the Secretary of Labor issued pursuant to Section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. PGE will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance; Provided, however, that in the event PGE becomes involved in, or is threatened with, litigation with a subcontract or vendor as a result of such direction by the administering agency, PGE may request the United States to enter into such litigation to protect the interest of the United States.

- B. Certificat [*sic*] of Nonsegregated Facilities. PGE certifies that it does not maintain or provide for its employees any segregated facilities at any of its establishments, and that it does not permit its employees to perform their services at any location, under its control, where segregated facilities are maintained. PGE certifies further that it will not maintain or provide for its employees any segregated facilities at any of tis [*sic*] establishments, and that it will not permit its employees to perform their services at any location, under its control, where segregated facilities are maintained. PGE agrees that a breach of this certification is a violation of the Equal Opportunity Clause in this Contract. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, timeclocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transporation [*sic*], and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, or national origin, because of habit, local custom, or otherwise. PGE agrees that (except where it has obtained indentical [*sic*] certification from proposed subcontractors for specific time periods) it will obtain identical certifications from proposed subcontractors prior

to the award of subcontracts exceeding \$10,000 which are not exempt [sic] from the provisions of the Equal Opportunity Clause, and that it will retain such certifications in its files.

- C. The terms "cancellation" or "termination", for purposes of paragraph A 6 above, shall be, insofar as not inconsistent with the provisions of Executive Order 11246 dated September 24, 1965, or the rules, regulations and relevant orders of the Secretary of Labor, that PGE will, at the option of the Cooperative, be required to purchase of the Cooperative's Ownership Interest at the fair value thereof which shall be determined by the Project Consultant, within six months after written notice by the Cooperative to PGE of the Cooperative's election to cancel or terminate this agreement and to have its Ownership Interest purchased hereunder.

If the Cooperative invokes any remedies or sanctions provided by said Executive Order or by the rules, regulations and relevant orders of the Secretary of Labor other than cancellation or termination of this agreement, PGE, if it can establish that the invocation of such remedies or sanctions will substantially impair the construction of the Project, may insofar as not inconsistent with the provisions of said Executive Order or the rules, regulations [sic] or other relevant [sic] orders of the Secretary of Labor, purchase the Cooperative's Ownership Interest at the fair value thereof as determined by the Project Consultant, within six months of written notice by PGE to the Cooperative of PGE's election to so purchase the Cooperative's Ownership Interest hereunder.

EXHIBIT E

TO THE AGREEMENT FOR CONSTRUCTION, OWNERSHIP AND OPERATION  
OF THE  
NUMBER ONE BOARDMAN STATION ON CARTY RESERVOIR

CERTIFICATE OF REPRESENTATION:  
[ALTERNATE] DESIGNATED REPRESENTATIVE  
FOR THE NUMBER ONE BOARDMAN STATION

The undersigned hereby accepts appointment by PGE, Pacific Northwest Generating Cooperative, and Idaho Power Company to be the [alternate] designated representative for the Number One Boardman Station on Carty Reservoir located in Morrow County, Oregon.

The undersigned certifies that he or she will discharge the duties and responsibilities assigned to the [alternate] designated representative by (i) the Clean Air Act as amended by Public Law No. 101-549 (November 15, 1990) (the "Act"), (ii) the regulations promulgated by the Environmental Protection Agency implementing the Act, including, but not limited to the regulations set forth or to be set forth at 40 C.F.R. Parts 72, 73, 75, 76, 77 and 78 as such regulations may be amended from time to time and (iii) Section 27 of the Agreement for Construction, Ownership and Operation of the Number One Boardman Station on Carty Reservoir, dated as of October 15, 1976, and signed on December 16, 1976, as amended ("Ownership Agreement").

If the DR or Alternate DR is an employee or an agent of a Party, his or her liability to the other Parties shall be limited as provided in the second sentence of Section 2(h) of the Ownership Agreement.

\_\_\_\_\_  
(name)

\_\_\_\_\_  
(date)



ENDNOTES - ANNOTATIONS

1. Amendment dated 9/30/77. Paragraph 2(a)(1) of the Agreement

(1) Cooperative shall own .100 subject to the following:

Cooperative has arranged interim financing from the National Rural Utilities Cooperative Finance Corporation (CFC) sufficient to pay its Costs of Construction through December 31, 1977. In the event by December 31, 1977, that Cooperative is unable to secure a Rural Electrification Administration guaranteed long term loan sufficient to pay all of Cooperative's Ownership Share of the estimated Costs fo [sic] Construction required to be paid pursuant to this Agreement, and upon written notice by Cooperative to PGE on or before January 31, 1978, PGE will pay to Cooperative, within 180 days of the date of such notice, all amounts owed to CFC by Cooperative less any unexpended funds. Upon such payment PGE's Ownership Share shall be increased accordingly and Cooperative shall cease to be a Party and all its rights and obligations under this Agreement shall terminate.

Prior to Cooperative's obtaining long term financing Cooperative's interest in the Project shall be evidenced solely by this Agreement. When Cooperative obtains such long term financing, PGE shall execute and deliver to Cooperative a deed for its Ownership Share of the Project in the form attached to this Agreement as Exhibit B.

is deleted and the following paragraph is inserted in lieu thereof:

(1) Cooperative shall own .100 subject to the following:

Cooperative has arranged interim financing from the National Rural Utilities Cooperative Finance Corporation (CFC) sufficient to pay its Costs of Construction through February 28, 1978. In the event by February 28, 1978, that Cooperative is unable to secure a Rural Electrification Administration guaranteed long-term loan sufficient to pay all of Cooperative's Ownership Share of the estimated Costs of Construction required to be paid pursuant to this Agreement, and upon written notice by Cooperative to PGE on or before March 31, 1978, PGE will pay to Cooperative, within 180 days of the date of such notice, all amounts owed to CFC by Cooperative less any unexpended funds. Upon such payment PGE's Ownership Share shall be increased accordingly and

Cooperative shall cease to be a Party and all its rights and obligations under this Agreement shall terminate.

Prior to Cooperative's obtaining long-term financing Cooperative's interest in the Project shall be evidenced solely by this Agreement. When Cooperative obtains such long-term financing, PGE shall execute and deliver to Cooperative a deed for its Ownership Share of the Project in the form attached to this Agreement as Exhibit B.

2. Second Amendment dated 10/31/77. Section 21(a) of the Agreement

(a) To any mortgagee, trustee or secured party, as security for bonds or other indebtedness of such Party, present or future; and such mortgagee, trustee or secured party may realize upon such security in foreclosure or other suitable proceedings, and succeed to all right, title and interests of such Party;

is deleted and the following section is inserted in lieu thereof:

(a) To any mortgagee, trustee or secured party, as security for bonds or other indebtedness of such Party, present or future; and such mortgagee, trustee or secured party may sell such interest in foreclosure or other suitable proceedings and the purchaser at any such foreclosure sale or sales shall succeed to all right, title and interests of such Party;

3. Amendment dated 1/23/78. Paragraph 2(a)(1) of the Agreement

(1) Cooperative shall own .100 subject to the following:

Cooperative has arranged interim financing from the National Rural Utilities Cooperative Finance Corporation (CFC) sufficient to pay its Costs of Construction through February 28, 1978. In the event by February 28, 1978, that Cooperative is unable to secure a Rural Electrification Administration guaranteed long-term loan sufficient to pay all of Cooperative's Ownership Share of the estimated Costs of Construction required to be paid pursuant to this Agreement, and upon written notice by Cooperative to PGE on or before March 31, 1978, PGE will pay to Cooperative, within 180 days of the date of such notice, all amounts owed to CFC by Cooperative less any unexpended funds. Upon such payment PGE's Ownership Share shall be increased accordingly and Cooperative shall cease to be a Party and all its rights and obligations under this Agreement shall terminate.

Prior to Cooperative's obtaining long-term financing Cooperative's interest in the Project shall be evidenced solely by this Agreement. When Cooperative obtains such long-term financing, PGE shall execute and deliver to Cooperative a deed for its Ownership Share of the Project in the form attached to this Agreement as Exhibit B.

is deleted and the following paragraph is inserted in lieu thereof:

(1) Cooperative shall own .100 subject to the following:

Cooperative has arranged interim financing from the National Rural Utilities Cooperative Finance Corporation (CFC) sufficient to pay its Costs of Construction through June 30, 1978. In the event by June 30, 1978, that Cooperative is unable to secure a Rural Electrification Administration guaranteed long-term loan sufficient to pay all of Cooperative's Ownership Share of the estimated Costs of Construction required to be paid pursuant to this Agreement, and upon written notice by Cooperative to PGE on or before July 31, 1978, PGE will pay to Cooperative, within 180 days of the date of such notice, all amounts owed to CFC by Cooperative less any unexpended funds. Upon such payment PGE's Ownership Share shall be increased accordingly and Cooperative shall cease to be a Party and all its rights and obligations under this Agreement shall terminate.

Prior to Cooperative's obtaining long-term financing Cooperative's interest in the Project shall be evidenced solely by this Agreement. When Cooperative obtains such long-term financing, PGE shall execute and deliver to Cooperative a deed for its Ownership Share of the Project in the form attached to this Agreement as Exhibit B.

4. Amendment dated 2/15/78. Paragraph 2(a)(1) of the Agreement

(1) Cooperative shall own .100 subject to the following:

Cooperative has arranged interim financing from the National Rural Utilities Cooperative Finance Corporation (CFC) sufficient to pay its Costs of Construction through June 30, 1978. In the event by June 30, 1978, that Cooperative is unable to secure a Rural Electrification Administration guaranteed long-term loan sufficient to pay all of Cooperative's Ownership Share of the estimated Costs of Construction required to be paid

pursuant to this Agreement, and upon written notice by Cooperative to PGE on or before July 31, 1978, PGE will pay to Cooperative, within 180 days of the date of such notice, all amounts owed to CFC by Cooperative less any unexpended funds. Upon such payment PGE's Ownership Share shall be increased accordingly and Cooperative shall cease to be a Party and all its rights and obligations under this Agreement shall terminate.

Prior to Cooperative's obtaining long-term financing Cooperative's interest in the Project shall be evidenced solely by this Agreement. When Cooperative obtains such long-term financing, PGE shall execute and deliver to Cooperative a deed for its Ownership Share of the Project in the form attached to this Agreement as Exhibit B.

is deleted and the following paragraph is inserted in lieu thereof:

(1) Cooperative shall own .100 subject to the following:

Cooperative has arranged interim financing from the National Rural Utilities Cooperative Finance Corporation (CFC) sufficient to pay its Costs of Construction through June 30, 1978. In the event by June 30, 1978, that Cooperative is unable to secure a Rural Electrification Administration guaranteed long-term loan sufficient to pay all of Cooperative's Ownership Share of the estimated Costs of Construction required to be paid pursuant to this Agreement, and upon written notice by Cooperative to PGE on or before July 31, 1978, PGE will pay to Cooperative, within 180 days of the date of such notice, all amounts owed to CFC by Cooperative less any unexpended funds. Upon such payment PGE's Ownership Share shall be increased accordingly and Cooperative shall cease to be a Party and all its rights and obligations under this Agreement shall terminate.

Prior to Cooperative's obtaining long-term financing Cooperative's interest in the Project shall be evidenced solely by this Agreement. When Cooperative obtains such long-term financing, PGE shall execute and deliver to Cooperative a deed for its Ownership Share of the Project in the form attached to this Agreement as Exhibit B.

5. Amendment dated 3/15/94. New Section 27 added:

27. CLEAN AIR ACT AMENDMENT OF 1990: (a) The Parties hereby select Richard J. Hess, 121 SW Salmon Street, Portland, Oregon 97204, as their choice for the initial designated representative for the Project. The Parties hereby select Thomas H. Kingston, PO Box 499, Boardman, Oregon 97818, as their choice for the initial alternate designated representative for the Project. After consultation with Cooperative and IPCO, if practicable, PGE shall select the successors to the designated representative and the alternate designated representative. PGE shall immediately notify the Parties of the selection and within seven (7) days of making such selection, PGE shall submit the name of the individual selected to the Operating Committee for unanimous ratification by the Parties pursuant to Section 3 of this Agreement. If ratification of the successor to the DR or Alternate DR is not unanimous, PGE shall repeat the process until a successor is unanimously ratified by the Parties.

(b) Provided the DR and Alternate DR sign a certificate substantially identical to Exhibit E to this Agreement the Parties hereby delegate to the DR and the Alternate DR the Parties' respective authority to perform on the Parties behalf the fiduciary duties and responsibilities assigned to the DR and Alternate DR by the Act, the Regulations, and this Section 27. If the DR or Alternate DR is an employee or an agent of a Party, his or her liability to the other Parties shall be limited as provided in the second sentence of Section 2(h). The Parties agree to be fully bound by and liable for any actions taken or submissions made by the DR and the Alternate DR in performing their duties under the Act, the Regulations, and this Section 27 insofar as such actions or submissions are in conformity with the Act, the Regulations, and this Section 27. The Parties agree to be bound by any lawful order issued to the DR or the Alternate DR by the EPA or a court of competent jurisdiction regarding the Project. Any Party with a purchaser of power from the Project under a "life-of-the-unit firm power contractual arrangement" as defined in the Act and the Regulations shall assure the arrangement with such purchaser will comply with the Act and the Regulations and shall arrange to have Allowances or proceeds of Allowances held or distributed in proportion to such purchaser's contractual reservation or entitlement. A Party's costs associated with a "life-of-the-unit firm power contractual arrangement" shall not be Costs of Operation of the Project, but such costs shall be borne by the Party incurring them.

(c) The DR shall perform all the duties required by 40 C.F.R. Part 72, Subpart B, along with any other duties required by the Act, the Regulations, and this Section 27. The Alternate DR shall perform the duties of the DR in the event the DR is not

able to perform his or her duties as set forth above because of absence or any other reason.

(d) The DR and the Alternate DR shall file with the EPA a certificate of representation conforming to the requirements of the Act and the Regulations.

(e) The DR shall submit reports to the Parties no less frequently than quarterly describing the actions carried out by him or her under the Act, the Regulations, and this Section 27 and any other significant matters pertaining to his or her duties. A report stating the Project's actual emissions, heat rate, total net generation and each Party's net generation for each month shall be submitted by PGE to Cooperative and IPCO at least quarterly commencing in 1995. Reports will be provided to the Parties within thirty (30) days of the end of each quarter. The DR shall submit reasonable periodic reports more frequently if requested in writing by any Party.

(f) The Parties agree that the Allowances allocated to the Project by EPA and the proceeds from the direct sale or auction by EPA of any such Allowances shall be owned by the Parties in proportion to the Parties' respective Ownership Share. Within twenty (20) business days of notice of the initial allocation and recordation of the Allowances by the EPA to the Project's unit account, the DR shall execute and file with the EPA the forms necessary to distribute PGE's Ownership Share of the Allowances to an Allowance Tracking System account designated by PGE ("PGE's General Account"), Cooperative's Ownership Share of the Allowances to an Allowance Tracking System account designated by Cooperative ("Cooperative's General Account"), and IPCO's Ownership Share of the Allowances to an Allowance Tracking System account designated by IPCO ("IPCO's General Account"). All matters pertaining to PGE's General Account and the Allowances therein, including, but not limited to, the deduction and transfer of any Allowances in PGE's General Account, shall be undertaken only by PGE's authorized account representative. All matters pertaining to Cooperative's General Account and the Allowances therein, including, but not limited to, the deduction and transfer of any Allowances in Cooperative's General Account, shall be undertaken only by Cooperative's authorized account representative. All matters pertaining to IPCO's General Account and the Allowances therein, including, but not limited to, the deduction and transfer of any Allowances in IPCO's General Account, shall be undertaken only by IPCO's authorized account representative. Unless expressly required herein, the DR and the Alternate DR shall not otherwise sell, dispose of, or transfer any Party's Allowances held in the Project's unit account without the written authorization of the Party. Within twenty (20) business days of receipt by the DR or the Alternate DR of any proceeds from the direct sale or auction by EPA of any Allowances held in

reserve by EPA which were allocated to the Project, the DR or Alternate DR, as applicable, shall pay to each Party its respective Ownership Share of such proceeds, together with interest, if any, that may have accrued thereon.

(g) Prior to the allowance transfer deadline of January 30 (or such other date as required in the Act or Regulations) or ten (10) working days after receiving the Project's actual emissions, total net generation and each Party's net generation information for the year from PGE, whichever occurs first beginning with the year 2001 and continuing each year thereafter, each of the Parties shall transfer to the Compliance Sub-Account for the Project the number of Allowances, in proportion to its respective net generation from the Project, to ensure that the Project is in compliance with the applicable requirements relating to emissions of SO<sub>2</sub> for the preceding year.

For example, if the total Project's emissions for a year equal 12,000 tons of SO<sub>2</sub>, and the Parties' proportions of total net generation from the Project are 9.0%, 12.0%, and 79.0% for Cooperative, IPCO and PGE respectively, then the required Allowance transfers shall be 1,080 (.09 x 12,000) for Cooperative, 1,440 (.12 x 12,000) for IPCO and 9,480 (.79 x 12,000) for PGE.

PGE will transmit to the Parties the Project's actual emissions, total net generation and each Party's net generation information for the year no later than January 15 of the following year. Each of the Parties will use its best efforts to transfer the Allowances as soon as it receives the information from PGE. If the number of Allowances transferred by a Party to the Compliance Sub-Account for the Project exceeds the number of Allowances required to be transferred by that Party under this Section 27(g), the DR or Alternate DR shall transfer the excess Allowances back to the Party.

(h) Major decisions regarding compliance with the Act and the Regulations shall be reviewed by the Parties pursuant to the procedures in this Agreement governing review and approval of major decisions pertaining to the Project. The subject matter for such major decisions includes, but is not limited to, the submittal of compliance plans and significant amendments thereto; permit applications and significant amendments thereto; response to and resolution of enforcement actions against the Project; and other significant matters pertaining to compliance by the Project with the Act or Regulations.

(i) With exception of those costs associated with the purchase and sale of Allowances for a Party's own account, all costs necessary for the Project to comply with the Act, the Regulations and this Section 27, including the costs associated

with the DR and Alternate DR which are related solely to the Project shall be treated as Costs of Operation or Costs of Capital Additions, as appropriate, under this Agreement. Costs associated with the purchase and sale of Allowances for a Party's own account shall be borne by the Party or Parties incurring such costs.

(j) PGE shall maintain separate accounts in accordance with generally accepted accounting principles and practices, if applicable, of (i) the Allowances transferred to and from the Project's unit account; (ii) any proceeds from the direct sale or auction by EPA of any Allowances held in reserve by EPA which were allocated to the Project; and (iii) the costs associated with the DR and the Alternate DR which are related solely to the Project. Cooperative and IPCO shall have access to these books and accounts during normal business hours to the extent required to audit and verify any transactions, proceeds and costs.

(k) PGE shall protect, defend, indemnify, and hold harmless Cooperative and IPCO, their officers, directors, and employees against and from any and all liability, suits, loss, damage, claims, actions, costs or expenses of any nature, including court costs and reasonable attorney fees at trial or on appeal, arising from or caused by any breach by PGE of its obligations under this Section 27, including but not limited to a failure by PGE to provide or timely provide sufficient Allowances under Section 27(g) above to ensure that the Project is in compliance with the Act and the Regulations.

Cooperative shall protect, defend, indemnify, and hold harmless PGE and IPCO, their officers, directors, and employees against and from any and all liability, suits, loss, damage, claims, actions, costs or expenses of any nature, including court costs and reasonable attorney fees at trial or on appeal, arising from or caused by any breach by Cooperative of its obligations under this Section 27, including but not limited to a failure by Cooperative to provide or timely provide sufficient Allowances under Section 27(g) above to ensure that the Project is in compliance with the Act and the Regulations.

IPCO shall protect, defend, indemnify, and hold harmless PGE and Cooperative, their officers, directors, and employees against and from any and all liability, suits, loss, damage, claims, actions, costs or expenses of any nature, including court costs and reasonable attorney fees at trial or on appeal, arising from or caused by any breach by IPCO of its obligations under this Section 27, including but not limited to a failure by IPCO to provide or timely provide sufficient Allowances under Section 27(g) above to ensure that the Project is in compliance with the Act and the Regulations.



The indemnifications set forth in this Section 27(k) shall survive termination or expiration of this Agreement. Amounts paid by a Party as indemnification under this Section 27(k) shall not be Costs of Operation or Costs of Capital Additions of the Project.

(1) The terms used in this Section 27 shall have the definitions as set forth in the Recitals to the Fifth Amendment to this Agreement and the Act and Regulations. In the event of a difference between the definitions as set forth in the Recitals to the Fifth Amendment to this Agreement and as set forth in the Act and Regulations, the definitions as set forth in the Recitals to the Fifth Amendment to this Agreement shall control.

and new Exhibit E added:

#### EXHIBIT E

##### CERTIFICATE OF REPRESENTATION: [ALTERNATE] DESIGNATED REPRESENTATIVE FOR THE NUMBER ONE BOARDMAN STATION

The undersigned hereby accepts appointment by PGE, Pacific Northwest Generating Cooperative, and Idaho Power Company to be the [alternate] designated representative for the Number One Boardman Station on Carty Reservoir located in Morrow County, Oregon.

The undersigned certifies that he or she will discharge the duties and responsibilities assigned to the [alternate] designated representative by (i) the Clean Air Act as amended by Public Law No. 101-549 (November 15, 1990) (the "Act"), (ii) the regulations promulgated by the Environmental Protection Agency implementing the Act, including, but not limited to the regulations set forth or to be set forth at 40 C.F.R. Parts 72, 73, 75, 76, 77 and 78 as such regulations may be amended from time to time and (iii) Section 27 of the Agreement for Construction, Ownership and Operation of the Number One Boardman Station on Carty Reservoir, dated as of October 15, 1976, and signed on December 16, 1976, as amended ("Ownership Agreement").

If the DR or Alternate DR is an employee or an agent of a Party, his or her liability to the other Parties shall be limited as provided in the second sentence of Section 2(h) of the Ownership Agreement.

\_\_\_\_\_  
(name)

\_\_\_\_\_  
(date)



**EXHIBIT C**

**LOCATION**

OAR 345-021-0010(1)(c)

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C-1 Land Description for the Carty Generating Station Facility Site



## C.1 INTRODUCTION

**OAR 345-021-0010(1)(c)** *Information about the location of the proposed facility.*

## C.2 MAPS

**OAR 345-021-0010(1)(c)(A)** *A map or maps showing the proposed locations of the energy facility site, all related or supporting facility sites and all areas that might be temporarily disturbed during construction of the facility in relation to major roads, water bodies, cities and towns, important landmarks and topographic features, using a scale of 1 inch = 2,000 feet or smaller when necessary to show detail.*

Response: Figure B-1 shows the location of the proposed Carty Generating Station and its associated transmission line on a regional scale, including its location in relationship to Highway 84 and the Columbia River (see Exhibit B). Figures B-2 through B-5 show the proposed locations of the Energy Facility Site, all related or supporting facility sites, and all areas that might be temporarily disturbed during construction of the Carty Generating Station at a more detailed scale (see Exhibit B). Figures C-1 through C-5 show the transmission line right-of-way (ROW) and areas along the transmission line ROW that might be temporarily disturbed during construction of the new transmission line (transmission line tower areas), along with topography. Figure R-1 identifies lands currently used for commercial agriculture (see Exhibit R). Threemile Canyon Farms, LLC, is the only operator of commercial agriculture within the Site Boundary. The United States Department of Agriculture Farm Service Agency was contacted to determine the names and addresses of any Conservation Reserve Program participants with contracts within the Site Boundary; the Farm Service Agency did not find any Conservation Reserve Program contracts within the Site Boundary.

## C.3 LOCATION DESCRIPTION

**OAR 345-021-0010(1)(c)(B)** *A description of the location of the proposed energy facility site, the proposed site of each related or supporting facility and areas of temporary disturbance, including the approximate land area of each. If a proposed pipeline or transmission line is to follow an existing road, pipeline or transmission line, the applicant shall state to which side of the existing road, pipeline or transmission line the proposed facility will run, to the extent this is know.*

Response:

### **C.3.1 Overall Site Boundary – approximately 1,000 acres**

The Site Boundary (excluding the transmission line corridor) encompasses approximately 1,000 acres located north of Carty Reservoir, in Township 2 north, Range 24 east, and Township 3 north, Range 24 east, Willamette Meridian. It is located approximately 13 miles southwest of Boardman, Oregon, near the existing Boardman Plant in Morrow County, Oregon, on property PGE currently owns and on property to be owned by Portland General Electric Company (PGE)<sup>1</sup>. A land description for the Site Boundary (excluding the transmission line corridor) is provided in Appendix C-1.

### **C.3.2 Energy Facility Site – approximately 90 acres**

The proposed Energy Facility Site includes the following:

- Carty Generating Station, including buildings, structures, and evaporation ponds on approximately 75 acres of land. Final building and structure locations within the Energy Facility Site will be determined once further studies are complete.
- Grassland Switchyard, to occupy approximately 15 acres within a fenced enclosure.

### **C.3.3 Transmission Line – approximately 1,400 acres**

Power generated at the Carty Generating Station would be transmitted to the Slatt substation via the existing 500-kilovolt (kV) Boardman to Slatt transmission line and through a new 500-kV single circuit or double circuit transmission line. The transmission lines are located in Morrow and Gilliam Counties. The new transmission line would be located in parallel and to the south of the existing line; it would extend west from the Carty Generating Station for approximately 18 miles and would be constructed within the ROW. This transmission line corridor passes through primarily agricultural and range land. Approximately one half mile west of the border between Gilliam and Morrow Counties, the corridor roughly parallels Highway 74 on the eastern side of the road before crossing the highway heading west.

### **C.3.4 Gas Pipeline Lateral**

A gas pipeline lateral would also be constructed to provide fuel for the Carty Generating Station. The proposed pipeline is not included within the scope of this Application for Site Certificate. The gas pipeline lateral is being permitted by Gas Transmission Northwest Corporation (GTN) as a separate project under the jurisdiction of the Federal Energy Regulatory Commission. The proposed gas pipeline lateral would carry natural gas from an existing pipeline operated by GTN

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<sup>1</sup> PGE has executed an agreement with Three Mile Farm (the current owner) to acquire the fee title to the property. Closing is expected to occur by the end of the first quarter of 2011.

to the proposed Energy Facility Site. The lateral would tap the GTN pipeline approximately 15 to 25 miles south of the proposed Energy Facility Site and would be approximately 16 to 20 inches in diameter (see Section B.6 of Exhibit B).

### **C.3.5 Areas of Temporary Disturbance**

During the construction of the first block, approximately 25 acres would be temporarily disturbed in the vicinity of the Energy Facility Site for construction parking, construction offices, construction laydown and assembly, and construction spoils for the project. Construction of Block 2 would have a total of approximately 40 acres of temporary disturbance (includes temporary disturbances associated with two Blocks, evaporations ponds, and switchyard). Block 1 construction would temporarily disturb less area than Block 2 because Block 1 would utilize areas that would later become permanently disturbed by Block 2. Of the 40 acres of temporary disturbance approximately 6 acres would be temporarily disturbed in the vicinity of the new 500-kV Grassland Switchyard and approximately 9 acres is associated with the evaporation ponds.

Connecting the Carty Generating Station with the existing transmission line would temporarily disturb approximately 1 acre at the base of each new transmission tower between the facility and the Grassland Switchyard, approximately four towers for Block 1 and another four towers for Block 2 (total of 8 acres). Construction of the new transmission line would temporarily disturb approximately 1 acre at the base of each new transmission tower (approximately 89 total) and approximately 20 acres of laydown areas within the corridor. The new transmission line towers would be spaced at intervals similar to the spacing of the existing transmission line towers.

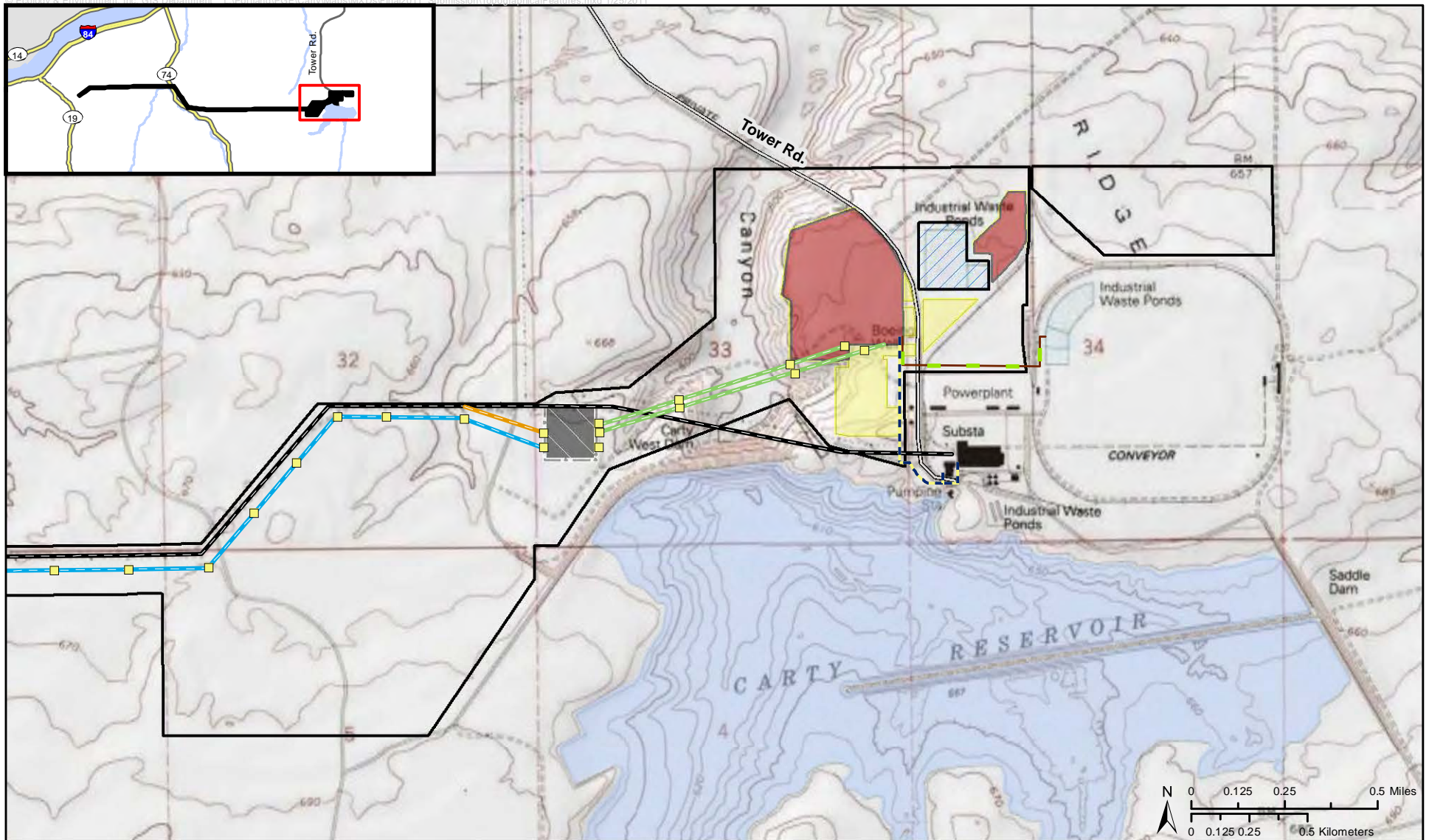
Temporary access roads would be built to facilitate construction of the new transmission towers. Temporary access roads may utilize existing access roads to the extent possible; consist of an entirely new 19-mile temporary access road along the length of the transmission line (from the Carty Generating Station to the Slatt Substation); or a combination of the two. Within the ASC, impact areas have been calculated based on the maximum anticipated length of approximately 19 miles. Access road would be approximately 20 feet wide, resulting in a temporary disturbance of approximately 47 acres.

In addition, wire stringing equipment would create a minor temporary impact at approximately 3-mile intervals. This equipment would have a temporary impact of approximately 12,000 square feet (sf). Stringing of the lines is assumed to disturb 12,000 sf between the Carty Generating Station and the Grassland Switchyard and 12,000 sf every 3 miles thereafter and at bends in the line, resulting in 13 stringing areas and approximately 3 acres of land being disturbed by stringing activities. The total temporarily disturbed areas for construction of two blocks and a new transmission line would be approximately 207 acres. Table C-1 presents the areas of temporary disturbance for various construction scenarios.

**Table C-1 Areas of Temporary Disturbance**

<b>Area</b>	<b>Construction of Only One Block (acres) (no transmission line)</b>	<b>Construction of Only One Block (acres) and Transmission Line</b>	<b>Construction of Two Blocks (acres) and Transmission Line</b>
Energy Facility Site	40	40	40
Transmission Line Connection to Switchyard	4	4	8
New Transmission Line Towers	0	89	89
Temporary Access Roads	~2.5	47	47
Transmission Line Laydown Areas	0	20	20
Stringing Operations	0.6	3	3
<b>Total</b>	<b>47.1</b>	<b>203</b>	<b>207</b>

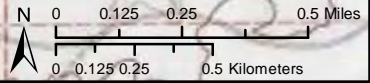
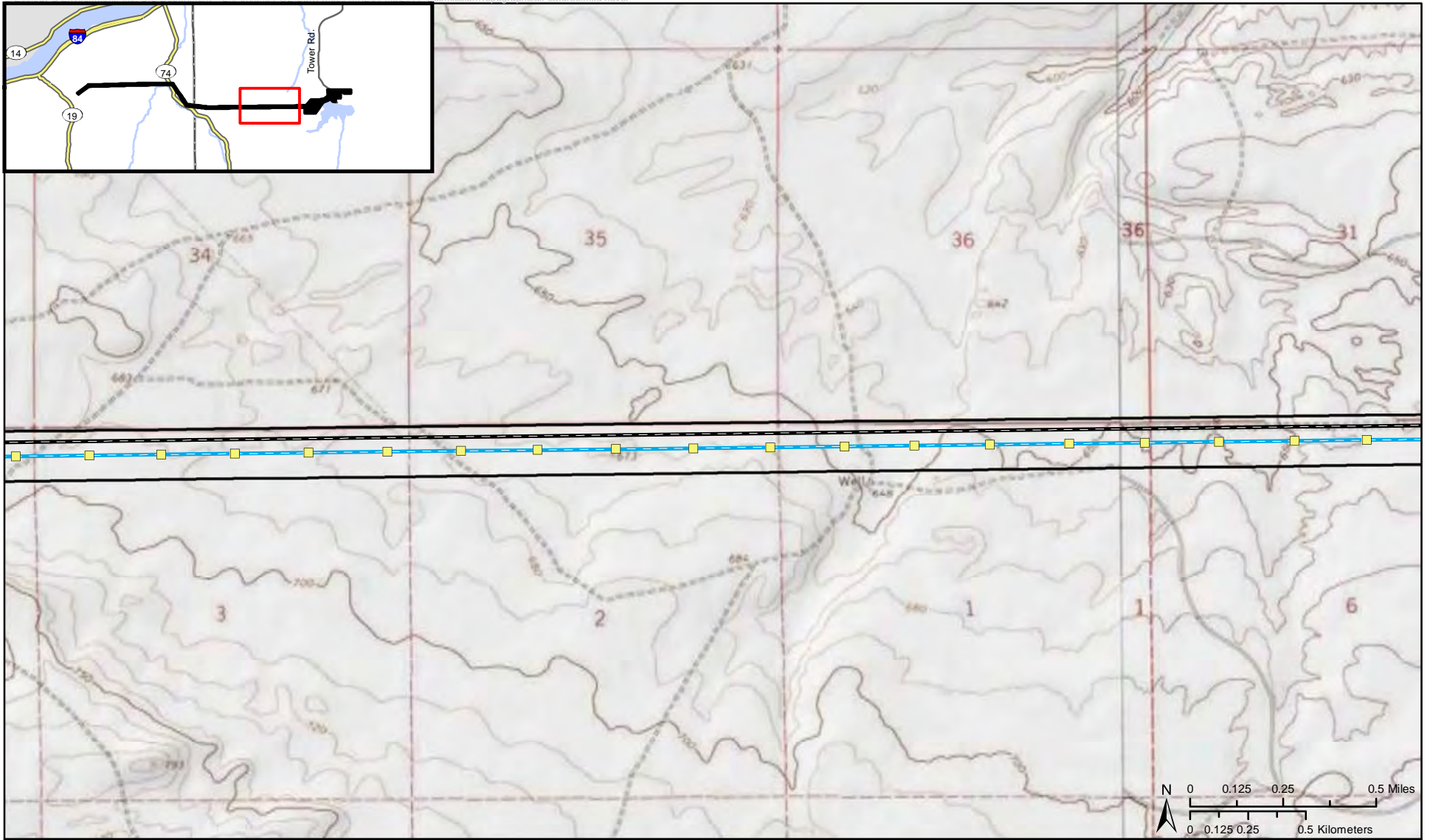




- |                                    |  |                               |
|------------------------------------|--|-------------------------------|
| Site Boundary                      | <b>Transmission Lines</b>                              | Utility Interconnect Corridor |
| Slatt Substation                   | Existing Boardman to Slatt Substation 500kV Centerline | Sewer Line                    |
| Proposed Energy Facility Site      | Proposed Line to Slatt Substation                      | Transmission Line Towers      |
| Temporary Construction Areas       | Proposed Line(s) to Grassland Switchyard               | Tower Road                    |
| Proposed Grassland Switchyard      | Proposed Grassland Switchyard to Existing Slatt Line   |                               |
| Existing Boardman Evaporation Pond |  |                               |

**Figure C-1**  
**Project Overview**  
**PGE Carty Generating Station**  
**Application for Site Certificate**



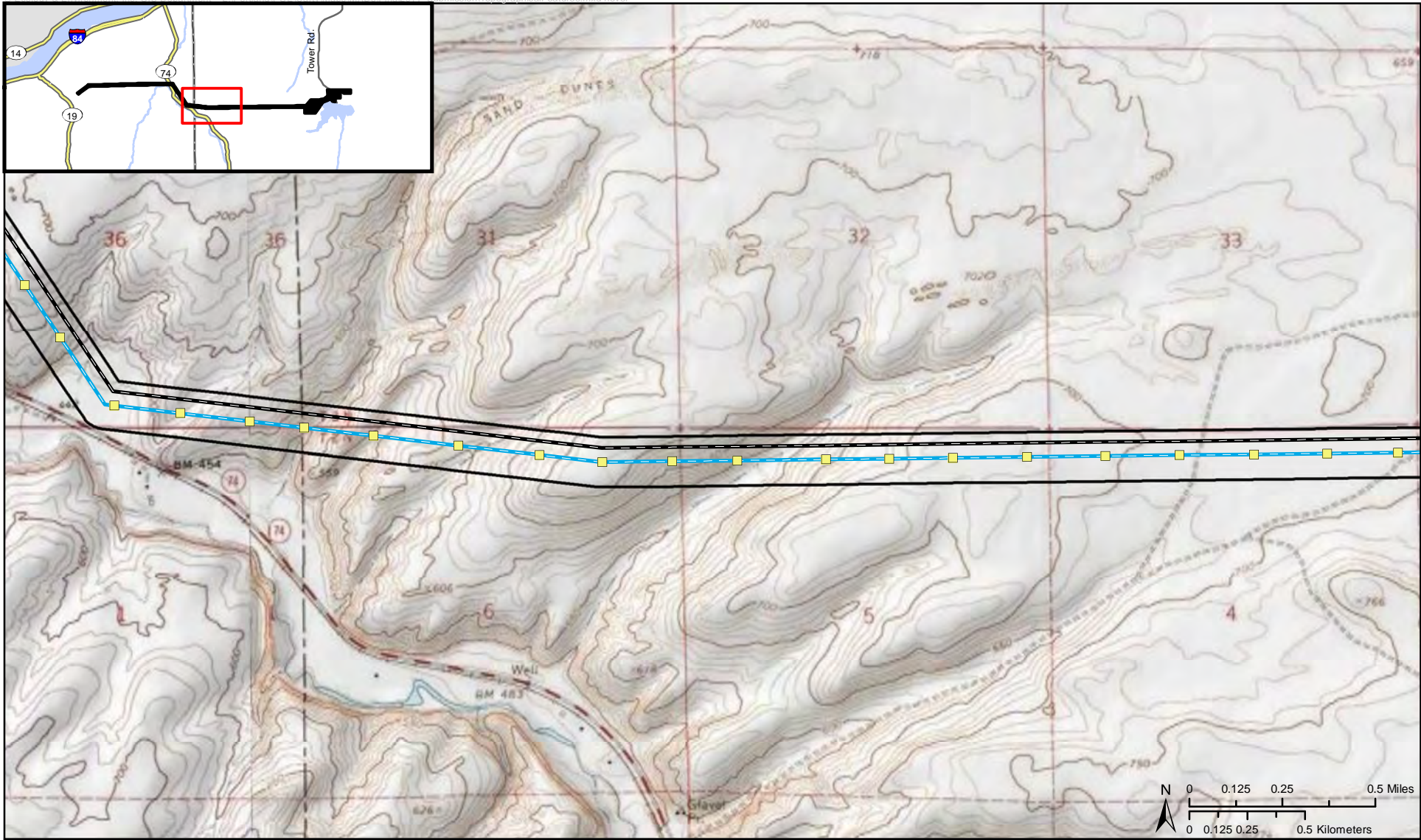


- |                                    |  |                               |
|------------------------------------|--|-------------------------------|
| Site Boundary                      | <b>Transmission Lines</b>                              | Utility Interconnect Corridor |
| Slatt Substation                   | Existing Boardman to Slatt Substation 500kV Centerline | Sewer Line                    |
| Proposed Energy Facility Site      | Proposed Line to Slatt Substation                      | Transmission Line Towers      |
| Temporary Construction Areas       | Proposed Line(s) to Grassland Switchyard               | Tower Road                    |
| Proposed Grassland Switchyard      | Proposed Grassland Switchyard to Existing Slatt Line   |                               |
| Existing Boardman Evaporation Pond |  |                               |

**Figure C-2**  
**Project Overview**  
**PGE Carty Generating Station**  
**Application for Site Certificate**



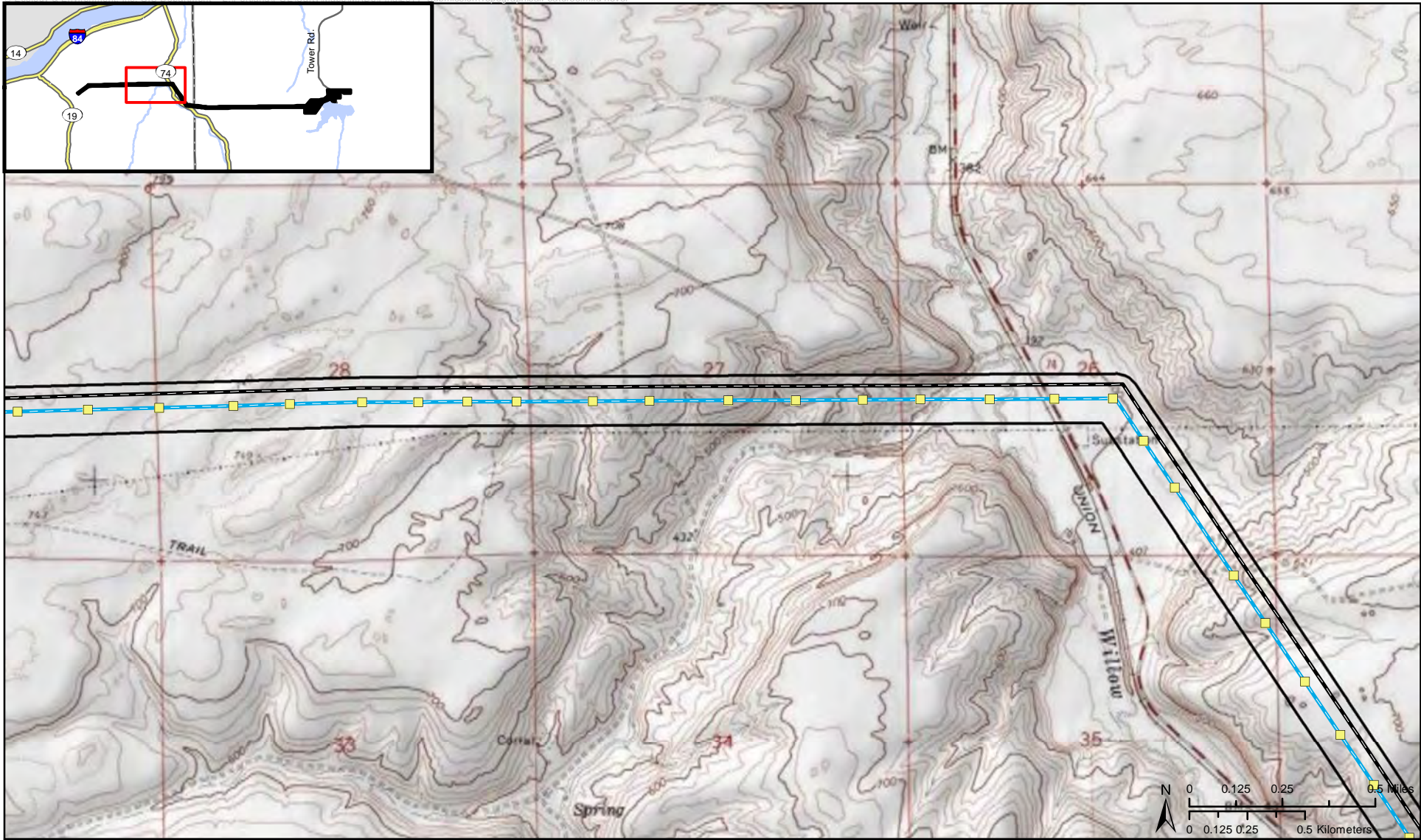




- |                                    |  |                               |
|------------------------------------|--|-------------------------------|
| Site Boundary                      | <b>Transmission Lines</b>                              | Utility Interconnect Corridor |
| Slatt Substation                   | Existing Boardman to Slatt Substation 500kV Centerline | Sewer Line                    |
| Proposed Energy Facility Site      | Proposed Line to Slatt Substation                      | Transmission Line Towers      |
| Temporary Construction Areas       | Proposed Line(s) to Grassland Switchyard               | Tower Road                    |
| Proposed Grassland Switchyard      | Proposed Grassland Switchyard to Existing Slatt Line   |                               |
| Existing Boardman Evaporation Pond |  |                               |

**Figure C-3**  
**Project Overview**  
**PGE Carty Generating Station**  
**Application for Site Certificate**





- Site Boundary
- Slatt Substation
- Proposed Energy Facility Site
- Temporary Construction Areas
- Proposed Grassland Switchyard
- Existing Boardman Evaporation Pond

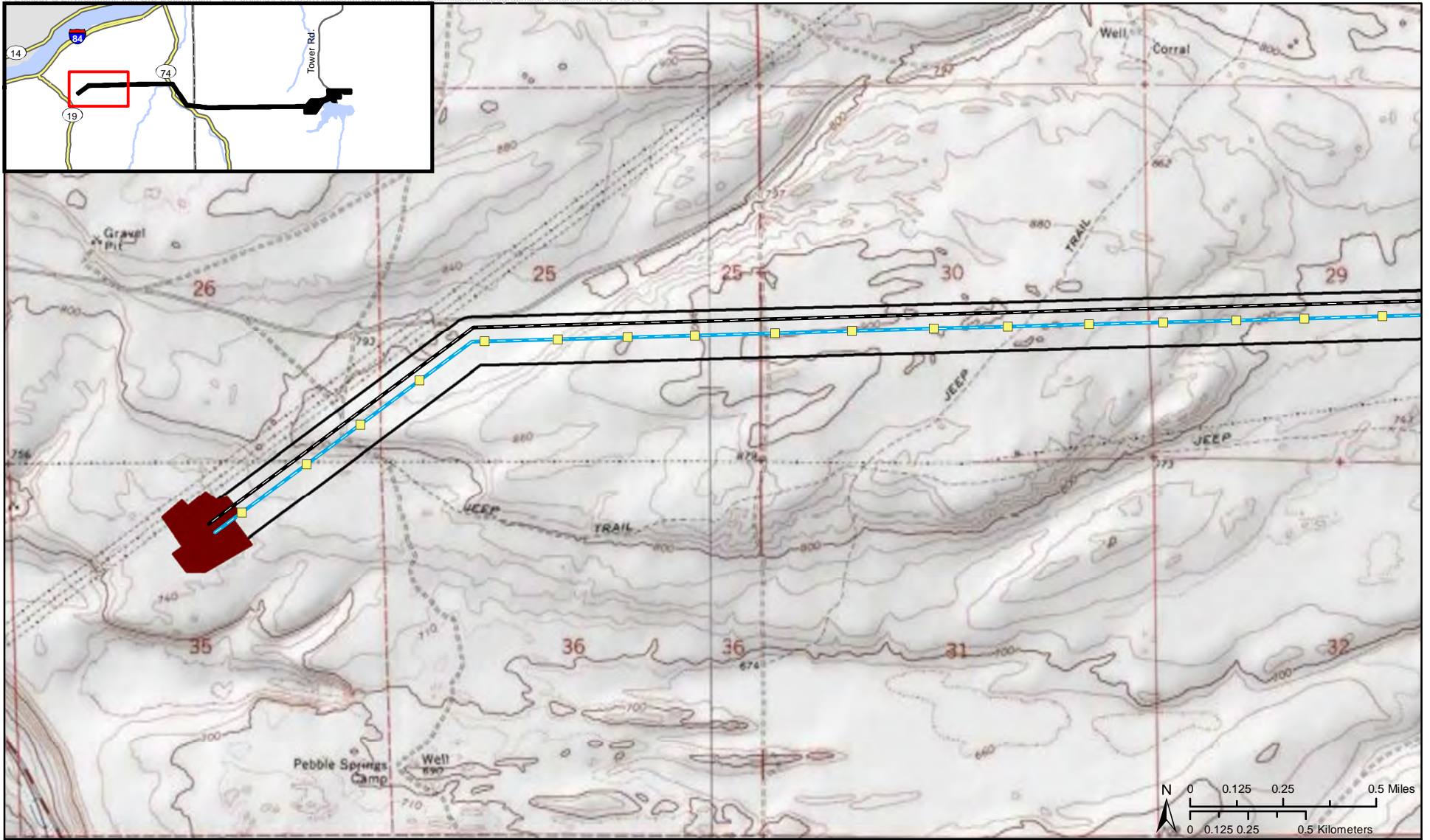
- Transmission Lines**
- Existing Boardman to Slatt Substation 500kV Centerline
  - Proposed Line to Slatt Substation
  - Proposed Line(s) to Grassland Switchyard
  - Proposed Grassland Switchyard to Existing Slatt Line

- Utility Interconnect Corridor
- Sewer Line
- Transmission Line Towers
- Tower Road

**Figure C-4**  
**Project Overview**  
**PGE Carty Generating Station**  
**Application for Site Certificate**







- Site Boundary
- Slatt Substation
- Proposed Energy Facility Site
- Temporary Construction Areas
- Proposed Grassland Switchyard
- Existing Boardman Evaporation Pond

- Transmission Lines**
- Existing Boardman to Slatt Substation 500kV Centerline
  - Proposed Line to Slatt Substation
  - Proposed Line(s) to Grassland Switchyard
  - Proposed Grassland Switchyard to Existing Slatt Line

- Utility Interconnect Corridor
- Sewer Line
- Transmission Line Towers
- Tower Road

**Figure C-5**  
**Site Boundary**  
**Topographical Features**  
**PGE Carty Generating Station**  
**Application for Site Certificate**





# **APPENDIX C-1**

## **Land Description for the Carty Generating Station Facility Site**





**PORTLAND GENERAL ELECTRIC COMPANY  
CARTY GENERATING STATION SITE CERTIFICATE  
LAND DESCRIPTION**

A TRACT OF LAND BEING THE NORTH HALF OF SECTION 5, TOWNSHIP 2 NORTH, RANGE 24 EAST, WILLAMETTE MERIDIAN, AND THAT PORTION OF SECTIONS 32, 33, AND 34, TOWNSHIP 3 NORTH, RANGE 24 EAST, WILLAMETTE MERIDIAN, MORROW COUNTY, OREGON, BEING MORE PARTICULARLY DESCRIBED AS:

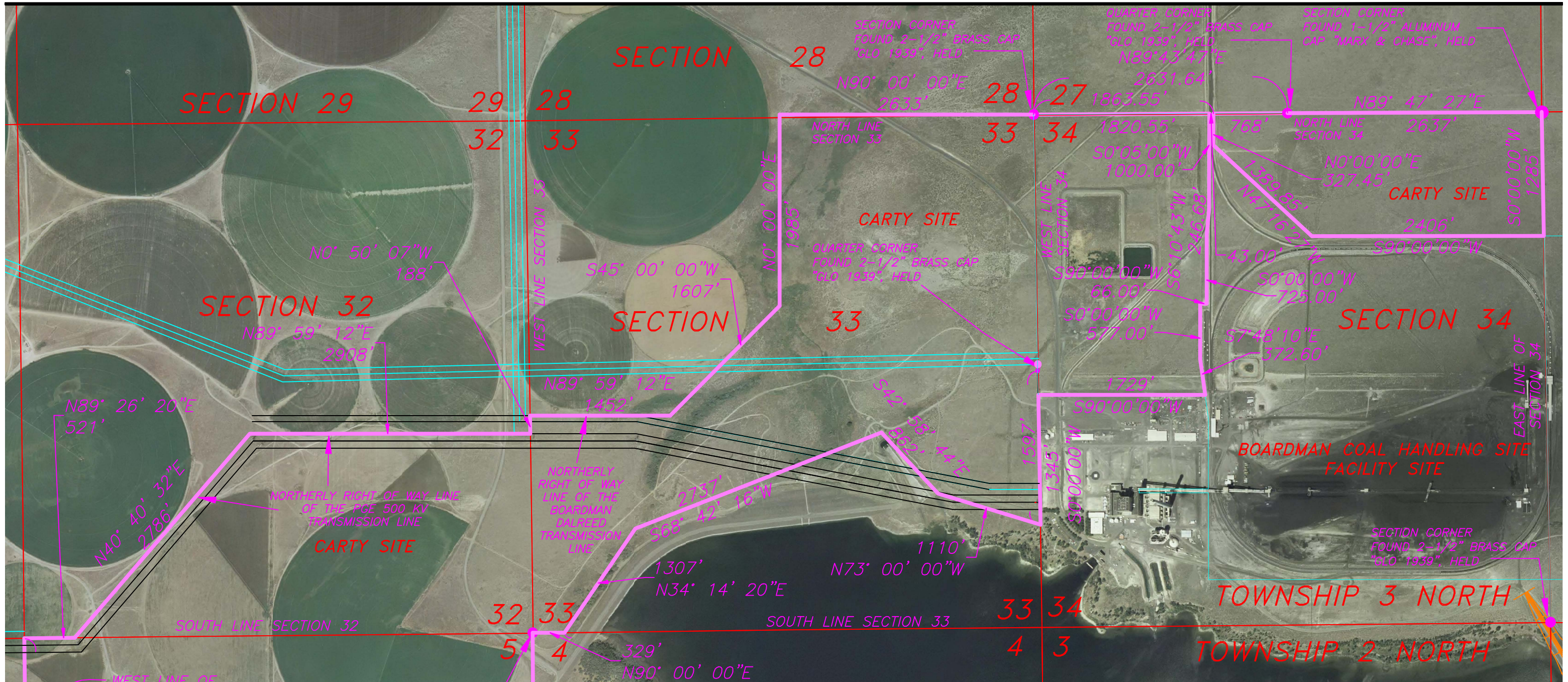
BEGINNING AT A 2-1/2" BRASS CAP MONUMENT AT THE NORTHWEST CORNER OF SAID SECTION 34; THENCE, ALONG THE NORTH LINE OF SAID SECTION 34, NORTH 89°43'47" EAST, 1820.55 FEET TO THE WESTERLY LINE OF A PARCEL OF LAND KNOW AS THE BOARDMAN COAL HANDLING SITE FACILITY AND DESCRIBED IN INSTRUMENT NO. 26048 IN THE MICROFILM RECORDS OF SAID COUNTY; THENCE ALONG SAID COAL HANDLING SITE FACILITY THE FOLLOWING SIX COURSES: SOUTH 0°05'00" WEST, 1000.00 FEET; THENCE, SOUTH 6°10'43" WEST, 246.68 FEET; THENCE, SOUTH 0°00'00" WEST, 725.00 FEET; THENCE, SOUTH 90°00'00" WEST, 66.00 FEET; THENCE, SOUTH 00°00'00" WEST, 577.00 FEET; THENCE, SOUTH 7°48'10" EAST, 372.60 FEET; THENCE, LEAVING SAID WESTERLY LINE, SOUTH 90°00'00" WEST, 1729 FEET TO THE WEST LINE OF SAID SECTION 34; THENCE, SOUTHERLY ALONG THE WEST LINE OF SAID SECTION 34 TO A POINT THAT IS 1597 FEET SOUTHERLY OF A 2-1/2" BRASS CAP MONUMENT AT THE WEST QUARTER CORNER OF SAID SECTION 34; THENCE, LEAVING SAID WEST LINE, NORTH 73°00'00" WEST, 1110 FEET; THENCE, NORTH 42°58'44" WEST, 862 FEET; THENCE, SOUTH 68°42'16" WEST, 2737 FEET; THENCE, SOUTH 34°14'20" WEST, 1307 FEET TO THE SOUTH LINE OF SAID SECTION 33; THENCE, WESTERLY ALONG THE SOUTH LINE OF SAID SECTION 33, 329 FEET TO A 2-1/2" BRASS CAP MONUMENT AT THE SOUTHWEST CORNER OF SAID SECTION 33; THENCE, ALONG THE EAST LINE OF SAID SECTION 5, SOUTHERLY TO THE EAST QUARTER CORNER OF SAID SECTION 5; THENCE, WESTERLY ALONG THE SOUTH LINE OF THE NORTH HALF OF SAID SECTION 5 TO THE WEST QUARTER CORNER OF SAID SECTION 5; THENCE, NORTHERLY ALONG THE WEST LINE OF SAID SECTION 5 TO THE NORTHWEST CORNER OF SAID SECTION 5; THENCE, ALONG THE SOUTH LINE OF SAID SECTION 32, NORTH 89°26'20" EAST, 521 FEET TO THE NORTHERLY RIGHT OF WAY LINE OF THE PGE 500 KV TRANSMISSION LINE; THENCE ALONG SAID NORTHERLY RIGHT OF WAY LINE THE FOLLOWING TWO COURSES: NORTH 40°40'32" EAST, 2786 FEET; THENCE, NORTH 89°59'12" EAST, 2908 FEET



**PORTLAND GENERAL ELECTRIC COMPANY  
CARTY GENERATING STATION SITE CERTIFICATE  
LAND DESCRIPTION**

TO THE WEST LINE OF SAID SECTION 33; THENCE, ALONG THE WEST LINE OF SAID SECTION 33, NORTH 0°50'07" WEST, 188 FEET TO THE NORTH RIGHT OF WAY LINE OF THE BOARDMAN-DALREED TRANSMISSION LINE; THENCE, ALONG SAID NORTH RIGHT OF WAY LINE, NORTH 89°59'12" EAST, 1452 FEET; THENCE, LEAVING SAID NORTH RIGHT OF WAY LINE, NORTH 45°00'00" EAST, 1607 FEET; THENCE, NORTH 0°00'00" EAST, 1985 FEET TO THE NORTH LINE OF SAID SECTION 33; THENCE, ALONG THE NORTH LINE OF SAID SECTION 33, NORTH 90°00'00" EAST, 2633 FEET TO THE POINT OF BEGINNING.

ALSO, TOGETHER WITH THAT TRACT OF LAND WITHIN SAID SECTION 34, BEING MORE PARTICULARLY DESCRIBED AS:  
COMMENCING FROM A 2-1/2" BRASS CAP MONUMENT AT THE NORTHWEST CORNER OF SAID SECTION 34; THENCE, ALONG THE NORTH LINE OF SAID SECTION 34, NORTH 89°43'47" EAST, 1863.55 FEET TO THE TRUE POINT OF BEGINNING BEING THE MOST NORTHERLY NORTHEAST CORNER OF A PARCEL OF LAND KNOWN AS THE BOARDMAN COAL HANDLING SITE FACILITY AND DESCRIBED IN INSTRUMENT NO. 26048 IN THE MICROFILM RECORDS OF SAID COUNTY; THENCE, CONTINUING ALONG THE NORTH LINE OF SAID SECTION 34, NORTH 89°43'47" EAST, 768 FEET TO A 2-1/2" BRASS CAP MONUMENT AT THE NORTH QUARTER CORNER OF SAID SECTION 34; THENCE, CONTINUING ALONG THE NORTH LINE OF SAID SECTION 34 NORTH 89°47'27" EAST, 2637 FEET TO A 1-1/2" ALUMINUM CAP MONUMENT AT THE NORTHEAST CORNER OF SAID SECTION 34; THENCE, ALONG THE EAST LINE OF SAID SECTION 34, SOUTH 0°00'00" WEST, 1285 FEET TO THE NORTHERLY LINE OF SAID BOARDMAN COAL HANDLING SITE FACILITY; THENCE, ALONG THE NORTHERLY LINE OF SAID BOARDMAN COAL HANDLING SITE FACILITY THE FOLLOWING THREE COURSES: SOUTH 90°00'00" WEST, 2405 FEET; THENCE, NORTH 47°16'27" WEST, 1389.85 FEET; THENCE, NORTH 0°00'00" EAST, 327.45 FEET TO THE TRUE POINT OF BEGINNING.



**NOTES**

1. The purpose of this map is to show proposed site certificate land area for the Carty Site.
2. Engineer in charge is Franco Albi.

**LEGEND**

- = MONUMENT FOUND
- M/L = MORE OR LESS



SCALE: 1" = 1000'

0	12-10 2009	ISSUE FOR INFORMATION PER	JWE				
REV	DATE	DESCRIPTION	BY	CHK	ENGR	SUPV	MGR
REVISIONS							

**PORTLAND GENERAL ELECTRIC CO.**  
PORTLAND, OREGON

**BOARDMAN PLAT**  
**CARTY PLANT SITE**  
**LAND DESCRIPTION EXHIBIT**

APPROVALS		SCALE: 1" = 1000'
CHECKED BY:		DRAWN BY: Josh Evey
MANAGER:		DATE: DECEMBER 10, 2009
121 SW SALMON STREET PORTLAND, OR 97204		<b>SHEET 1 OF 1</b>
FILE: I:\CAD\SURVEY\2008\BOARDMAN\Carty Site Area with Sect Cors\CARTY SITE AREA EXHIBIT.dwg	C-	REV 0





**EXHIBIT D**

**ORGANIZATIONAL EXPERTISE**

OAR 345-021-0010(1)(d)

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**D.4 QUALIFICATIONS OF KNOWN CONTRACTORS..... D-2**

**D.5 APPLICANT'S PAST PERFORMANCE ..... D-3**

**D.6 APPLICANT WITH NO PREVIOUS EXPERIENCE ..... D-4**

**D.7 ISO CERTIFIED PROGRAM ..... D-4**

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## D.1 INTRODUCTION

**OAR 345-021-0010(1)(d)** *Information about the organizational expertise of the applicant to construct and operate the proposed facility, providing evidence to support a finding by the Council as required by OAR 345-022-0010.*

Response: This exhibit describes the sources and extent of Portland General Electric Company's (PGE's) organizational, managerial and technical expertise.

## D.2 APPLICANT'S PREVIOUS EXPERIENCE

**OAR 345-021-0010(1)(d)(A)** *The applicant's previous experience, if any, in constructing and operating similar facilities.*

Response: PGE has significant experience in constructing and supervising the construction of generation projects. Recent examples include the following: In 2007, PGE completed the construction of the 406-megawatt (MW) Port Westward combined cycle gas turbine facility in Clatskanie, Oregon. In July 2001, PGE completed the construction of a new 24.9-MW simple cycle gas turbine project located at the Beaver Generation Facility. In 1995, PGE placed into service Coyote Springs Unit 1, a 240-MW combined cycle combustion turbine. PGE prepared and negotiated all the contracts for the design and construction of the project, supervised the construction, and performed many of the engineering functions in support of the design and construction work. PGE employees have extensive engineering and project management experience associated with generation projects.

PGE currently operates over 1,800 MW of thermal generation. In addition to the thermal generation, PGE operates an additional 630 MW of major hydroelectric generation and 450 MW of wind generation. Table D-1 shows the major projects that PGE currently operates.

**Table D-1 PGE Generation Facilities**

<b>Project Commercial Operation Date</b>	<b>Technology</b>
Port Westward Generating Plant (2007)	Gas Combined-Cycle Combustion Turbine
Beaver Generating Facility (1974)	Gas Combined-Cycle Combustion Turbine
Beaver 8 (2001)	Gas Simple-Cycle Combustion Turbine
Coyote Spring Units 1 (1995)	Gas Combined-Cycle Combustion Turbine
Boardman Coal Plant (1980)	Coal (jointly owned)
Faraday (1907 / 1958)	Hydro
North Fork (1958)	Hydro
Oak Grove (1924)	Hydro
River Mill (1911 / 1952)	Hydro
Sullivan	Hydro
Pelton (1957)	Hydro (jointly owned)
Round Butte (1964)	Hydro (jointly owned)
Biglow Canyon Wind Farm	Wind (Phases I, II and III)

### **D.3 QUALIFICATION OF APPLICANT'S PERSONNEL**

**OAR 345-021-0010(I)(d)(B)** *The qualifications of the applicant's personnel who will be responsible for constructing and operating the facility, to the extent that the identities of such personnel are known when the application is submitted.*

Response: PGE has many qualified and experienced employees on staff, including engineers who can supervise the design, construction, and operation of the project. PGE will provide qualified and experienced personnel to manage and supervise the design, construction, and operation of the project. These personnel have not been specifically identified at this time.

### **D.4 QUALIFICATIONS OF KNOWN CONTRACTORS**

**OAR 345-021-0010(1)(d)(C)** *The qualifications of any architect, engineer, major component vendor, or prime contractor upon whom the applicant will rely in constructing and operating the facility, to the extent that the identities of such persons are known when the application is submitted.*

Response: PGE has retained Black & Veatch Corporation for the design phase of this project. PGE will enter into a turnkey engineering procurement and construction contract (EPC Contract) with a qualified and credit-worthy contractor. PGE will draft an EPC contract that will serve as the basis for negotiations with a vendor. PGE plans to provide a Design Basis & Technical Specifications document in conjunction with the draft EPC Contract. PGE has extensive experience in the process of preparing and negotiating such documents and in selecting EPC Contractors.

PGE has not yet selected a combustion turbine vendor for the Carty Generating Station but expects that one or more of the following will supply the equipment: MHI, Siemens, General Electric, Alstom, or equivalent.

PGE will supervise and will be extensively involved in overseeing the construction process.

## **D.5 APPLICANT'S PAST PERFORMANCE**

**OAR 345-021-0010(1)(d)(D)** *The past performance of the applicant, including but not limited to the number and severity of any regulatory citations in constructing or operating a facility, type of equipment, or process similar to the proposed facility.*

Response: PGE successfully constructed a similar natural gas-fired generating facility, the Port Westward facility, which began operations in 2007. PGE has successfully operated other natural gas-fired power plants, as listed above in Section D.2.

In recent years, the following citations have been issued to PGE:

- 2006 - \$300 fine related to hazardous waste and underground storage tank inspections. The 18 violations cited included 16 related to records, labeling of waste storage areas, storage of waste aerosol cans, and fluorescent bulbs. The remaining two violations, resulting in a total \$300 fine for the year, involved failure to conduct a third-party audit for storage tanks.
- October 19, 2009 - Warning letter from the Oregon Department of Environmental Quality (DEQ) for the Beaver Generating Plant for an exceedance of total suspended solids at one outfall in July 2009. No fine was levied. PGE has taken measures to address suspended solids at this outfall location.
- November 18, 2009 - Warning letter from DEQ for the Port Westward Generating Plant for not conducting annual testing for ammonia in 2008 at one emission unit location. Other data were sufficient to indicate compliance with emission limits. No fine was levied. PGE has taken measures to conduct necessary ammonia testing.

The conditions for which these citations were issued have been corrected.

PGE has not received a monetary penalty or fine for regulatory violations at the Beaver natural gas fired-generating facility since it began operation in 1974. In addition, no regulatory agency has levied any monetary penalty or fine against the Coyote Springs Power Plant or Port Westward Facility as a result of construction, operation, or maintenance of the facility from the time construction began to the present. Some of the events noted above were instances of notices of violations, self reported events, and other instances of non-compliance with regulatory requirements at these facilities, but none of those instances involved monetary fines, and all have been settled to the satisfaction of the regulatory agency or organization involved.

## **D.6 APPLICANT WITH NO PREVIOUS EXPERIENCE**

**OAR 345-021-0010(1)(d)(E)** *If the applicant has no previous experience in constructing or operating similar facilities and has not identified a prime contractor for construction or operation of the proposed facility, other evidence that the applicant can successfully construct and operate the proposed facility. The applicant may include, as evidence, a warranty that it will, through contracts, secure the necessary expertise.*

Response: Not applicable.

## **D.7 ISO CERTIFIED PROGRAM**

**OAR 345-021-0010(1)(d)(F)** *If the applicant has an ISO 9000 or ISO 14000 certified program and proposed to design, construct and operate the facility according to that program, a description of the program.*

Response: PGE does not propose to design, construct, and operate the facility according to an International Organization for Standardization (ISO) 9000 or ISO 14000 certified program.

**EXHIBIT E**

**PERMITS**

OAR 345-021-0010(1)(e)

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**APPENDICES**

- E-1 Boardman Plant Water Pollution Control Facility Permit Renewal Application
- E-2 Carty Generating Station Water Pollution Control Facility Permit Application





## **E.1 INTRODUCTION**

**OAR 345-021-0010(1)(e)** *Information about permits needed for construction and operation of the facility.*

Response: This exhibit provides information regarding federal, state, and local government permits needed before construction or operation of the proposed facility. These permits are organized into two major headings: (1) those to be addressed in the Site Certificate and (2) those not to be addressed in the Site Certificate.

## **E.2 IDENTIFICATION OF NECESSARY PERMITS**

**OAR 345-021-0010(1)(e)(A)** *Identification of all federal, state and local government permits needed before construction and operation of 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: See Sections E.7 and E.8 below.

## **E.3 DESCRIPTION OF NECESSARY PERMITS**

**OAR 345-021-0010(1)(e)(B)** *A description of each permit and the reasons the permit is needed for construction or operation of the facility.*

Response: See Sections E.7 and E.8 below.

**OAR 345-021-0010(1)(e)(C)** *For any state or local government agency permits, licenses or certificates that are subject to the Council's siting decision, evidence to support findings by the Council that construction and operation of the proposed facility will comply with the statutes, rules and standards applicable to the permit. The applicant may show this evidence:*

- (i) *In Exhibit J for permits related to wetlands;*
- (ii) *In Exhibit O for permits related to water rights.*

Response: Evidence supporting findings by the Energy Facility Siting Council (EFSC) that construction and operation of the proposed facility would comply with all statutes, rules, and standards applicable to the permits is provided in Sections E.7 and E.8 below. In addition, details related to wetlands and water rights are provided in Exhibits J and O, respectively.

#### **E.4 FEDERALLY DELEGATED PERMIT APPLICATION**

**OAR 345-021-0010(1)(e)(D)** *For federally-delegated permit applications, evidence that the responsible agency has received a permit application and the estimated date when the responsible agency will complete its review and issue a permit decision.*

Response: See Sections E.7 and E.8 below.

#### **E.5 THIRD-PARTY PERMITS**

**OAR 345-021-0010(1)(e)(E)** *If the applicant relies on a state or local government permit or approval issued to a third party, identification of any such third-party permit and for each:*

- (i) Evidence that the applicant has, or has a reasonable likelihood of entering into a contract or other agreement with the third party for access to the resource or service to be secured by that permit:*
- (ii) Evidence that the third party has or has a reasonable likelihood of obtaining, the necessary permit; and*
- (iii) An assessment of the impact of the proposed facility on any permit that a third party has obtained and on which the applicant relies to comply with any applicable Council standards.*

Response: The Applicant is not relying on any third-party permits.

#### **E.6 MONITORING PROGRAM**

**OAR 345-021-0010(1)(e)(G)** *The applicant's proposed monitoring program, if any, for compliance with permit conditions.*

Response: Portland General Electric Company (PGE), in collaboration with associated agencies, will establish monitoring programs for compliance with permit conditions associated with Exhibit J for wetlands and Exhibit P for plants and wildlife.

Compliance with permit conditions related to the Carty Generating Station is the responsibility of PGE, and proposed monitoring programs for compliance with permit conditions are described in applicable exhibits. PGE will comply with all permit and certificate conditions related to the Carty Generating Station by developing a compliance tracking system that assigns due dates and/or trigger events for site certificate conditions. Additionally, a responsible individual will be assigned to each condition to ensure that it is complied with.

Specifically related to natural gas pipeline and management of natural gas within the facility, PGE will comply with applicable gas pipeline certificate conditions issued by the Federal Energy Regulatory Commission (FERC) (e.g., compliance with gas quality standards), and PGE’s obligation will be reflected in the long-term transportation agreement between PGE and Gas Transmission Northwest Corporation (GTN).

GTN has informed PGE that “[w]ith respect to construction and operation of the Carty Lateral interstate gas pipeline, compliance with FERC certificate conditions and other relevant Federal and State permits would be GTN’s responsibility. The FERC requires, among its standard conditions that the certificate holder submit for approval a plan for ensuring compliance with Certificate and other permit conditions. Such plans typically address incorporation of permit conditions into construction contracts, environmental training of construction personnel, inspection, monitoring, and reporting on environmental compliance matters.”

## **E.7 PERMITS ADDRESSED IN THE SITE CERTIFICATE**

### **E.7.1 State Permits: Not Federally Delegated**

**Permit:** Energy Facility Site Certificate

**Agency:** Energy Facility Siting Council (EFSC)  
Oregon Department of Energy  
625 Marion Street NE, Suite 1  
Salem, Oregon 97301-3742  
(503) 378-6469

**Standards:** ORS 469.300 et seq., 469.501, 469.503, and 469.504  
OAR 345-001; 345-021; 345-022; 345-024; 345-026-0048; and 345-027-0020, 0023 and 0028

**Response:** This project is an energy facility expected to generate up to 900 megawatts (MW). This capacity has met a threshold for an energy facility that requires a site certificate issued by EFSC. The minimum threshold for EFSC jurisdiction is a generating capacity of 25 MW for a thermal or combustion turbine. This Application for Site Certificate (ASC) provides the information required to demonstrate that applicable siting standards have been met.

**Permit:** Water Pollution Control Facility (WPCF) Permit

**Agency:** Oregon Department of Environmental Quality (DEQ)

**Headquarters**

Oregon DEQ Headquarters  
811 SW 6th Avenue  
Portland, Oregon 97204  
(503)229-5696

**Regional Office**

Columbia Gorge Regional Office  
Columbia Gorge Community College  
400 E Scenic Drive, Building #2  
The Dalles, OR 97058  
(541) 298-7255

**Standards:** ORS 468.020, 065 and 070  
ORS 468B.005 and 468B.055  
OAR 340-071-0162  
OAR 340, Div. 45

**Response:**

Sanitary Wastewater

Sanitary wastewater discharge resulting from facility operations would be regulated under an existing permit. This project intends to utilize the existing Boardman Plant sanitary waste treatment system, and such use would not have an impact on the Boardman Plant's use. The additional sanitary wastes produced by the permanent staff of approximately 20 to 30 people (800 to 1,000 gallons per day) are well within the capacity of the Boardman Plant's sanitary system. A Water Pollution Control Facilities (WPCF) permit was approved and issued for the Boardman Plant on January 11, 2005 (Permit # 100189). This permit nominally expired on December 31, 2009; PGE has submitted a renewal application to the Oregon Department of Environmental Quality (DEQ) for this permit; a copy of this renewal application is provided as Appendix E-1 to this exhibit. To connect the Carty system with the Boardman system would not require an Alteration Permit, as the facility is not considered a septic system. Since the Boardman sanitary waste treatment system has been under-utilized, a leak test will be necessary for clay-lined cells, or liners must be reconditioned prior to use by the Carty Generating Station.

Process Wastewater and Stormwater

As discussed in Exhibit V, wastewater generated by the operation of the Carty Generating Station (excluding sanitary wastewater) will be handled using three potential options: reused for plant operations, discharged to Carty Reservoir, or discharged to evaporation ponds. A single option may be used, or a combination of all three options may be used. Potential disposal options are discussed further in Exhibit V. Stormwater will be captured in stormwater retention swales or other methods as appropriate (See Exhibit V). A WPCF permit will be required for

these surface discharges. A copy of the application for the WPCF permit is provided in Appendix E-2.

### Relationship between Boardman Plant, Carty Generating Station, and Carty Reservoir

Carty Reservoir is a man-made impoundment constructed to provide cooling water, fire water, and make-up water for the boiler to the Boardman Plant and other potential future energy-generating facilities constructed in the vicinity of the reservoir. Construction of the reservoir was approved in the Boardman Plant Site Certificate and permit R-6276 (permit to construct a reservoir and store for beneficial use the unappropriated waters of the State of Oregon) and permit S-39188 (permit to appropriate the public waters of the State of Oregon). Both of these permits can be found as attachments to Appendix O-2.

The reservoir also receives low level processed wastewater from the Boardman Plant and is therefore currently regulated by DEQ as an industrial waste pond under the Boardman Plant's WPCF permit. Currently, the Boardman Plant is being operated under WPCF Permit No. 100189, which nominally expired on December 31, 2009. A renewal permit has been submitted to DEQ; however, a new permit has not been issued. The renewal application was submitted prior to expiration of Permit No. 100189; therefore, the Boardman Plant will continue to operate under the expired permit until DEQ issues a new permit. The Boardman Power Plant Site Certification Agreement establishes maximum allowable reservoir concentrations and other limits for 17 pollutants and water characteristics "[t]o protect wildlife and to enhance uses of water other than for condenser cooling." Section IV.F.3. These limits are incorporated into conditions A.2 through A.4 of the WPCF permit. The reservoir pollutant concentrations and other characteristics are well within these limits.

The WPCF permit imposes other conditions that directly or indirectly protect water quality in Carty Reservoir and groundwater. These include but are not limited to a prohibition on wastewater discharges that cause an oil sheen on the reservoir, condition A.3; a requirement that wash water from coal yard operations be collected for treatment and reuse in the coal yard, condition A.6; a requirement that vehicle wash water and stormwater from the vehicle fueling and maintenance area be disposed of in a lined evaporation pond, condition A.7; a requirement to treat and dispose of domestic sewage in non-overflow sewage lagoons, condition A.8; and a prohibition on discharging stormwater from the coal yard and ash disposal landfill in the reservoir, condition A.9.

As part of the ASC, PGE has submitted an Application for a Permit to Use Surface Water from Carty Reservoir for the Carty Generating Station; the type of use stated in Section 3.A of the application is general industrial. The Carty Generating Station will also send low-level processed wastewater to Carty Reservoir; therefore, as part of the ASC, PGE has also submitted an Application for a WPCF permit for the Carty Generating Station. Discharges to Carty Reservoir would be regulated under a WPCF permit issued by the Oregon Department of Environmental Quality.

**Permit:** **Surface Water Appropriation Permit**

**Agency:** Oregon Water Resources Department  
725 Summer Street NE, Suite A  
Salem, OR 97301  
(503) 378-8455

**Response:** The Carty Generating Station would use water from Carty Reservoir, utilizing existing intake structures. PGE has an existing water use permit for storage in Carty Reservoir to serve the Boardman Plant. PGE has provided the information necessary to support a determination by EFSC that the Oregon Water Resources Department (WRD) would issue a secondary water right authorizing the use of stored water from Carty Reservoir at the Carty Generating Station in Appendix O-2 – Application for a Permit to Use Surface Water.

**Permit:** **Limited Use License**

**Agency:** Oregon Water Resources Department  
725 Summer Street NE, Suite A  
Salem, OR 97301  
(503) 378-8455

**Response:** The Carty Generating Station would use water from Carty Reservoir for construction purposes. Exhibit O contains an application for a new water right permit to authorize use of stored water in Carty Reservoir for general industrial purposes. The purported “industrial” use, under the definition provided in current administrative rules, includes use of water for construction purposes. Because no construction work will begin on the new generating station until the Site Certificate and related water right application are approved, the new water right permit will be in place and will authorize construction work when the Applicant is ready to proceed.

## **E.7.2 Local Permits**

**Permit(s):** **Morrow County Land Use Permits (Conditional Use Application, Goal Exception)**

**Agency:** Morrow County Planning Department  
205 NE Third Street  
Irrigon, Oregon 97844

(541) 922-4624

**Response:** Conditional Use Permit - Energy Facility within Exclusive Farm Use (EFU)  
Article 3, Section 3.010, Exclusive Farm Use  
Article 4, Supplementary Provisions  
Article 6, Conditional Uses

Conditional Use Permit - Transmission Line  
Article 3, Section 3.010, Exclusive Farm Use  
Article 4, Supplementary Provisions  
Article 6, Conditional Uses

Energy Facility within General Industrial (MG)  
Article 3, Section 3.070, General Industrial Zone  
Morrow County Comprehensive Plan  
Applicable Statewide Planning Goals

**Discussion:** The proposed energy facility would be located in Morrow County. A Conditional Use Permit would be obtained for the portions of the energy facility and the transmission line located in the EFU zone.

A Goal 3 exception will be required for the energy facility on EFU-zoned land for Morrow County, as the project would affect more than 20 acres of land zoned as farmland.

As explained in Exhibit K, references to local ordinances are the ordinances in effect at the time the Site Certificate was submitted. Compliance with the standards for issuance of these permits is addressed in Exhibit K. In summary, PGE intends to utilize the “Path B” route to compliance, by which EFSC, through appointment of a Special Advisory Group, makes the decision of compliance with the statewide planning goals.

A zoning confirmation will be required prior to issuance of the Building Permit.

**Permit:** **Gilliam County Conditional Use Permit (Transmission Line)**

**Agency:** Gilliam County Planning Department  
PO Box 427  
Condon, Oregon 97823  
(541) 384-2381

**Standards:** Exclusive Farm Use zone (EFU): Article 4.020, Exclusive Farm Use (EFU)  
Article 7.010-7.060, Conditional Use Criteria; Comprehensive Plan Goals: *Goal 3, Agriculture*

**Discussion:** The new transmission line would follow an existing easement/right-of-way through the jurisdiction of Gilliam County and would require a conditional use permit.

As noted in Exhibit K, references to local ordinances are to the ordinances in effect at the time the ASC was submitted. For the purposes of the analysis in Exhibit K, the adopted version of the Comprehensive Plan dated October 2000 was used.

PGE intends to utilize the “Path B” route to compliance, by which EFSC, through appointment of a Special Advisory Group, makes the decision of compliance with the statewide planning goals.

Compliance with the standards for issuance of this permit is addressed in Exhibit K.

## **E.8 PERMITS NOT ADDRESSED IN THE SITE CERTIFICATE**

This section lists permits that are not under the jurisdiction of EFSC in its review of the ASC. These permits fall into three categories:

- (1) Permits issued by federal agencies;
- (2) Permits issued by state agencies under federally delegated programs; and
- (3) Permits pertaining to details of the construction of particular components of the proposed energy facility, rather than to whether those components will be allowed under the standards or criteria of a particular state agency or local government (see ORS 469.401(4)).

### **E.8.1 Federal Permits**

EFSC will not, in reviewing the ASC for the proposed energy facility, determine compliance with statutes and rules relating to permits or approvals issued by federal agencies. EFSC’s issuance of the Site Certificate does not imply approval of the permits listed below.

**Permit:** Notice of Proposed Construction or Alteration (Permit 7460-1)

**Agency:** Federal Aviation Administration

**Discussion:** These permits are required for construction of emission stacks and use of construction cranes. The permit application (7460-1) will be filed with the Federal Aviation Administration 60 days prior to construction; therefore, a copy is not included with this ASC.



**Permit:** Certificate of Public Conveyance and Necessity

**Agency:** Federal Energy Regulatory Commission

**Discussion:** Permitting under FERC for the gas pipeline lateral is being addressed under a separate process by GTN.

### **E.8.2 State Permits: Federally Delegated**

EFSC will not, in reviewing the ASC for the proposed energy facility, determine compliance with statutes and rules for which the federal government has delegated the decision on compliance to another state agency. The issuance of the Site Certificate does not imply approval of the permits listed below. Applications for federally delegated permits shall be reviewed, whenever feasible, simultaneously with EFSC's review of the ASC.

**Permit:** Air Contaminant Discharge Permit (ACDP) and Prevention of Significant Deterioration Permit (PSD)

**Agency:** Oregon Department of Environmental Quality (DEQ) - Air Quality Division  
811 SW Sixth Avenue  
Portland, Oregon 97204  
(503) 229-5582

Environmental Protection Agency (EPA)  
1200 6<sup>th</sup> Street  
Seattle, Washington 98101  
(206) 553-1200

**Standards:** ORS Chapters 468 and 468A; OAR 340-216-0010 through 340-224-0110; Clean Air Act (42 USC § 7401 et seq.); 40 CFR Parts 50, 51 and 52

**Discussion:** PSD Permit review authority has been delegated to the DEQ and will be covered by the ACDP. PGE received the Air Contaminant Discharge Permit from DEQ on 12/29/2010; permit number 25-0016-ST-02 and associated DEQ Review Reports can be accessed via internet at: <http://www.deq.state.or.us/er/PGE.htm>.

**Permit:** Title V Operating Permit

**Agency:** Department of Environmental Quality (DEQ) - Air Quality Division  
811 SW Sixth Avenue  
Portland, Oregon 97204  
(503) 229-5582

Environmental Protection Agency (EPA)

1200 6<sup>th</sup> Street  
Seattle, Washington 98101  
(206) 553-1200

**Standards:** ORS 468 and 468A; OAR 340-218 and 340-220; Clean Air Act, Title V (42 USC § 7661 through 7661f); 40 CFR Part 70

**Discussion:** A Title V Operating Permit is required from the DEQ for any major stationary source of air pollutants that directly emits, or has the potential to emit, 100 tons per year of any regulated air pollutant. PGE will modify the existing Boardman Title V permit to incorporate the Carty Generating Station Requirements prior to start of construction of the project.

**Permit:** **Title IV Acid Rain Program**

**Agency:** Department of Environmental Quality (DEQ) - Air Quality Division  
811 SW Sixth Avenue  
Portland, Oregon 97204  
(503) 229-5582

Environmental Protection Agency  
1200 6<sup>th</sup> Street  
Seattle, Washington 98101  
(206) 553-1200

**Standards:** OAR 340-218, 340-220 and 340-228; Clean Air Act, Title IV; 42 USC § 7651 through 7651e, and 40 CFR Part 73 (sulfur dioxide requirements); 42 USC § 7651f and 40 CFR Part 76 (NO<sub>x</sub> requirements)

**Discussion:** 40 Code of Federal Regulations (CFR) Part 72 (July 1, 1994) has been adopted and incorporated by reference in the Oregon Administrative Rules for purposes of implementing an acid rain program that meets the requirements of Title IV of the Clean Air Act. Various provisions are incorporated in the Air Contaminant Discharge Permit and Title V Operating Permit.

**Permit:** **National Pollutant Discharge Elimination System (NPDES) Permit**

**Agency:** Oregon Department of Environmental Quality (DEQ) Northwest Region - Water Quality Division  
2020 SW 4<sup>th</sup> Avenue, Suite 400  
Portland, Oregon 97201  
(503) 229-5263

Environmental Protection Agency (EPA)

1200 6<sup>th</sup> Street  
Seattle, Washington 98101  
(206) 553-1200

**Standards:** ORS 468 and 468B; OAR 340-014, 340-041, 340-045, 340-052, and 345-055; Clean Water Act of 1977 (33 USC § 1251 et seq.); 40 CFR Parts 6, 122 and 124

**Discussion:** PGE has applied for a 1200-C Construction Stormwater NPDES Permit for regulating stormwater runoff from construction activities and has received a letter from DEQ indicating that they received the application and anticipate issuing the permit once the Site Certificate is issued. A copy of the NPDES permit application and the letter from DEQ are contained in Appendix I-2 of Exhibit I.

**Permit:** **Hazardous Waste Generator Registration**

**Agency:** Department of Environmental Quality (DEQ) -  
Waste Prevention & Management Division  
811 SW Sixth Avenue  
Portland, Oregon 97204  
(503) 229-5913; and

2020 SW 4<sup>th</sup> Avenue, Suite 400  
Portland, Oregon 97201  
(503) 229-5263

**Standards:** 40 CFR 261.5 and 262.12; OAR 340-102

**Discussion:** This is not a permit; however, if the generation and storage of hazardous waste exceeds the threshold quantities identified under 40 CFR 261.5 for a conditionally exempt small quantity generator, then PGE will register and obtain a generator identification number.

**Permit:** **Emergency Risk Management Plan**

**Agency:** Not Applicable

**Standards:** 40 CFR Part 68

**Discussion:** Emergency Risk Management Plan

This is not a permit; however, if a tank, drum, container, pipe, or other “process” at a facility contains any of the extremely hazardous toxic and flammable substances listed in CFR at 40 CFR 68.130 in an amount above the "threshold quantity" specified for that substance, the owner is required to develop and implement a risk management program under a rule issued by the

EPA. An Emergency Risk Management Plan will be developed prior to construction to comply with this standard.

### **E.8.3 Permits Pertaining to Details of Construction**

A number of permits would be obtained closer to the beginning of construction, as more detailed information regarding schedule, materials, transport, and building become available. These permits typically fall outside of the EFSC review process.

**Permits:**       **Plumbing, Structural/Mechanical/Energy, Elevator, Fire Marshal, Electrical, Pressure Vessel (Boiler)**

**Agency:**       Building Codes Division  
Department of Consumer and Business Services  
1535 Edgewater NW  
Salem OR 97301-3878  
(503) 378-4133

Building Official  
City of Boardman  
200 City Center Circle/P.O. Box 229  
Boardman, Oregon 97818  
(541) 481-9252

<b>Standards:</b>	ORS 447	Building Codes Division
	ORS 455	“
	ORS 460	“
	ORS 479	“
	ORS 480	“
	ORS 671	“
	OAR 918, Division 225	“
	OAR 918, Division 290	“
	OAR 918, Division 300	“
	OAR 918, Division 302	“
	OAR 918, Division 400	“
	OAR 918, Division 440	“
	OAR 918, Division 460	“
	OAR 918, Division 750	“
	OAR 918, Division 770	“
	OAR 918, Division 780	“

**Discussion:**   The construction plans for the energy facility will be reviewed for structural and safety permits by the Oregon Building Codes Division. The purpose of this process is to ensure adequate design for operational safety. Review by the

Building Codes Division will include structural, electrical, mechanical, plumbing, and safety considerations. Review and issuance of the necessary permits will be conducted through the Salem Office of the Building Codes Division. The result of this review will be issuance of building permits, electrical permits, and other plant operational component permits. The City of Boardman Building Department will be responsible for construction inspection of the energy facility during and upon completion of construction.

**Permit:**           **Utility Permit/Access Permit**

**Agency:**       Morrow County Public Works  
205 NE Third Street  
Irrigon, Oregon 97844  
                  (541) 922-4624

Gilliam County Road Department  
P.O. Box 427  
Condon, Oregon 97823  
541-384-5717 or 541-384-3998  
Attn: Dewey Kennedy, Gilliam County Roadmaster

**Standards:**    ORS 374.310, ORS 758.010

**Discussion:**   All road crossings and new access points are required to comply with the Morrow County Public Works and Gilliam County Road Access and transportation specifications in order to ensure the protection of the roadways being crossed and the travelling public. New road crossings, if necessary for the new transmission line, will be designed and built in a manner comparable to those required for the existing Boardman-Slatt transmission line, for which utility permits were obtained for all public road crossings.

**Permits:**       **Natural Gas Pipeline and Transmission Line Safety Review**

**Agency:**       Oregon Public Utility Commission  
Contact: Jerry Murray  
550 Capitol St. NE, Suite 215  
Salem, OR 97301  
503-378-6626

**Standards:**    ORS 757.035  
                  ORS 757.039  
                  ORS 757.542 through 757.562  
                  ORS 765.040  
                  ORS 757.600 through 757.667  
                  OAR 860-024

OAR 860-028-005  
OAR 860-031  
OAR 860-038-0400  
OAR 952

**Discussion:** The Oregon Public Utility Commission will conduct safety reviews of the design for the natural gas pipeline and the transmission line, including interconnection to the energy facility. In addition, operators of underground facilities are required by ORS 757.557(1) to subscribe to the Oregon Utility Notification Center. Rules in OAR 952, Division 001 includes standards for marking underground facilities.

**Permit: Archaeological Artifacts Excavation Permit**

**Agency:** Historic Preservation Office  
Parks and Recreation Department  
1115 Commercial Street, NE, Suite 2  
Salem, Oregon 97301-1012  
(503) 378-4168, Ext. 231

**Standards:** The National Historic Preservation Act of 1966 as amended (16 USC § 470), inter alia; 7 CFR Part 3100; ORS Chapters 97, 358 and 390; OAR 345-022-0090 and 736-051

**Discussion:** An archaeological permit may be required when trenching is needed for underground utilities.

**Permit: Variance Permit for Oversized / Overweight Loads**

**Agency:** Motor Carrier Transportation Division  
Oregon Department of Transportation  
550 Capitol St. NE  
Salem, OR 97301-2530  
(503) 373-0000

**Standards:** ORS 818.200  
OAR 734-082

**Discussion:** Transportation of loads on State Highways and County Roads that exceed established size and/or weight limits requires a permit from the Highway Division. Movement of oversized loads on public roadways requires a joint permit issued by the State and the County. The State Department of Transportation issues the permit after incorporating any County agency concerns or conditions. PGE anticipates that the supplier of large equipment necessary for the plant will be responsible for transporting the equipment and obtaining necessary permits, based on the actual size and configuration of equipment.

These details will not be available until detailed plant design and selection of equipment vendors. PGE anticipates that the vendors will be capable of obtaining necessary permits.

**Permit:** **Hazardous Materials Survey Application to Install Flammable/Combustible Liquid Tanks**

**Agency:** Randy Simpson, State Fire Marshal  
Office of State Fire Marshal  
4760 Portland Road NE  
Salem, OR 97305-1760  
(503) 378-3473

**Standards:** ORS 453  
ORS 476  
ORS 479  
OAR 837-040 (Uniform Fire Code)  
OAR 837-085  
OAR 837-090

**Discussion:** Businesses that use or store hazardous substances are required to report such substances annually to the State Fire Marshal and pay hazardous substance possession fees. Prior to installation of aboveground tanks for the storage of flammable or combustible liquids, PGE will prepare plans showing compliance with the Uniform Fire Code and submit the plans for review by the State Fire Marshal. Approval of the plans by City of Boardman and the Boardman Rural Fire District is also required (see below).

**Permit:** **Application to Install Flammable/Combustible Liquid Tanks**

**Agency:** Boardman Rural Fire District  
300 SW Wilson Lane  
Boardman, OR 97818  
541-481-3473  
Attn: Marty Broadbent

**Standards:** OAR 837-040 (Uniform Fire Code)

**Discussion:** Prior to on-site use or storage of flammable or combustible liquids, PGE will prepare plans showing compliance with the Uniform Fire Code and submit the plans for review by the Boardman Rural Fire District. Approval of the plans by the State Fire Marshal is also required (see above).

**Permit:**       **Public Water System Plan Review**  
                  **Public Water System Monitoring**

**Agency:**     Department of Human Resources-Health Division  
                  State Office Building, Suite 611  
                  800 NE Oregon St.  
                  Portland, OR 97232  
                  (503) 731-4317

**Standards:**   ORS 448.131  
                  OAR 333-061

**Discussion:**  Plans for the proposed energy facility’s drinking water system will be submitted to the Health Division for approval. After construction of the system, sampling and analysis of drinking water, if required, will be conducted pursuant to Health Division guidelines and reported to the Division.



# **APPENDIX E-1**

## **Boardman Plant Water Pollution Control Facility Permit Renewal Application**

# **APPENDIX E-2**

## **Carty Generating Station Water Pollution Control Facility Permit Application**

# **APPENDIX E-1**

## **Boardman Plant Water Pollution Control Facility Permit Renewal Application**



**DEQ USE ONLY**

Application #: \_\_\_\_\_  
 File #: \_\_\_\_\_  
 Mail ID #2/#9: \_\_\_\_\_  
 LLID/RM: \_\_\_\_\_  
 ACD Fee Paid: \_\_\_\_\_  
 DOC Conf.: \_\_\_\_\_  
 Notes: \_\_\_\_\_

**RENEWAL APPLICATION  
 WATER POLLUTION CONTROL  
 FACILITIES PERMIT  
 (WPCF-R)**



Oregon Department of Environmental Quality

**DEQ USE ONLY**

Received: \_\_\_\_\_  
 Amount Received: \_\_\_\_\_  
 On-Site Surcharge: \_\_\_\_\_  
 Check #: \_\_\_\_\_  
 Deposit #: \_\_\_\_\_  
 IND  DOM  OSS  UTC: \_\_\_\_\_  
 Notes: \_\_\_\_\_

**A. REFERENCE INFORMATION**

1. Legal Name: <u>Portland General Electric</u>	2. Common Name: <u>PGE Boardman Plant</u>
3. Permit #: <u>100189</u> DEQ Site ID#: <u>70795</u> Permit Expiration Date: <u>12/31/2009</u>	4. Facility Physical Address: <u>73334 Tower Rd.</u> City, State, Zip Code: <u>Boardman, OR 97818</u> County: <u>Morrow</u>
5. Township: <u>3N</u> Range: <u>24E</u> Section: <u>34</u> Tax Lot #: <u>114</u>	
6. Responsible Official: <u>Arya Behbahani - Divers</u> Mailing Address: <u>Portland General Electric</u> <u>121 SW Salmon St</u>	Telephone #: <u>(503) 464-8141</u> City, State, Zip Code: <u>Portland, OR 97204-2905</u>
7. Facility Contact: <u>Steve Anderson</u> Facility Mailing Address: <u>P.O. Box 499</u>	Telephone #: <u>(503) 481-1233</u> City, State, Zip Code: <u>Boardman, OR 97818</u>
8. Invoice to: <u>Brandy Horn</u> Billing Address: <u>Portland General Electric</u> <u>121 SW Salmon St.</u>	Telephone #: <u>(503) 464-8970</u> City, State, Zip Code: <u>Portland, OR 97204-2905</u>

**B. REQUIRED INFORMATION**

1. Briefly describe the permitted facility, type of wastewater, and primary method of wastewater treatment and disposal: The facility is a coal-fired electric generating plant. Industrial wastewater is disposed in evaporation ponds or Canty Reservoir. Domestic wastewater is disposed in seepage/evaporation ponds. Coal combustion by-products are disposed dry in a landfill.

2. Have the treatment or disposal methods employed, as indicated in previous applications, been altered in any way since the last application was submitted?  YES  NO If "YES," explain:  
The wastewater pond previously identified as the "unlined pond" is now fully lined.

3. Has the quantity or quality of wastes discharged, as indicated in previous applications, been significantly changed in any way since the last application was submitted?  YES  NO If "YES," explain:

4. If there are any changes anticipated in the near future that would affect waste quantity or quality, attach an explanation or proposal. Attachment #1

5. Review each condition of your current permit and attach a brief report that indicates your progress in meeting the requirements, limitations, and compliance schedules of the permit. Attachment #2

6. If the permitted facility or operation is a domestic wastewater treatment plant, attach a copy of your Biosolids Management Plan. N/A

**C. SIGNATURE OF LEGALLY AUTHORIZED REPRESENTATIVE**

I hereby certify that the information contained in this application is true and correct to the best of my knowledge and belief. In addition, I agree to pay all permit fees required by Oregon Administrative Rules 340-45 and/or 340-71. This includes a renewal application fee to renew the permit and a compliance determination fee invoiced annually by DEQ to maintain the permit.

ARYA BEHBHANI-DIVERS MANAGER ENVIRONMENTAL SERVICES  
 Name of Legally Authorized Representative (Type or Print) Title

Arya Behbahani 9/19/09  
 Signature of Legally Authorized Representative Date

**DEQ USE ONLY**

Application #: \_\_\_\_\_  
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 Mail ID #2/#9: \_\_\_\_\_  
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 ACD Fee Paid: \_\_\_\_\_  
 DOC Conf.: \_\_\_\_\_  
 Notes: \_\_\_\_\_

**RENEWAL APPLICATION  
 WATER POLLUTION CONTROL  
 FACILITIES PERMIT  
 (WPCF-R)**



Oregon Department of Environmental Quality

**DEQ USE ONLY**

Received: \_\_\_\_\_  
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 On-Site Surcharge: \_\_\_\_\_  
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ARYA BEHBHANI-DIVERS MANAGER ENVIRONMENTAL SERVICES  
 Name of Legally Authorized Representative (Type or Print) Title

[Signature] 9/19/09  
 Signature of Legally Authorized Representative Date

**DEQ USE ONLY**

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**RENEWAL APPLICATION  
 WATER POLLUTION CONTROL  
 FACILITIES PERMIT  
 (WPCF-R)**



Oregon Department of Environmental Quality

**DEQ USE ONLY**

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**A. REFERENCE INFORMATION**

1. Legal Name: <u>Portland General Electric</u>	2. Common Name: <u>PGE Boardman Plant</u>
3. Permit #: <u>100189</u> DEQ Site ID#: <u>70795</u> Permit Expiration Date: <u>12/31/2009</u>	4. Facility Physical Address: <u>73334 Tower Rd.</u> City, State, Zip Code: <u>Boardman, OR 97818</u> County: <u>Morrow</u>
5. Township: <u>3N</u> Range: <u>24E</u> Section: <u>34</u> Tax Lot #: <u>114</u>	
6. Responsible Official: <u>Arya Behbahani - Divers</u> Mailing Address: <u>Portland General Electric</u> <u>121 SW Salmon St</u>	Telephone #: <u>(503) 464-8141</u> City, State, Zip Code: <u>Portland, OR 97204-2905</u>
7. Facility Contact: <u>Steve Anderson</u> Facility Mailing Address: <u>P.O. Box 499</u>	Telephone #: <u>(503) 481-1233</u> City, State, Zip Code: <u>Boardman, OR 97818</u>
8. Invoice to: <u>Brandy Horn</u> Billing Address: <u>Portland General Electric</u> <u>121 SW Salmon St.</u>	Telephone #: <u>(503) 464-8970</u> City, State, Zip Code: <u>Portland, OR 97204-2905</u>

**B. REQUIRED INFORMATION**

1. Briefly describe the permitted facility, type of wastewater, and primary method of wastewater treatment and disposal: The facility is a coal-fired electric generating plant. Industrial waste water is disposed in evaporation ponds or Carty Reservoir. Domestic wastewater is disposed in seepage/evaporation ponds. Coal combustion by-products are disposed dry in a landfill.

2. Have the treatment or disposal methods employed, as indicated in previous applications, been altered in any way since the last application was submitted?  YES  NO If "YES," explain:  
The wastewater pond previously identified as the "unlined pond" is now fully lined.

3. Has the quantity or quality of wastes discharged, as indicated in previous applications, been significantly changed in any way since the last application was submitted?  YES  NO If "YES," explain:

4. If there are any changes anticipated in the near future that would affect waste quantity or quality, attach an explanation or proposal. Attachment #1

5. Review each condition of your current permit and attach a brief report that indicates your progress in meeting the requirements, limitations, and compliance schedules of the permit. Attachment #2

6. If the permitted facility or operation is a domestic wastewater treatment plant, attach a copy of your Biosolids Management Plan. N/A

**C. SIGNATURE OF LEGALLY AUTHORIZED REPRESENTATIVE**

I hereby certify that the information contained in this application is true and correct to the best of my knowledge and belief. In addition, I agree to pay all permit fees required by Oregon Administrative Rules 340-45 and/or 340-71. This includes a renewal application fee to renew the permit and a compliance determination fee invoiced annually by DEQ to maintain the permit.

ARYA BEHBHANI-DIVERS MANAGER ENVIRONMENTAL SERVICES  
 Name of Legally Authorized Representative (Type or Print) Title

Arya Behbahani 9/19/09  
 Signature of Legally Authorized Representative Date

**DEQ USE ONLY**

Application #: \_\_\_\_\_  
 File #: \_\_\_\_\_  
 Mail ID #2/#9: \_\_\_\_\_  
 LLID/RM: \_\_\_\_\_  
 ACD Fee Paid: \_\_\_\_\_  
 DOC Conf.: \_\_\_\_\_  
 Notes: \_\_\_\_\_

**RENEWAL APPLICATION  
 WATER POLLUTION CONTROL  
 FACILITIES PERMIT  
 (WPCF-R)**



Oregon Department of Environmental Quality

**DEQ USE ONLY**

Received: \_\_\_\_\_  
 Amount Received: \_\_\_\_\_  
 On-Site Surcharge: \_\_\_\_\_  
 Check #: \_\_\_\_\_  
 Deposit #: \_\_\_\_\_  
 IND  DOM  OSS  UIC: \_\_\_\_\_  
 Notes: \_\_\_\_\_

**A. REFERENCE INFORMATION**

1. Legal Name: <b>Portland General Electric</b>	2. Common Name: <b>PGE Boardman Plant</b>
3. Permit #: <b>100189</b> DEQ Site ID#: <b>70795</b> Permit Expiration Date: <b>12/31/2009</b>	4. Facility Physical Address: <b>73334 Tower Rd.</b> City, State, Zip Code: <b>Boardman, OR 97818</b> County: <b>Morrow</b>
5. Township: <b>3N</b> Range: <b>24E</b> Section: <b>34</b> Tax Lot #: <b>114</b>	
6. Responsible Official: <b>Arya Behbahani - Divers</b> Mailing Address: <b>Portland General Electric</b> <b>121 SW Salmon St</b>	Telephone #: <b>(503) 464-8141</b> City, State, Zip Code: <b>Portland, OR 97204-2905</b>
7. Facility Contact: <b>Steve Anderson</b> Facility Mailing Address: <b>P.O. Box 499</b>	Telephone #: <b>(503) 481-1233</b> City, State, Zip Code: <b>Boardman, OR 97818</b>
8. Invoice to: <b>Brandy Horn</b> Billing Address: <b>Portland General Electric</b> <b>121 SW Salmon St.</b>	Telephone #: <b>(503) 464-8970</b> City, State, Zip Code: <b>Portland, OR 97204-2905</b>

**B. REQUIRED INFORMATION**

1. Briefly describe the permitted facility, type of wastewater, and primary method of wastewater treatment and disposal: **The facility is a coal-fired electric generating plant. Industrial waste water is disposed in evaporation ponds or Carty Reservoir. Domestic wastewater is disposed in seepage/evaporation ponds. Coal combustion by-products are disposed dry in a land fill.**

2. Have the treatment or disposal methods employed, as indicated in previous applications, been altered in any way since the last application was submitted?  YES  NO If "YES," explain:  
**The wastewater pond previously identified as the "unlined pond" is now fully lined.**

3. Has the quantity or quality of wastes discharged, as indicated in previous applications, been significantly changed in any way since the last application was submitted?  YES  NO If "YES," explain:

4. If there are any changes anticipated in the near future that would affect waste quantity or quality, attach an explanation or proposal. **Attachment #1**

5. Review each condition of your current permit and attach a brief report that indicates your progress in meeting the requirements, limitations, and compliance schedules of the permit. **Attachment #2**

6. If the permitted facility or operation is a domestic wastewater treatment plant, attach a copy of your Biosolids Management Plan. **N/A**

**C. SIGNATURE OF LEGALLY AUTHORIZED REPRESENTATIVE**

I hereby certify that the information contained in this application is true and correct to the best of my knowledge and belief. In addition, I agree to pay all permit fees required by Oregon Administrative Rules 340-45 and/or 340-71. This includes a renewal application fee to renew the permit and a compliance determination fee invoiced annually by DEQ to maintain the permit.

<b>ARYA BEHBEHANI-DIVERS</b>	<b>MANAGER ENVIRONMENTAL SERVICES</b>
Name of Legally Authorized Representative (Type or Print)	Title
	<b>9/19/09</b>
Signature of Legally Authorized Representative	Date



**DEQ USE ONLY**

Application #: \_\_\_\_\_  
 File #: \_\_\_\_\_  
 Mail ID #2/#9: \_\_\_\_\_  
 LLID/RM: \_\_\_\_\_  
 ACD Fee Paid: \_\_\_\_\_  
 DOC Conf.: \_\_\_\_\_  
 Notes: \_\_\_\_\_

**RENEWAL APPLICATION  
 WATER POLLUTION CONTROL  
 FACILITIES PERMIT  
 (WPCF-R)**



Oregon Department of Environmental Quality

**DEQ USE ONLY**

Received: \_\_\_\_\_  
 Amount Received: \_\_\_\_\_  
 On-Site Surcharge: \_\_\_\_\_  
 Check #: \_\_\_\_\_  
 Deposit #: \_\_\_\_\_  
 IND  DOM  OSS  UIC: \_\_\_\_\_  
 Notes: \_\_\_\_\_

**A. REFERENCE INFORMATION**

1. Legal Name: <b>Portland General Electric</b>	2. Common Name: <b>PGE Boardman Plant</b>
3. Permit #: <b>100189</b> DEQ Site ID#: <b>70795</b> Permit Expiration Date: <b>12/31/2009</b>	4. Facility Physical Address: <b>73334 Tower Rd.</b> City, State, Zip Code: <b>Boardman, OR 97818</b> County: <b>Morrow</b>
5. Township: <b>3N</b> Range: <b>24E</b> Section: <b>34</b> Tax Lot #: <b>114</b>	
6. Responsible Official: <b>Arya Behbahani - Divers</b> Mailing Address: <b>Portland General Electric      121 SW Salmon St</b>	Telephone #: <b>(503) 464-8141</b> City, State, Zip Code: <b>Portland, OR 97204-2905</b>
7. Facility Contact: <b>Steve Anderson</b> Facility Mailing Address: <b>P.O. Box 499</b>	Telephone #: <b>(503) 481-1233</b> City, State, Zip Code: <b>Boardman, OR 97818</b>
8. Invoice to: <b>Brandy Horn</b> Billing Address: <b>Portland General Electric      121 SW Salmon St.</b>	Telephone #: <b>(503) 464-8970</b> City, State, Zip Code: <b>Portland, OR 97204-2905</b>

**B. REQUIRED INFORMATION**

1. Briefly describe the permitted facility, type of wastewater, and primary method of wastewater treatment and disposal: **The facility is a coal-fired electric generating plant. Industrial waste water is disposed in evaporation ponds or Carty Reservoir. Domestic wastewater is disposed in seepage/evaporation ponds. Coal combustion by-products are disposed dry in a land fill.**

2. Have the treatment or disposal methods employed, as indicated in previous applications, been altered in any way since the last application was submitted?  YES  NO If "YES," explain:  
**The wastewater pond previously identified as the "unlined pond" is now fully lined.**

3. Has the quantity or quality of wastes discharged, as indicated in previous applications, been significantly changed in any way since the last application was submitted?  YES  NO If "YES," explain:

4. If there are any changes anticipated in the near future that would affect waste quantity or quality, attach an explanation or proposal. **Attachment #1**

5. Review each condition of your current permit and attach a brief report that indicates your progress in meeting the requirements, limitations, and compliance schedules of the permit. **Attachment #2**

6. If the permitted facility or operation is a domestic wastewater treatment plant, attach a copy of your Biosolids Management Plan. **N/A**

**C. SIGNATURE OF LEGALLY AUTHORIZED REPRESENTATIVE**

I hereby certify that the information contained in this application is true and correct to the best of my knowledge and belief. In addition, I agree to pay all permit fees required by Oregon Administrative Rules 340-45 and/or 340-71. This includes a renewal application fee to renew the permit and a compliance determination fee invoiced annually by DEQ to maintain the permit.

<b>ARYA BEHBHANI-DIVERS</b>	<b>MANAGER ENVIRONMENTAL SERVICES</b>
Name of Legally Authorized Representative (Type or Print)	Title
	<b>9/19/09</b>
Signature of Legally Authorized Representative	Date



# **APPENDIX E-2**

## **Carty Generating Station Water Pollution Control Facility Permit Application**



DEQ USE ONLY

Application # \_\_\_\_\_

File# \_\_\_\_\_

Mail ID #2/#9 \_\_\_\_\_

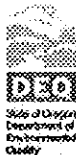
LLID/RM \_\_\_\_\_

ACD Fee Paid: \_\_\_\_\_

DOC Cont: \_\_\_\_\_

Notes: \_\_\_\_\_

APPLICATION FOR NEW  
WATER POLLUTION CONTROL FACILITIES  
INDIVIDUAL PERMIT  
(WPCF-N)



OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY  
(SEE PAGES 3-6 FOR DETAILED INSTRUCTIONS)

DEQ USE ONLY

Date Received: \_\_\_\_\_

Total Amount Received: \_\_\_\_\_

Add. Amt. Due (if any): \_\_\_\_\_

Check # \_\_\_\_\_

Deposit # \_\_\_\_\_

Receipt # \_\_\_\_\_

IND  DOM

OSS Surcharge: \_\_\_\_\_

**A. REFERENCE INFORMATION**

1. Legal Name of Applicant: Portland General Electric Company

2. Is the name of the applicant the owner of the facility?  Yes  No

3. Legal Status of Applicant:  Federal  State  Public  Private  Other (specify): \_\_\_\_\_

4. Name of Facility (if different than legal name): Carty Generating Station

5. Facility SIC Code: NAICS Code 221112 or NAICS code: 221111; 221119; 221310; 221330

**B. FACILITY LOCATION**

1. Physical Street Address: Tower Road (address not yet established)

City: Boardman State: Oregon Zip Code: 97818 County: Morrow

2. Latitude: 45 degrees, 42 minutes, 1.4 seconds

3. Township: Attachment 4 Section: \_\_\_\_\_

Longitude: 119 degrees, 48 minutes, 52 seconds Range: \_\_\_\_\_ Tax Lot #: \_\_\_\_\_

**C. FACILITY CONTACTS**

**RESPONSIBLE OFFICIAL**

1. Full Name: Arya Behbehani Telephone # 503-464-8141

Mailing Address: 121 SW Salmon St., 3WTCBR05 City: Portland State: OR Zip Code: 97204

**FACILITY CONTACT**

2. Full Name: Ray Hendricks Telephone # 503-464-8519

Mailing Address: 121 SW Salmon St., 3WTCBR05 City: Portland State: OR Zip Code: 97204

**INVOICE TO**

3. Full Name: Ray Hendricks Telephone # 503-464-8519

Billing Address: 121 SW Salmon St., 3WTCBR05 City: Portland State: OR Zip Code: 97204

**D. GENERAL INFORMATION**

1. Briefly describe the proposed facility, type of wastewater, and primary method of wastewater treatment and disposal:

See description in Attachment 1.

2. Is the proposed facility located within the service boundary of a municipal sanitary sewerage system? If "Yes", explain why this discharge is not being connected to a sanitary sewer.  Yes  No

3. Does the proposed facility described in D.1 discharge wastewater to an Underground Injection Control (UIC) system?  Yes  No

4. Is there any other wash water or wastewater that will be or is being discharged to a UIC system not described in D.1? If "Yes", also provide the information required in Section C, Preliminary Engineering Report/Facility Plan for each UIC.  Yes  No

5. Does or will stormwater at the facility be drained to a UIC system other than described by this application? If "Yes", also complete UIC Registration Form: Stormwater Drainage Systems (enclosed with this application).  Yes  No

APPLICATION INSTRUCTIONS FOR NEW WPCF INDIVIDUAL PERMIT  
Oregon Department of Environmental Quality

LEGAL NAME OF APPLICANT: Portland General Electric Company

E. OTHER DEQ OR PUBLIC AGENCY PERMITS

List all other DEQ or public agency permits issued to or applied for this project:

See list provided in Attachment 1.

F. PRELIMINARY ENGINEERING REPORT/FACILITY PLAN

Attach two copies of a Preliminary Engineering Report or Facility Plan Report that fully describes the proposed project using written discussion, maps, diagrams, and any other necessary materials. The report must contain the following information (see instructions for more detail):

1. Complete description of the proposal.
2. Location of the project, adjacent facilities, and waterways on a USGS topographic map. Include the location and latitude/longitude for all UIC wastewater systems on this map. Also provide a tax lot map for the project.
3. Schedule for development, including future expansion plans if applicable.
4. Schematic diagrams of waste streams and treatment/disposal facilities. Include the source and quantity of drinking water and water used for processing or manufacturing.
5. Wastewater characterization.
6. Plans for disposal of solid waste and sludges.
7. Site evaluation report prepared as outlined by OAR 340-071-0150 (on-site sewage disposal systems only).
8. Groundwater information for all areas where wastewater or sludge will be stored or disposed.
9. Evaluation of groundwater and surface water impacts and the steps that will be taken to prevent impacts from occurring.
10. Operation and maintenance plan that specifies the normal operation parameters of the system.

G. LAND USE COMPATIBILITY STATEMENT

Attach a complete Land Use Compatibility Statement (LUCS) signed by the local land use authority. The application will not be processed without evidence that the proposal is approved by the local land use authority and meets statewide planning goals.

H. UNDERGROUND INJECTION CONTROL (UIC) REGISTRATION

Federal and state regulations require that all UIC systems be registered with DEQ. By completing this application, your wastewater UIC systems (UIC) will be registered with the DEQ and you will be sent a UIC registration conformation letter to be maintained at the facility. You will be informed by DEQ of any additional UIC regulations that are applicable to your UIC system once this application has been reviewed.

I. SIGNATURE OF LEGALLY AUTHORIZED REPRESENTATIVE

I hereby certify that the information contained in the application is true and correct to the best of my knowledge and belief. In addition, I agree to pay all permit fees required by Oregon Administrative rules 340-045 and/or 340-071. This includes a new application fee to obtain the permit and a compliance determination fee invoiced annually by DEQ to maintain the permit.

Name of Legally Authorized Representative (Type or Print):

Arya Behbehani

Title:

Manager Environmental Services

Signature of Legally Authorized Representative:



Date

12/23/09

DEQ USE ONLY

Regional WQ Permit Coordinator route copy of application and Preliminary Engineering Report/Facility Plan to HQ UIC Coordinator.

Date sent to HQ/Initials:

Date Received by HQ/Initials:

EPA Well Type:

5A5 Electric Power Generator	5R21 Aquifer Recharge	5W20 Industrial Process Water	5X15 In Situ Fossil (fuel recovery)
5A6 Geothermal Heat (open loop)	5W9 Untreated Sewage	5W31 Septic System (well disposal)	5X16 Spent Brine Return Flow
5A7 Closed Loop Heat Pump Return	5W10 Cesspool	5W32 Septic System (drainfield)	5X25 Experimental Technology
5A19 Cooling Water Return	5W11 Septic System (general)	5X13 Mine Tailings Backfill	5X26 Aquifer Remediation
5G30 Special Drainage Water	5W12 Water Treatment Plant Effluent	5X14 Solution Mining	5X27 Other Wells

Print Form

# **Attachment 1**

## **Supplemental Information to the WPCF Application**





# **APPLICATION FOR A NEW WATER POLLUTION CONTROL FACILITIES INDIVIDUAL PERMIT**

## **B. FACILITY LOCATION**

### **B.3 – Township, Range, Section, Tax Lot #**

Exhibit F, Table F-1 provides all of the tax lots within 500 feet of the Site Boundary. Figures F-1 through F-5 show the locations of the tax lots. The Energy Facility Site would be located in Township 3N, Range 24 E, Sections 27, 28, 33, and 34.

## **D. GENERAL INFORMATION**

### **D.1 Facility Description**

The Carty Generating Station is a proposed natural gas fueled combined-cycle generating plant producing up to 900 megawatts of electrical power. Industrial and sanitary wastewater would be produced at the Carty Generating Station. Industrial wastewater would be routed back to Carty Reservoir or sent to lined evaporation ponds. Sanitary wastewater would be sent to the existing Boardman Plant sanitary system.

## **E. OTHER DEQ OR PUBLIC AGENCY PERMITS**

In addition to this Water Pollution Control Facility permit, the following permits have been applied for or are addressed by the Application for Site Certificate (ASC):

- Site Certificate from EFSC
- Surface Water Appropriation Permit
- Morrow County Land Use Permits
- Gilliam County Conditional Use Permits
- Air Contaminant Discharge Permit (ACDP) and Prevention of Significant Deterioration Permit (PSD)
- Title V Operating Permit
- Title IV Acid Rain Program
- NPDES 1200-C Construction Stormwater Permit
- Boardman Plant WPCF permit (existing permit for the Boardman Plant under which the sanitary sewer would be operated).

## **F. PRELIMINARY ENGINEERING REPORT/FACILITY PLAN**

Exhibit E, Appendix E-1, Attachment 2 contains two preliminary engineering report/facility plans.

## **G. LAND USE COMPATIBILITY STATEMENT**

A Land Use Compatibility Statement is not required for a project under EFSC jurisdiction, per ORS 469.378.

**ATTACHMENT 2**

**TWO COPIES OF THE PRELIMINARY ENGINEERING REPORT/FACILITY  
PLAN**



## **F. PRELIMINARY ENGINEERING REPORT/FACILITY PLAN**

### **F.1 Description of the Project**

The Carty Generating Station would be a natural gas fueled combined-cycle generating plant. The project falls under the jurisdiction of the Oregon Energy Facility Siting Council (EFSC) and requires a Site Certificate. A Water Pollution Control Facility permit falls under the jurisdiction of EFSC, therefore sections of this Preliminary Engineering Report/Facility Plan reference Exhibits in the Application for Site Certificate (ASC).

A detailed description of the Carty Generating Station is provided in Exhibit B of the ASC. Exhibit V of the ASC provides information regarding solid waste and wastewater that would be produced at the Carty Generating Station and describes the structures and systems proposed to handle the solid waste and wastewater. Wastewater produced during operation of the facility would include sanitary sewage, cooling tower blowdown, heat recovery steam generator blowdown, demineralized water production wastes (from the reverse osmosis unit and neutralization tank), combustion turbine water wash wastes, plant and equipment drain wastes, and storm water. Exhibit V, Section V.3.2 of the ASC provides information regarding types and volumes of wastewater anticipated during the operation of the Carty Generating Station. Exhibit V, Section V.4.2 of the ASC provides information regarding the structures and systems PGE anticipates operating to handle the wastewater. The Carty Generating Station will share the Boardman Plant sanitary waste treatment system and Carty Reservoir with the existing Boardman Plant as facilities for handling wastewater. These facilities are currently permitted under Water Pollution Control Facilities (WPCF) Permit Number 100189. Permit Number 100189 nominally expired on December 31, 2009. A renewal application has been submitted to the Oregon Department of Environmental Quality (DEQ) and is currently pending.

### **F.2 USGS Topography Map and Tax Lot Map**

Figure 1 of this WPCF application shows the anticipated location and scope of the project, locations of adjacent facilities, waterways, wetland, drainage ways, residential areas, industrial facilities, and commercial areas. Exhibit F, Figures F-1 through F-5 identify tax lots within or adjacent to the Site Boundary. For the purpose of the ASC adjacent properties include those within 500 feet of the Site Boundary.

### **F.3 Proposed Construction Schedule**

Construction for block 1 is expected to take place between 2013 and 2015. The start date for construction for block 2 has not been established, but is expected to lag construction of block 1 by at least 6 months. No construction activities related to the proposed Carty Generating Station are expected prior to 2012.

Portland General Electric Company (PGE) expects to issue the notice to proceed with construction to its contractor for Block 1 in the second quarter of 2013; with start of

operations in the first quarter of 2016. PGE's notice to proceed for Block 2 is expected in the third quarter of 2016; with start of operations in the second quarter of 2019.

Some factors that may affect the construction schedule of Block 2 include PGE's portfolio requirements, availability and cost of equipment, construction materials and labor; accessibility of capital, etc.

While overall the period from receipt of permits to construction to commercial operation is expected to be approximately 32 months, the timeframe for significant construction-related impacts (such as traffic and public service demands from surrounding communities) are not expected to exceed an approximately 27-month timeframe. The first few months of the total construction schedule will involve site preparation and planning and mobilization efforts that will not require a significant work force and are not expected to have any significant impact on traffic or other public services. The final few months involve running the completed plant to demonstrate its ability to perform reliably and in accordance with the performance guarantees and will not require a significant work force and are not expected to have any significant impact on traffic or other public services.

#### **F.4 Schematic Diagrams**

Exhibit O, Figures O-1 and O-2 of the ASC contain schematic diagrams showing each waste stream, collection facilities, treatment and control facilities, if any, and ultimate disposal methods for wastewater effluent. These schematic diagrams also serve as the water balance for each wastewater stream. Figure 1 of this WPCF application shows the anticipated locations of potential collection facilities. The two potential collection facilities for wastewater are Carty Reservoir and/or lined evaporation ponds. Carty Reservoir is a water storage and cooling and wastewater pond located immediately south of the proposed Carty Generating Station. Actual locations of lined evaporation ponds will be determined during the detailed design phase for the Carty Generating Station. Details regarding the four proposed lined evaporation ponds and Carty Reservoir are provided in Section V.4.2 of Exhibit V. PGE has included returning water to Carty Reservoir and sending it to lined evaporation ponds as potential structures and systems because PGE is still evaluating which combination of disposal methods would best meet plant and permit requirements; therefore, PGE is including both options to be considered by EFSC for site certification. During detailed design, the optimal disposal option will be determined and selected. The Operation and Maintenance Plan will provide the actual locations of collection facilities, if different from those shown in Figure 1. Drinking water will be obtained from the existing Boardman Plant potable water well. Potable water use is estimated at 1 gallon per minute and is also represented on the schematic diagrams in Exhibit O.

#### **F.5 Quantity and Quality of Waste Stream**

The quantity of wastewater is shown on Figure O-1 and O-2 of Exhibit O and listed in Table V-1 of Exhibit V. Within Table V-1 there are two waste streams that are proposed

for direct disposal to Carty Reservoir and/or lined evaporation ponds: cooling tower blowdown and the collective waste streams sent to the wastewater collection sump (neutralization tank waste, plant and equipment drains, evaporative cooling blowdown, and multi-media filtration backwash). Information regarding the quantity and quality of the two waste streams is provided in Exhibit V and repeated below.

During average annual site conditions (typical operating conditions) the total quantity of wastewater produced by two blocks would be approximately 248 gallons per minute (gpm); under summer conditions the quantity of wastewater would be approximately 394 gpm. Table F-1 below provides the quality of the anticipated wastewater stream, initial reservoir quality (which takes into account Boardman Plant operations), the expected quality of Columbia River make-up water piped to the reservoir, and the predicted concentration of constituents in the reservoir after 30 and 60 days of disposal with no Columbia River make-up water for annual average conditions.

**Table F-1 Annual Average Condition Wastewater Quality and Carty Reservoir Quality**

	Initial Reservoir Quality	Expected Wastewater Quality	Columbia River Quality	Reservoir Quality After 30 Days	Reservoir Quality After 60 Days	Reservoir Permit Requirements
Calcium, mg/l CaCO <sub>3</sub>	63	562	46	63	64	< 500
Magnesium, mg/l CaCO <sub>3</sub>	90	813	23	91	92	<250
Sodium, mg/l CaCO <sub>3</sub>	87	781	16	88	89	<1000
Potassium, mg/l CaCO <sub>3</sub>	7	61	2	7	7	N/A
M-Alkalinity, mg/l	148	183	75	148	148	<500
Sulfate, mg/l CaCO <sub>3</sub>	47	608	12	48	48	<200
Chloride, mg/l CaCO <sub>3</sub>	44	393	5	44	45	<100
Nitrate, mg/l CaCO <sub>3</sub>	0.2	1.5	0.1	0.2	0.2	<45
Silica, mg/l	3.1	23.	3.1	3.1	3.2	N/A
Conductivity	444	3993	181	449	453	N/A
TDS, mg/l	261	2347	114	264	266	<1000
Fluoride, mg/l	0.6	5.4	0.5	0.6	0.6	<1
Iron, mg/l	0.11	0.99	<0.1	0.11	0.11	N/A
Copper, mg/l	0.006	0.054	0.002	0.006	0.006	<0.1
Zinc, mg/l	0.012	0.108	0.005	0.012	0.012	<0.1
Arsenic, mg/l	0.005	0.045	0.001	0.005	0.005	<1
Boron, mg/l	0.10	0.90	0.07	0.10	0.10	<0.5
Cadmium, mg/l	<0.001	<0.002	<0.001	<0.001	<0.001	<0.01
Chromium, mg/l	0.001	0.008	<0.001	0.001	0.001	<0.05
Mercury, mg/l	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.01

Values in Table F-1 are based on the two waste streams that would be produced at the Carty Generating Station. Cooling tower blowdown is the primary waste stream with an average annual condition flow rate of 182 gpm. The second waste stream is from the wastewater collection sump (low volume waste) with an average annual condition flow rate of 66 gpm. Table F-2 provides a comparison of the quality of the low volume waste to that of the cooling tower blowdown for annual and summer conditions. The column “Discharge Annual Average - Combined Waste Water” in Table F-2 is the same as the column “Expected Wastewater Quality” in Table F-1.



**Table F-2 Quantity and Quality of Anticipated Wastewater Streams**

	Discharge Annual Average			Discharge Summer Maximum		
	Low Volume Wastes	Cooling Tower Blowdown	Combined Wastewater	Low Volume Wastes	Cooling Tower Blowdown	Combined Wastewater
Flow Rate, gpm	66	182	248	81	313	394
Ca, mg/L CaCO <sub>3</sub>	57	744	562	62	746	604
Mg, mg/L CaCO <sub>3</sub>	83	1077	813	89	1080	874
Na, mg/L CaCO <sub>3</sub>	80	1034	781	86	1036	839
K, mg/L CaCO <sub>3</sub>	6	81	61	7	81	66
M-Alkalinity, mg/L	136	200	183	146	200	189
SO <sub>4</sub> , mg/L CaCO <sub>3</sub>	43	812	608	46	814	655
Cl, mg/L CaCO <sub>3</sub>	40	521	393	43	522	423
NO <sub>3</sub> , mg/L CaCO <sub>3</sub>	0.1	1.9	1.5	0.2	1.9	1.6
SiO <sub>2</sub> , mg/L	2	31	23	3	31	25
Conductivity	408	5288	3993	438	5301	4299
TDS, mg/L	240	3109	2347	257	3116	2527
Fluoride, mg/L	0.6	7.1	5.4	0.6	7.2	5.8
Iron, mg/L	0.10	1.31	0.99	0.11	1.31	1.06
Copper, mg/L	0.006	0.071	0.054	0.006	0.072	0.058
Zinc, mg/L	0.011	0.143	0.108	0.012	0.143	0.116
Arsenic, mg/L	0.005	0.060	0.045	0.005	0.060	0.048
Boron, mg/L	0.09	1.19	0.90	0.10	1.19	0.97
Cadmium, mg/L	<0.0001	<0.0003	<0.0002	<0.0001	<0.0003	<0.0003
Chromium, mg/L	0.001	0.010	0.008	0.001	0.010	0.008
Mercury, mg/L	<0.0002	<0.0006	<0.0005	<0.0002	<0.0006	<0.0005

The 30 and 60 day period estimates above show that discharges from Carty Generating Station would have minimal effects on Carty Reservoir water quality even with all wastewater from Carty Generating Station (two blocks) sent to the reservoir and no river water makeup (representing November–February conditions). However, river water makeup from the Columbia River would continue to be pumped to the reservoir to help maintain and/or slightly improve water quality. Consequently, there is no anticipated cumulative degradation of Carty Reservoir quality from the two combined cycle blocks. Additionally, the minimal effects of the wastewater discharges on the water quality of the reservoir show that it is not sensitive to changing river water quality, wastewater quality, wastewater quantity, or other conditions. Moreover, Carty Reservoir would remain well within the permit’s water quality requirements. Periodic grab samples of Carty Reservoir will be analyzed to ensure permit compliance.

Exhibit V contains additional information about the operation of the Carty Reservoir.

### **F.6 Sludge Collection, Storage, and Disposal**

Exhibit V Section V.3.1 provides information regarding the collection, storage, and disposal, if necessary, of sludge generated by treatment processes. Sludge is not

anticipated to accumulate at a rate that would require removal during the useful life of the facility. Approximately 40,000 tons of solids would be generated in the lined evaporation ponds throughout the life of pond, if all wastewater was sent to evaporation ponds (i.e. no disposal to Carty Reservoir). They are expected to be non-hazardous; however, solids would be sampled during decommissioning and disposed of accordingly based on results of the sampling.

## **F.7 On-site Sewage Systems**

Section F.7 of the WPCF permit requires a site evaluation report, as outlined in OAR 340-071-0150, for on-site sewage systems. However, OAR 340-071-0150 applies to the construction of an on-site system and therefore is not applicable to the Carty Generating Station because sewage from the Carty Generating Station will be sent to the existing Boardman Plant sanitary waste treatment system which is operated under the Boardman Plant WPCF permit. The anticipated amount of sanitary sewage/wastewater is well within the capacity of the existing Boardman sanitary waste system, which has a total capacity of over 20,000 gallons per day (gpd). The Boardman sanitary waste system has a design capacity for the original construction crew of the Boardman Plant; currently, approximately 5 % of the capacity is used. The sanitary waste system at the Boardman Plant has been underutilized; therefore, a leak test or reconditioning of the liners will be required prior to use by the Carty Generating Station. The sanitary waste treatment system would be operated pursuant to conditions set in either a renewal permit for the Boardman Plant, or in a new WPCF permit issued jointly to the Carty Generating Station and the Boardman Plant.

## **F.8 Groundwater Information**

### Climatic Information

The following climatic information was taken from the Soil Survey Report of Morrow County Area, Oregon issued December 1983. During the winter the average temperature along the Columbia River is 37 degrees Fahrenheit (F); during the summer the average temperature is 73 degrees F. Average annual precipitation is approximately 8 inches and average annual snowfall is approximately 9 inches.

### Topography and Soil Profile Description

Topography is shown on Figure 1 of this WPCF application. Exhibit I of the ASC provides information regarding soils within the Site Boundary.

### Flooding and Erosion Potential

The potential for flooding at the location of the Carty Generating Station is considered extremely low. The facility would be located just east of Sixmile Canyon as shown on Figure 1 of this WPCF application, and would be approximately 70 feet higher in elevation than the floor of the canyon. Sixmile Canyon does not contain surface flow in its sections adjacent to the Carty Generating Station and would only contain flow if there was an emergency release of water from Carty Reservoir. There has not been an overflow of water from Carty Reservoir during its approximately 30 years of operation.

Carty Reservoir is a man made reservoir and water levels are controlled by pumping water from the Columbia River; surface water flow into the reservoir from the surrounding area is negligible.

There is minimal erosion risk at the location of the Carty Generating Station. The predominant soil type within the Energy Facility Site is 54B – Sagehill fine sandy loam, with 2 to 5 percent slopes. This soil is well drained and the erosion hazard is slight. In addition, facility loop roads will be paved and crushed stone and pavement would be located in areas where regular maintenance activities are anticipated. Areas temporarily disturbed during construction will be revegetated, further reducing the risk of erosion.

#### Groundwater Aquifer Characteristics

The four shallow aquifer units in the vicinity of Carty Generating Station are, from upper to lowermost, the alluvial aquifer, Elephant Mountain aquifer, Pomona aquifer, and the Umatilla aquifer. In the area of Carty Reservoir and Sixmile Canyon the alluvial aquifer is thought to be recharged primarily by leakage from Carty Reservoir and seepage and runoff from irrigated agriculture. The hydraulic gradient averages about 30 feet per mile. Hydraulic gradients in the shallow basalt aquifers appear to range from 25 to 50 feet per mile.

Based on construction summary reports for Carty Reservoir the reservoir was excavated through surface alluvium sediments, the Elephant Mountain basalt flow, the Rattlesnake Ridge interbed within the Elephant Mountain, and the upper portion of the Pomona basalt flow. Figure V-1 of Exhibit V depicts data presented in the DEQ *1995 Report on Hydrogeology, Groundwater Chemistry and Land Uses in the Lower Umatilla Basin Groundwater Management Area* (1995 DEQ Report) and provides a comparison of geologic and hydrogeologic units.

Seepage occurs from the reservoir at an estimated rate of 2,700 acre-feet/year (1,700 gallons per minute [gpm]). Approximately 323 acre-feet/year of this seepage is collected by a seepage collection system and returned to the reservoir. Seepage that is not collected and pumped back to the reservoir infiltrates into the ground. Seepage from the Carty Reservoir occurs in the alluvium in combination with the upper portion of the Elephant Mountain Basalt flow (the alluvium sediments and the pervious vesicular, fractured, brecciated, and weathered basalt flow top are hydraulically connected as one aquifer) and a lower shallow aquifer consisting of the Elephant Mountain basalt flow combined with the upper portion of the Pomona basalt flow (lower aquifer). Figure V-2 of Exhibit V is a regional geologic map and cross section A-A' from the 1995 DEQ Report; the figure indicates several natural breaches into the Pomona Basalt that allow hydraulic connection between the Carty seepage and sediments in Sixmile Canyon. However, the natural breaches that allow hydraulic connection are located at a distance of approximately 4 miles. Groundwater flow rates for the alluvium in combination with the upper portion of the Elephant Mountain basalt flow range from 0.06 to 3.0 feet per day; rates for the lower shallow aquifer range from 0.0003 to 0.3 feet per day. With an assumed rate of 2.0 feet per day and a distance of 4 miles to a connection to Sixmile Canyon, it could require 29 years for the seepage water to reach the canyon. Once

seepage reached the canyon, it would need to travel an additional 5 miles to the Columbia River through more permeable alluvial aquifer. With an assumed hydraulic conductivity of 5 feet per day, the travel time along Sixmile Canyon could be approximately 15 years, for a total travel time to the Columbia River of 44 years.

#### Location of all Wells and Springs within a ½ mile Radius

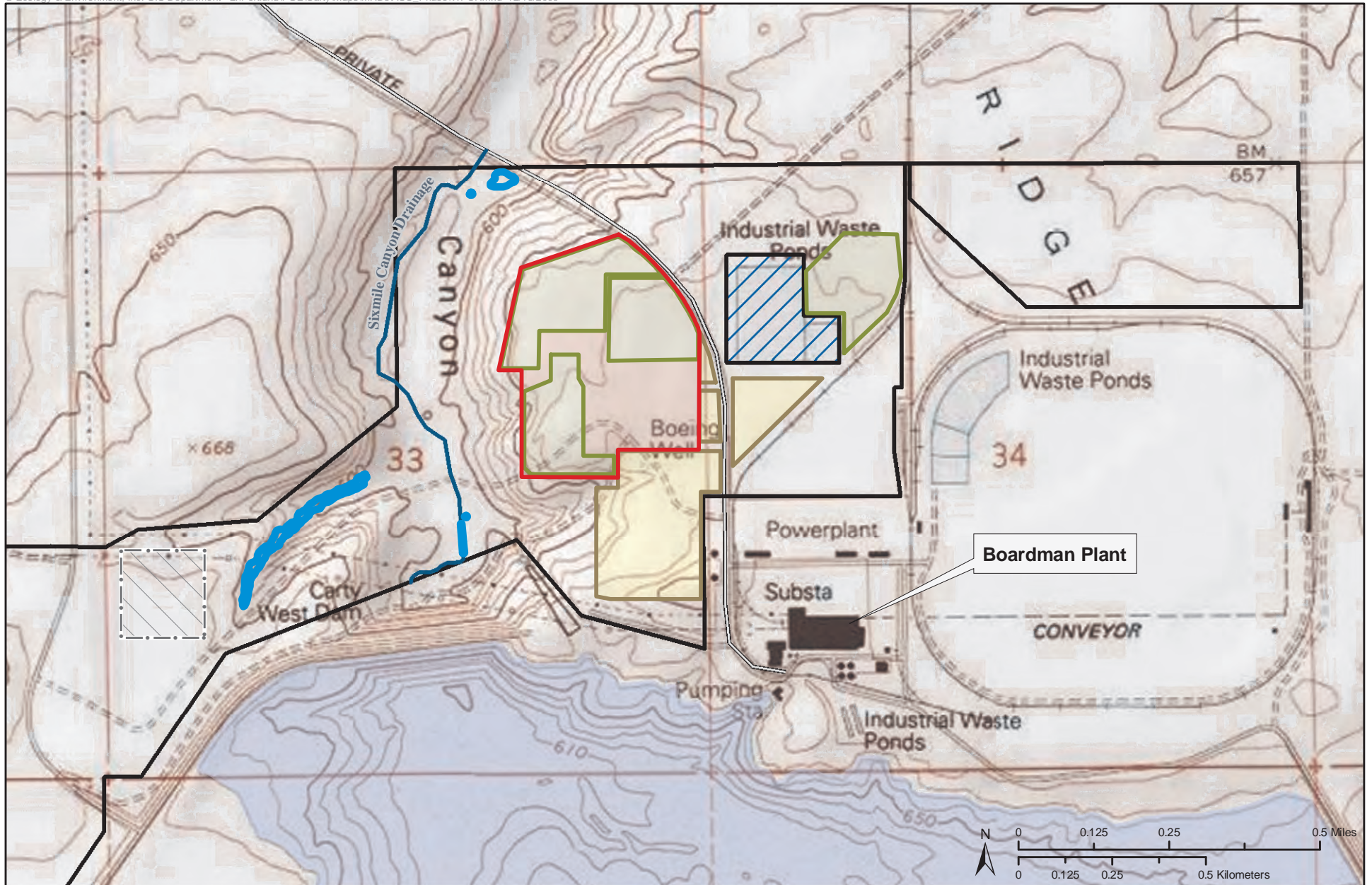
There are numerous observation wells located in the vicinity of the existing Boardman Plant, and therefore also in the vicinity of the proposed Carty Generating Station. The locations of these observation wells (as well as piezometers) are shown in the attached figure titled *Boardman Plant Piezometer and Observation Wells*. The approximate location of the proposed Carty Generating Station has been added to the figure. No springs were located within ½ mile of the Energy Facility Site during field surveys.

### **F.9 Groundwater and Surface Water Impacts**

Exhibit V, Section V.7.2 describes any potential impacts to groundwater and surface water from the operation of the Carty Generating Station. There would be no impacts to surface waters of the state because wastewater would only be discharged to Carty Reservoir, which is a wastewater and cooling pond. Section F.5, above, describes the quality of the waste streams that would be discharged to Carty Reservoir and/or evaporation ponds. Evaporation ponds would be lined and therefore there would be no connection between the evaporation ponds and groundwater. Table F-1 provides the quality of water in Carty Reservoir with the addition of the Carty Generating Station and shows that water quality in the reservoir would continue to be well below the reservoir operating limits. In addition, the combined quality of water in Carty Reservoir would be below numerical groundwater quality reference and guidance levels listed in Tables 1 through 3 of Oregon Administrative Rule 340-040-0020. Therefore, seepage from the reservoir would not cause exceedances of these levels.

### **F.10 Operation and Maintenance Plan**

An Operation and Maintenance plan that specifies the normal operating parameters of the system will be completed and submitted to DEQ prior to construction, but after selection of equipment and detailed facility design.

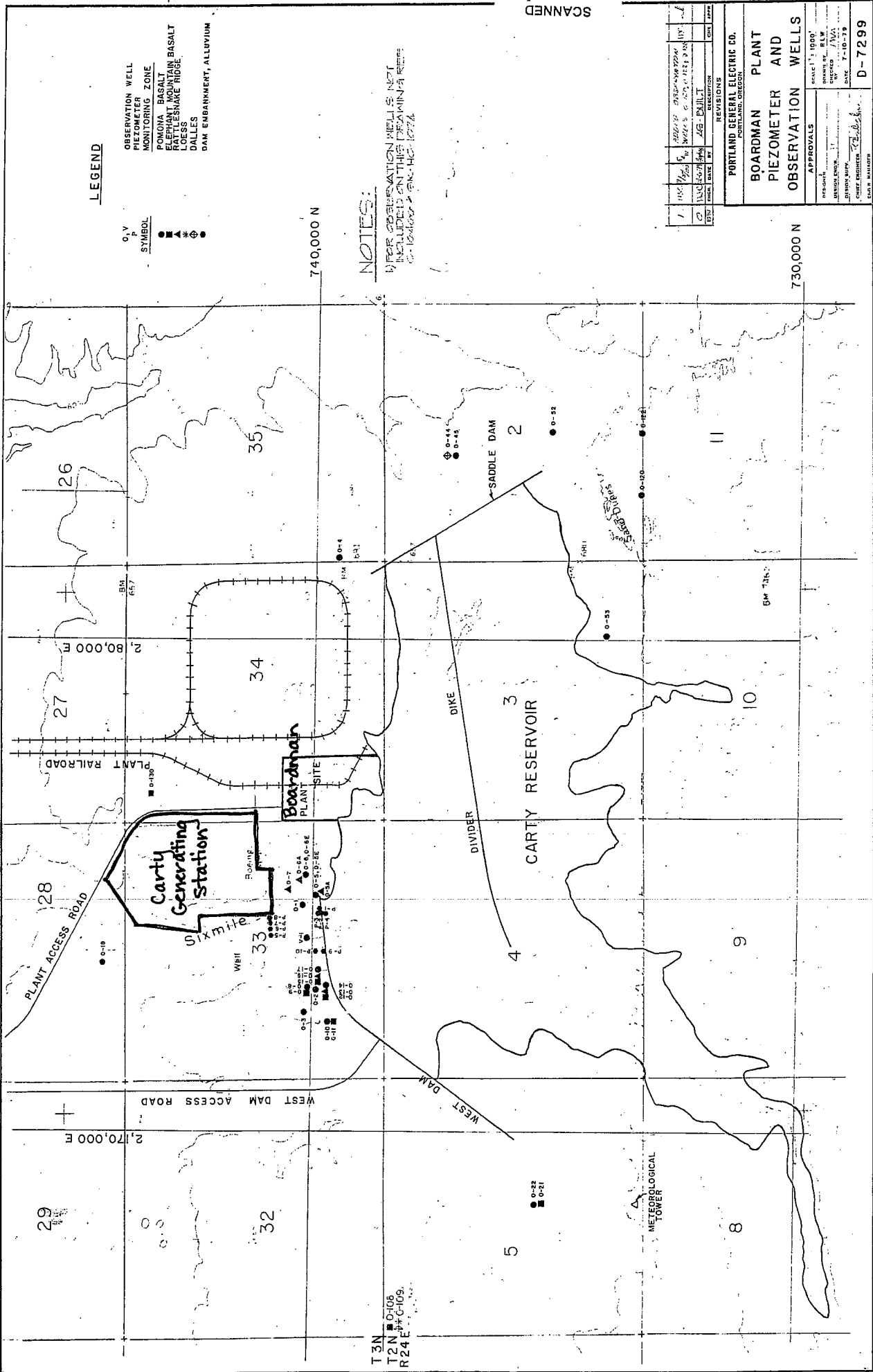


- |                               |                           |                          |
|-------------------------------|---------------------------|--------------------------|
| Proposed Energy Facility Site | Existing Evaporation Pond | Drainage                 |
| Proposed Evaporation Ponds    | Site Boundary             | Field Delineated Wetland |
| Temporary Construction Areas  |                           |                          |
| Proposed Carty Switchyard     |                           |                          |

**Figure 1**  
**Carty Generating Station Location**







**LEGEND**

- O V OBSERVATION WELL
- PIEZOMETER
- MONITORING ZONE
- PONOMA BASALT
- WILLAMETTE BASALT
- RATTLESNAKE RIDGE
- LOESS
- DALLES
- DAM EMBANKMENT, ALLUVIUM

**NOTES:**

1) FOR OBSERVATION WELLS NOT INCLUDED IN THIS DRAWING REFER TO DRAWING P-ENG-100-10774

NO.	DATE	BY	DESCRIPTION	SCALE
1	1/25/54	W. J. ...	REVISION	1/4" = 100'
2	1/25/54	W. J. ...	REVISION	1/4" = 100'
3	1/25/54	W. J. ...	REVISION	1/4" = 100'
4	1/25/54	W. J. ...	REVISION	1/4" = 100'
5	1/25/54	W. J. ...	REVISION	1/4" = 100'

APPROVALS	
DESIGNED BY: W. J. ...	CHECKED BY: ...
DRAWN BY: ...	DATE: 7-10-79
PROJECT NO.: ...	SCALE: AS SHOWN

PORTLAND GENERAL ELECTRIC CO. PORTLAND, OREGON	
<b>BOARDMAN PLANT</b>	
<b>PIEZOMETER AND OBSERVATION WELLS</b>	
PROJECT NO.: ...	SCALE: 1" = 1000'
DATE: 7-10-79	PROJECT: ...
PROJECT ENGINEER: ...	SCALE: ...
CHECK ENGINEER: ...	
DRAWN BY: ...	
DATE: 7-10-79	

D-7299

T3N  
T2N  
R24E

METEOROLOGICAL  
LOWER





**EXHIBIT F**

**PROPERTY OWNERS**

OAR 345-021-0010(1)(f)

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## **F.1 INTRODUCTION**

**OAR 345-021-0010(1)(f)** *A list of 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 site boundary as defined in OAR 345-001-0010. The applicant shall submit an updated list of property owners as requested by the Department before the Department issues notice of any public hearing on the application for a site certificate as described in OAR 345-015-0220. In addition to incorporating the list in the application for a site certificate, the applicant shall submit the list to the Department in electronic format acceptable to the Department for the production of mailing labels. Property adjacent to the site boundary means property that is:*

- A) Within 100 feet of the site boundary where the site, corridor or micrositing corridor is within an urban growth boundary;*
- B) Within 250 feet of the site boundary where the site, corridor or micrositing corridor is outside an urban growth boundary and not within a farm or forest zone; and*
- C) Within 500 feet of the site boundary where the site, corridor or micrositing corridor is within a farm or forest zone.*

Response: Portions of the Site are within or adjacent to a farm zone, therefore, “adjacent” properties include those located within 500 feet of the Site Boundary. The Site Boundary is the perimeter of the Energy Facility Site, transmission line corridor, and buffer lands. The area contained within the Site Boundary is approximately 2,400 acres.

## **F.2 IDENTIFICATION OF PROPERTY OWNERS**

Portland General Electric Company (PGE) obtained electronic data from Gilliam and Morrow Counties in March 2009 that included the names and mailing addresses of all owners of record, as shown on the most recent property tax assessment roll, of property located within each county. In December 2009, property ownership was verified prior to submittal of the Preliminary Application for Site Certificate (ASC); in December 2010, property ownership was again verified prior to submittal of the Final ASC. PGE identified all properties located within or adjacent to the Site Boundary using Geographic Information Systems. PGE will submit the list to the Oregon Department of Energy in electronic format acceptable to the Department for the production of mailing labels. Table F-1 provides the mailing address and name of property owner, the property’s proximity to the Site Boundary, and the tax lot and map numbers. Figures F-1 through F-5 show the property locations and their proximity to the Site Boundary.

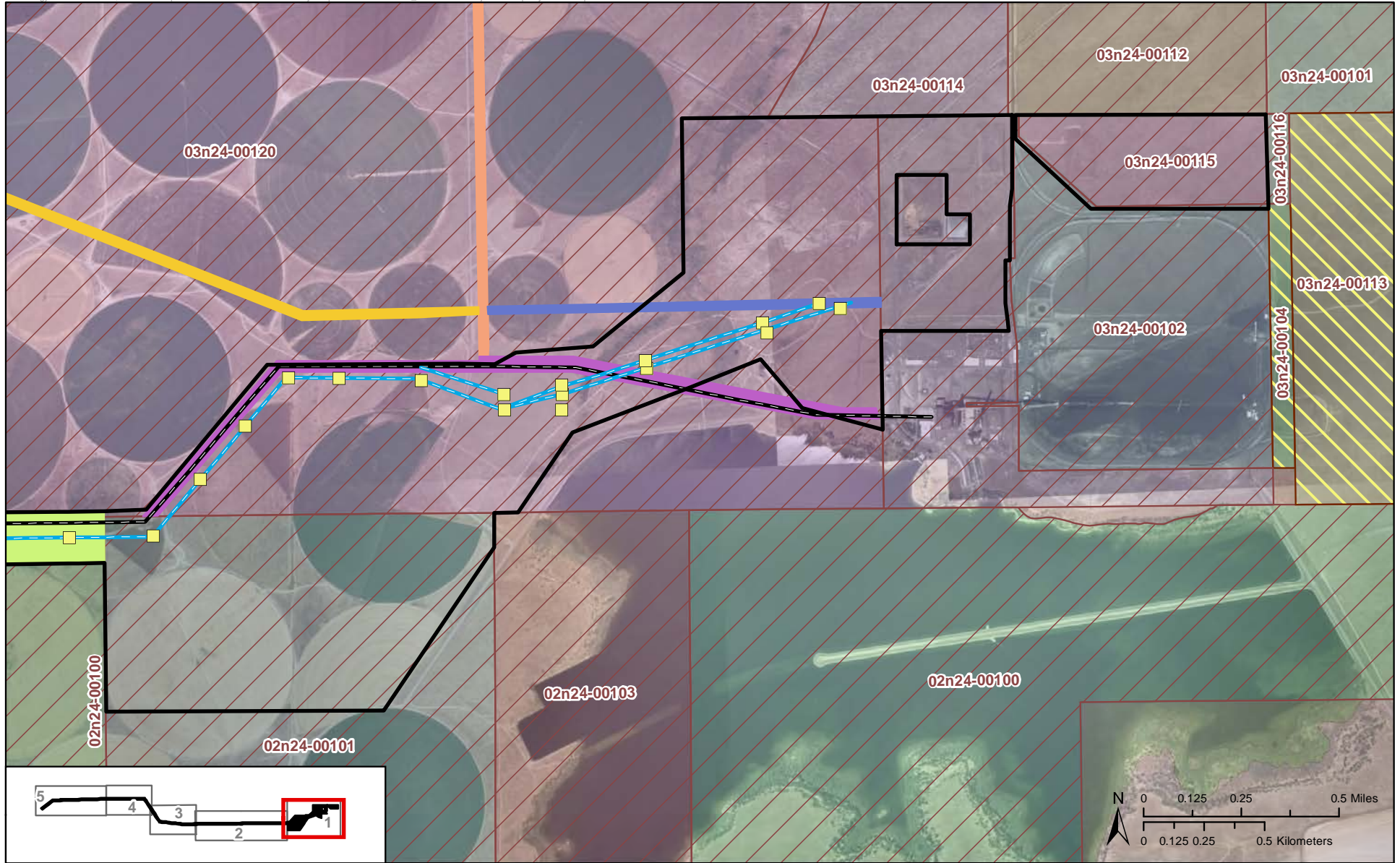
**Table F-1 Property Owners Intersecting or Within 500 Feet of the Site Boundary**

MAILING ADDRESS AND NAME	RELATIONSHIP TO SITE BOUNDARY	COUNTY	TAX LOT	MAP NUMBER
GEN ELEC CC TRUSTEES ET AL % PORTLAND GENERAL ELECTRIC 121 SW SALMON STREET PORTLAND, OR 97204	INTERSECTS	MORROW	102	03N24E
	INTERSECTS	MORROW	115	03N24E
	WITHIN 500 FEET	MORROW	104	03N24E
	INTERSECTS	MORROW	114	03N24E
	WITHIN 500 FEET	MORROW	116	03N24E
PORTLAND GENERAL ELECTRIC 121 SW SALMON ST PORTLAND, OR 97204	INTERSECTS	MORROW	101	02N24E
	INTERSECTS	MORROW	101	03N24E
	INTERSECTS	MORROW	103	02N24E
	WITHIN 500 FEET	MORROW	113	03N24E
THREEMILE CANYON FARMS, LLC ATTN: MR MARTIN MYERS 75906 THREEMILE RD BOARDMAN, OR 97818	INTERSECTS	MORROW	100	02N23E
	INTERSECTS	MORROW	100	02N24E
	INTERSECTS	MORROW	100	03N23E
	INTERSECTS	MORROW	112	03N24E
	INTERSECTS	MORROW	120	03N24E
BAIC, INC. ATTN: MYERS, MARTIN 75906 THREEMILE ROAD BOARDMAN, OR 97818	INTERSECTS	GILLIAM	2100	03N22E
BONNEVILLE POWER ADMINISTRATION ATTN: NEAL MEISNER PO BOX 3621 PORTLAND, OR 97208-3621	INTERSECTS	GILLIAM	506	03N21E
BUREAU OF LAND MANAGEMENT PRINEVILLE DISTRICT PO BOX 550 PRINEVILLE, OR 97754	WITHIN 500 FEET	GILLIAM	2501	03N22E
	WITHIN 500 FEET	GILLIAM	2502	03N22E
GLEN G. & KELLEY G. GRIFFITH 76768 HWY 74 IONE, OR 97843	WITHIN 500 FEET	GILLIAM	3800	02N22E
SKYE H. & PENNY M. KREBS 73654 HWY 74 IONE, OR 97843	INTERSECTS	GILLIAM	700	03N22E
	INTERSECTS	GILLIAM	2800	03N22E

**Table F-1 Property Owners Intersecting or Within 500 Feet of the Site Boundary**

MAILING ADDRESS AND NAME	RELATIONSHIP TO SITE BOUNDARY	COUNTY	TAX LOT	MAP NUMBER
J.R. KREBS PO BOX 8 ARLINGTON, OR 97812	INTERSECTS	GILLIAM	503	03N21E
	WITHIN 500 FEET	GILLIAM	500	3N21E
HARRY P. & LINDA MOFFITT 73280 HWY 74 IONE, OR 97843	INTERSECTS	GILLIAM	200	02N22E
HARRY P. 73280 HWY 74 IONE, OR 97843	INTERSECTS	GILLIAM	100	02N22E
JARROD & ALISON OGDEN 74475 HIGHWAY 74 IONE, OR 97843	INTERSECTS	GILLIAM	2202	03N22E
PACIFIC POWER & LIGHT CO. 825 N.E. MULTNOMAH SUITE 1900 PORTLAND, OR 97232-4107	INTERSECTS	GILLIAM	2201	03N22E
PORTLAND GENERAL ELECTRIC CO. 121 S.W. SALMON STREET PORTLAND, OR 97204	INTERSECTS	GILLIAM	3601	03N22E
Oregon Department of Transportation –Right-of-way ATTN: Gail Harbert 355 Capitol Street NE Salem, OR 97301	INTERSECTS	GILLIAM	300	02N22E
BRIAN & LORI SULLIVAN 75181 SULLIVAN RD. IONE, OR 97843	INTERSECTS	GILLIAM	2203	03N22E
Idaho Power Company and PRC are co-owners of the Boardman Plant and Ash Disposal Sites				





- Site Boundary
- Slatt Substation
- Existing Boardman to Slatt Substation 500kV Centerline
- Proposed Line to Slatt Substation
- Proposed Transmisison Line Towers

- Taxlots (Maptaxlot # Labeled)
- Intersects Site Boundary
- Within 500' of Site Boundary

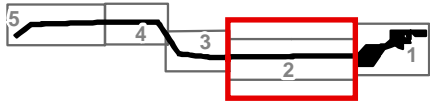
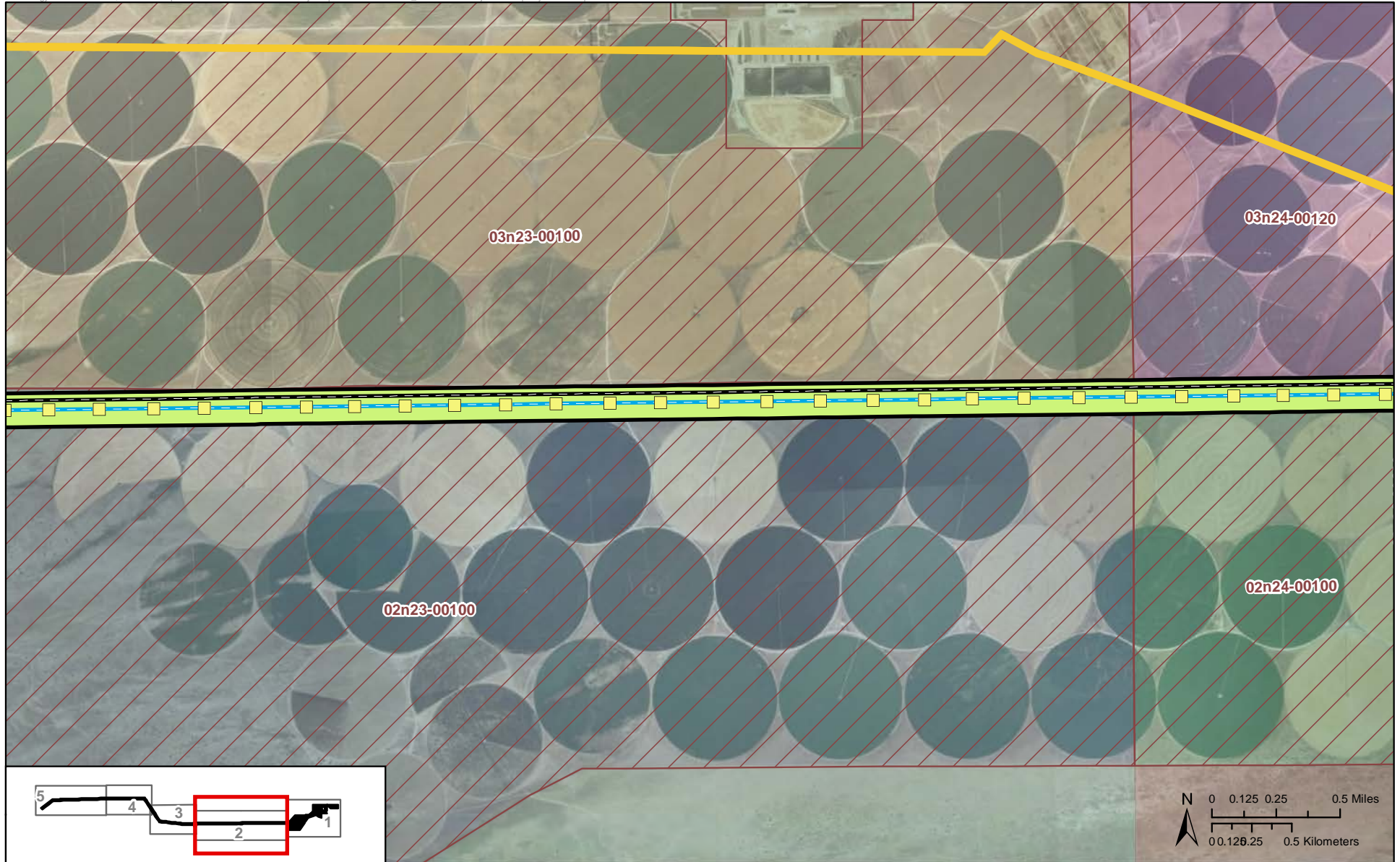
- Existing Transmission Line Easement
- BPA DeMoss
- PGE - 700ft Buffer
- PGE - 525 ft Buffer
- PGE Approx. 125ft Buffer
- BN Dalreed 230KV
- BPA Willow Creek
- P.P. & L. 34.5 KV

**Figure F-1**  
**Property Ownership Adjacent**  
**to Site Boundary**  
**PGE Carty Generating Station**  
**Application for Site Certificate**









- Site Boundary
- Slatt Substation
- Existing Boardman to Slatt Substation 500kV Centerline
- Proposed Line to Slatt Substation
- Proposed Transmisison Line Towers

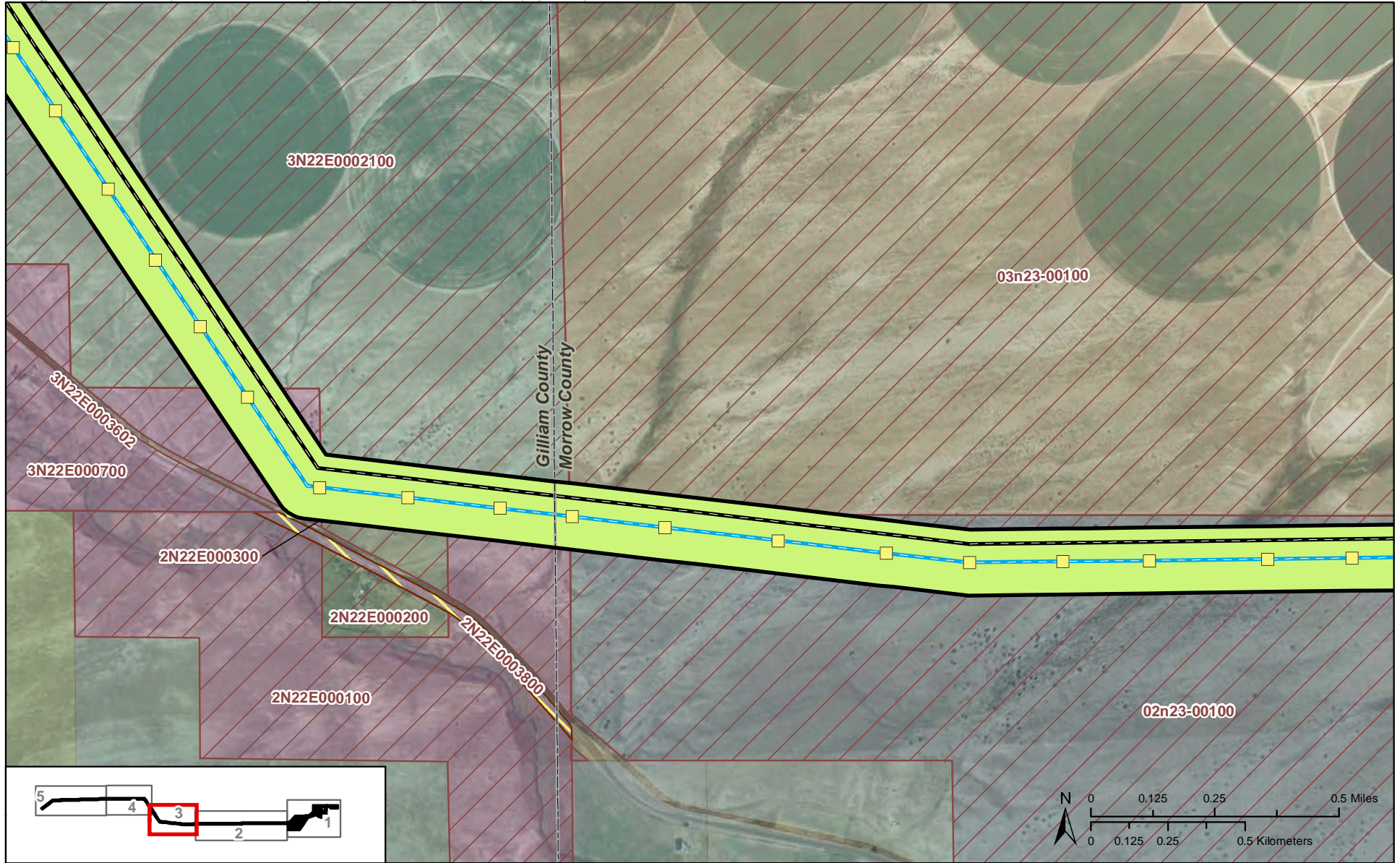
- Taxlots (Maptaxlot # Labeled)
- Intersects Site Boundary
- Within 500' of Site Boundary

- Existing Transmission Line Easement
- BPA DeMoss
- PGE - 700ft Buffer
- PGE - 525 ft Buffer
- PGE Approx. 125ft Buffer
- BN Dalreed 230KV
- BPA Willow Creek
- P.P. & L. 34.5 KV

**Figure F-2**  
**Property Ownership Adjacent**  
**to Site Boundary**  
**PGE Carty Generating Station**  
**Application for Site Certificate**







- Site Boundary
- Slatt Substation
- Existing Boardman to Slatt Substation 500kV Centerline
- Proposed Line to Slatt Substation
- Proposed Transmisison Line Towers

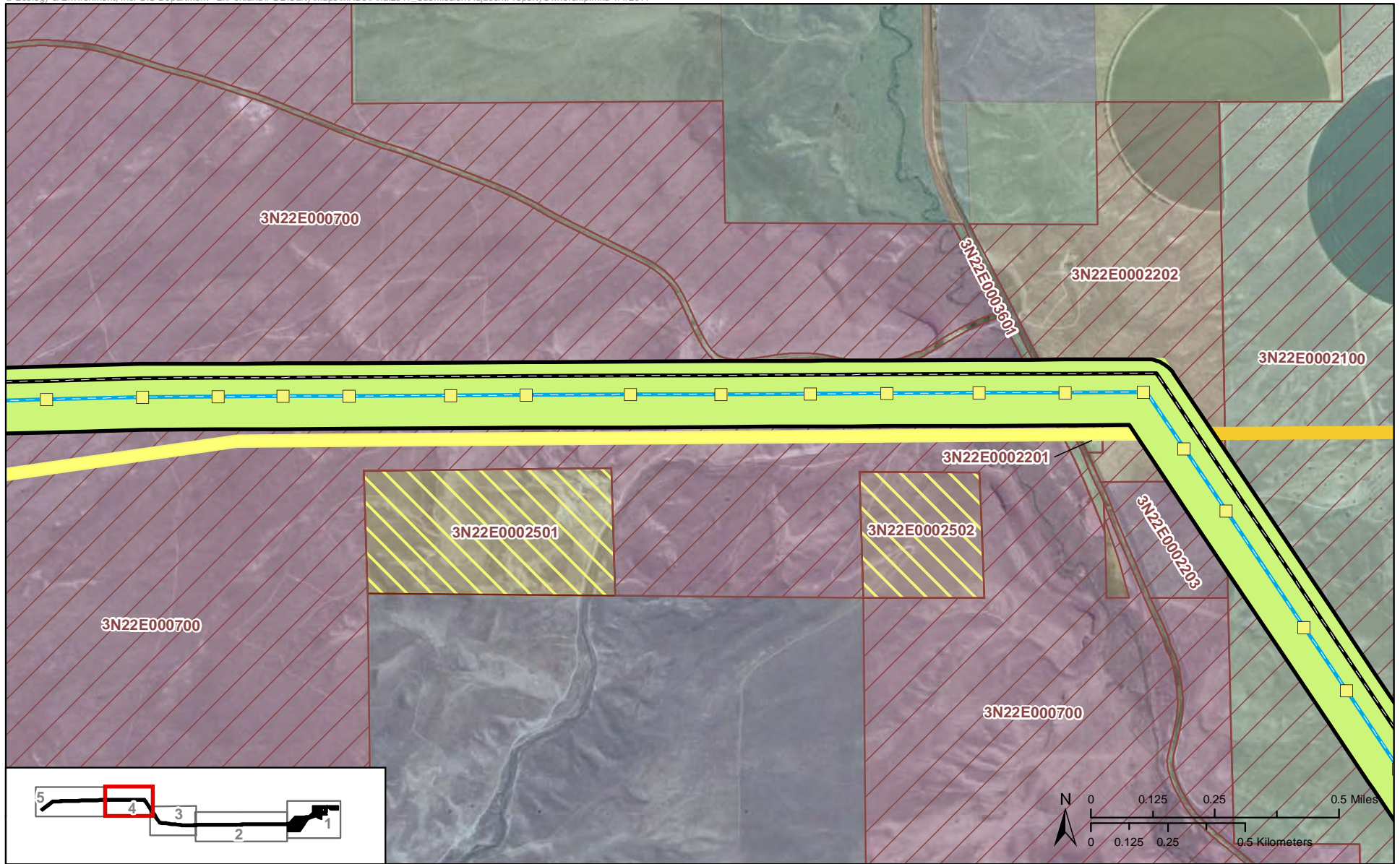
- Taxlots (Maptaxlot # Labeled)
- Intersects Site Boundary
- Within 500' of Site Boundary

- Existing Transmission Line Easement
- BPA DeMoss
- PGE - 700ft Buffer
- PGE - 525 ft Buffer
- PGE Approx. 125ft Buffer
- BN Dalreed 230KV
- BPA Willow Creek
- P.P. & L. 34.5 KV

**Figure F-3**  
**Property Ownership Adjacent to Site Boundary**  
**PGE Carty Generating Station**  
**Application for Site Certificate**







- Site Boundary
- Slatt Substation
- Existing Boardman to Slatt Substation 500kV Centerline
- Proposed Line to Slatt Substation
- Proposed Transmission Line Towers

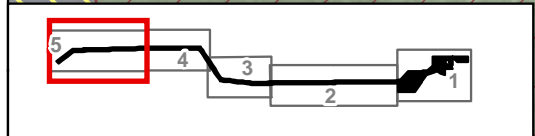
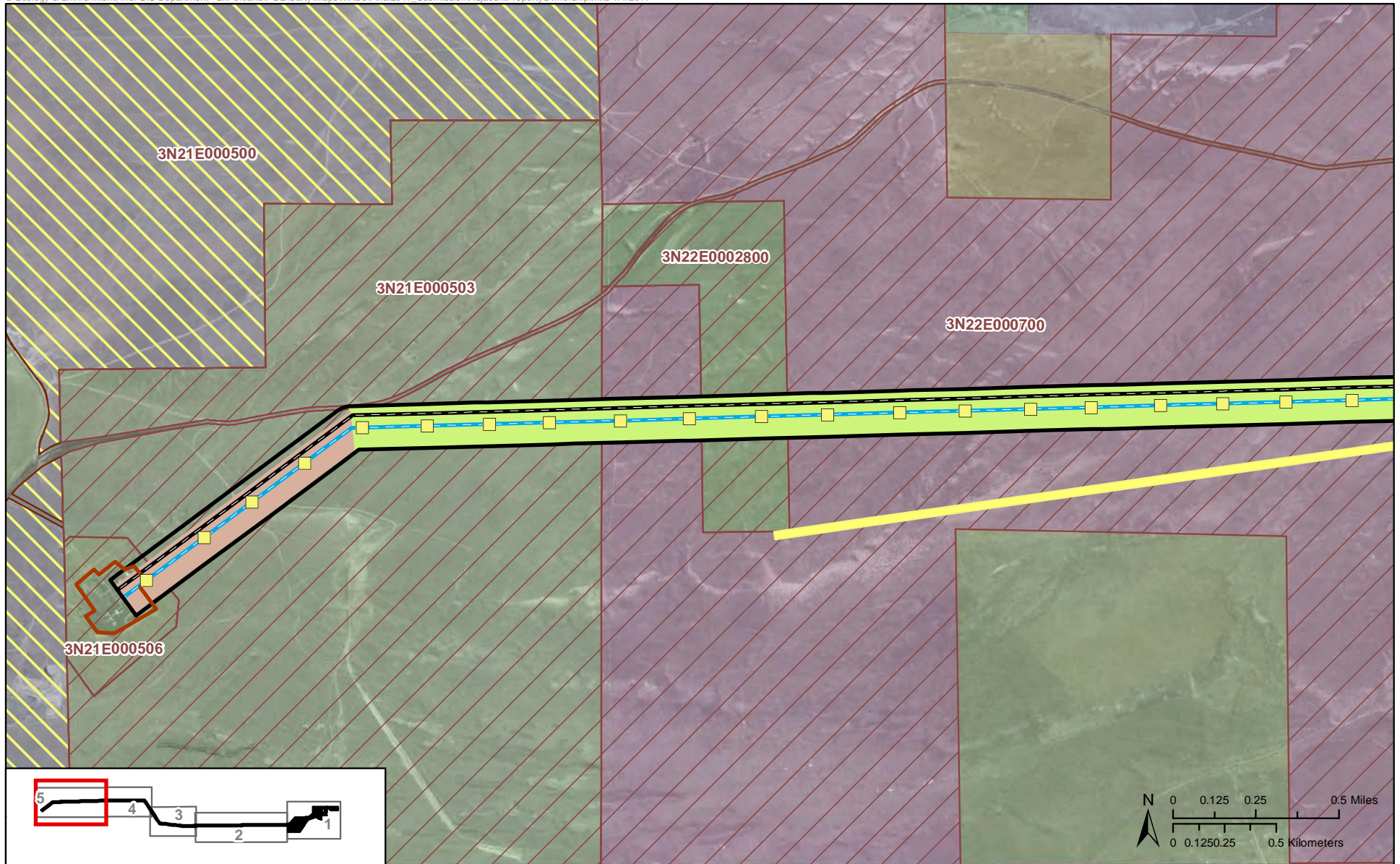
- Taxlots (Maptaxlot # Labeled)
- Intersects Site Boundary
  - Within 500' of Site Boundary

- Existing Transmission Line Easement
- BPA DeMoss
  - PGE - 700ft Buffer
  - PGE - 525 ft Buffer
  - PGE Approx. 125ft Buffer
  - BN Dalreed 230KV
  - BPA Willow Creek
  - P.P. & L. 34.5 KV

**Figure F-4**  
**Property Ownership Adjacent to Site Boundary**  
**PGE Carty Generating Station**  
**Application for Site Certificate**







- Site Boundary
- Slatt Substation
- Existing Boardman to Slatt Substation 500kV Centerline
- Proposed Line to Slatt Substation
- Proposed Transmission Line Towers

- Taxlots (Maptaxlot # Labeled)
- Intersects Site Boundary
- Within 500' of Site Boundary

- Existing Transmission Line Easement
- BPA DeMoss
- PGE - 700ft Buffer
- PGE - 525 ft Buffer
- PGE Approx. 125ft Buffer
- BN Dalreed 230KV
- BPA Willow Creek
- P.P. & L. 34.5 KV

**Figure F-5**  
**Property Ownership Adjacent**  
**to Site Boundary**  
**PGE Carty Generating Station**  
**Application for Site Certificate**



