

# **Request for Amendment No. 2 to the Site Certificate for the Carty Generating Station**

Submitted to:

**Oregon Department of Energy**

**February 28, 2020**

Prepared by:

**Portland General Electric Company**

**121 SW Salmon St.**

**3WTC-0403**

**Portland, OR 97204**



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## Acronyms and Abbreviations

ACEC	Area of Critical Environmental Concern
ASC	Application for Site Certificate
BCP	Boardman Coal Plant
CGS	Carty Generating Station
Council	Energy Facility Siting Council
CTG	combustion turbine generator
CUP	Conditional Use Permit
DEQ	Oregon Department of Environmental Quality
EFU	Exclusive Farm Use
gpd	gallons per day
HMA	habitat mitigation area
kV	kilovolt
kVA	kilovolt-ampere
LCC	land capability classification
MCZO	Morrow County Zoning Ordinance
MG	General Industrial
MW	megawatt
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
OAR	Oregon Administrative Rule
ODFW	Oregon Department of Fish and Wildlife
ORS	Oregon Revised Statutes
PGE	Portland General Electric Company
PV	photovoltaic
RFA1	Request for Amendment No. 1
RFA2	Request for Amendment No. 2
ROW	right-of-way
WGS	Washington ground squirrel
WHMMP	Wildlife and Habitat Mitigation and Monitoring Plan
WPCF	Water Pollution Control Facility

# 1 Introduction

On June 29, 2012, the Energy Facility Siting Council (Council) issued a site certificate to Portland General Electric Company (PGE) for the Carty Generating Station (CGS, or “facility”).<sup>1</sup> The site certificate authorized the construction and operation of two natural gas combined-cycle generating units (Unit 1 and Unit 2) and related or supporting facilities. Unit 1 and its related or supporting facilities were constructed and placed in service in 2016.

PGE submitted a Request for Amendment No. 1 (RFA1) to the Council in 2018 to allow construction and operation of a photovoltaic (PV) solar generating unit and related or supporting facilities (together referred to as the Carty Solar Farm), and removal of site certificate conditions related to archaeological resource site 35MW19, based on recent cultural survey reports.<sup>2</sup> The First Amended Site Certificate for CGS was issued in December 2018.<sup>3</sup> Because Unit 2 and other related or supporting facilities, including a new 18-mile-long, 500-kilovolt (kV) transmission line, were not constructed within 5 years of the effective date of the site certificate (per Condition 4.3 of the original Site Certificate for CGS), and because PGE did not request a construction timeline extension, PGE no longer has authorization for the construction and operation of facility components associated with Unit 2.

The 2012 Site Certificate for CGS authorized the shared use of several existing Boardman Coal Plant (BCP) facilities that are currently interconnected with CGS. These include sanitary waste infrastructure, Carty Reservoir (including raw water intake system), Water Discharge Channel, Boeing Well (potable water source), and the existing 17-mile-long, 500 kV Grassland to Slatt transmission line to connect to the grid. The BCP will cease operations by December 31, 2020. After BCP ceases to operate, the shared facilities and other identified BCP facilities would exist only to serve CGS and therefore must be added to the Site Certificate for CGS as “related or supporting facilities” so they may continue to be used by CGS.

This Request for Amendment No. 2 (RFA2) evaluates the incorporation of the existing shared facilities and other existing components associated solely with BCP, and the construction and operation of new infrastructure. This RFA2 also assesses changes to the Site Boundary and provides an update to CGS’s facility description. Elements of this RFA2 are summarized as follows:

1. Incorporate existing common infrastructure shared by BCP and CGS into the Second Amended Site Certificate for CGS. These shared components include the following:
  - 500 kV Grassland to Slatt transmission line

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<sup>1</sup> Site certificate for the Carty Generating Station. 2012. Available at: [https://www.oregon.gov/energy/facilities-safety/facilities/Facilities%20library/CGS\\_site\\_certificate\\_070212.pdf](https://www.oregon.gov/energy/facilities-safety/facilities/Facilities%20library/CGS_site_certificate_070212.pdf)

<sup>2</sup> Request for Amendment No. 1. Of the Site Certificate for Carty Generating Station. 2018. Available at: [https://www.oregon.gov/energy/facilities-safety/facilities/Facilities%20library/CGS\\_site\\_certificate\\_070212.pdf](https://www.oregon.gov/energy/facilities-safety/facilities/Facilities%20library/CGS_site_certificate_070212.pdf)

<sup>3</sup> First Amended Site Certificate for the Carty Generating Station. 2018. Available at: <https://www.oregon.gov/energy/facilities-safety/facilities/Facilities%20library/2018-12-14-CGS-AMD1-Amended-Site-Certificate.pdf>

- Carty Reservoir, including portions of the raw water intake system and associated electrical connection
  - Water Discharge Channel
  - Sanitary sewer lagoons
  - Boeing Well and pump (potable water source)
2. Incorporate the following existing facilities currently authorized under the Site Certificate for BCP into the Site Certificate for CGS. These components include the following:
- 300,000-gallon potable/fire water tank and associate existing water pipeline
  - 230 kV BCP to Dalreed transmission line
  - 34.5 kV BCP to railroad crossing at Tower Road transmission line.
  - 7.2 kV underground distribution line connecting BCP to the construction substation
  - 12.5 kV underground distribution line connecting the construction substation to Boeing Well pump
  - 480-volt underground distribution line connecting the 34.5 kV transmission line to the Carty Reservoir seepage pumps
3. Modify the Site Boundary to release approximately 418 acres of agricultural lands located within the western portion of the existing Site Boundary for CGS and incorporate the following existing facilities currently authorized under the Site Certificate for BCP:
- 500 kV Grassland to Slatt transmission line
  - 230 kV BCP to Dalreed transmission line
  - 34.5 kV BCP to railroad crossing at Tower Road transmission line
  - Carty Reservoir, the portions of the existing Water Discharge Channel not included in the site certificate for CGS, and the raw water intake structure
  - Sewage lagoons
4. Authorize construction and operation of the following new infrastructure within the existing Site Boundary for CGS:
- Septic system
  - Water pipeline connecting BCP's 300,000-gallon water tank
  - Security guard station
  - A new office and warehouse building located within the existing fence line of CGS
5. Revise the existing Oregon Department of Environmental Quality (DEQ) Water Pollution Control Facility (WPCF) permit (Permit Number 100189) to better reflect operational conditions at CGS.

6. Update the existing Site Certificate for CGS to include the correct location of the phone and data highway systems.
7. Revise existing site certificate conditions where applicable.

## 2 Need for Amendment – OAR 345-027-0350

### ***OAR 345-027-0350 – Changes requiring an amendment***

*Except for changes allowed under OAR 345-027-0353 of this rule, an amendment to a site certificate is required to:*

\*\*\*

*(4) Design, construct or operate a facility in a manner different from the description in the site certificate if the proposed change:*

*(a) Could result in a significant adverse impact that the Council has not addressed in an earlier order and the impact affects a resource or interest protected by a Council standard;*

*(b) Could impair the certificate holder's ability to comply with a site certificate condition; or*

*(c) Could require a new condition or a change to a condition in the site certificate.*

**Response:** PGE is submitting this RFA2 per Oregon Administrative Rule (OAR) 345-027-0350(4)(c) because PGE proposes to operate CGS in a manner different from the description in the current site certificate (i.e., the First Amended Site Certificate for CGS, December 14, 2018) as proposed changes would require new site certificate conditions and modifications to existing conditions. PGE has determined that the proposed activities included in this RFA2 will not result in a "significant adverse impact that the Council has not addressed in an earlier order" and will not "impair the certificate holder's ability to comply with a site certificate condition." PGE is proposing new and modified site certificate conditions in this RFA2 that will ensure the proposed activities considered in this RFA2 will not result in "significant adverse impacts."

To support the Council's evaluation, PGE has included proposed revisions to the Site Certificate for CGS in Attachment 1.

## 3 Certificate Holder Information

***OAR 345-027-0360(1)(a) – Name of the facility; name and address of the certificate holder; name, mailing address and phone number of individual submitting request***

### 3.1 Name of the Facility

Carty Generating Station



### **3.2 Name and Mailing Address of Certificate Holder**

Portland General Electric Company  
121 SW Salmon Street, 3WTC0403  
Portland, OR 97204

### **3.3 Name and Address of Individual Responsible for Submitting Request**

Arya Behbehani  
Senior Director Environmental & Licensing Services  
Portland General Electric Company  
121 SW Salmon Street, 3WTC0403  
Portland, OR 97204  
503-464-8141  
[Arya.Behbehani@pgn.com](mailto:Arya.Behbehani@pgn.com)

## **4 Description of Facility**

This section describes the location of CGS, the limits of the current Site Boundary, the major components at CGS (including related or supporting facilities), and the existing facilities currently shared by CGS and BCP. The CGS includes the authorized, but not yet constructed, Carty Solar Farm, a 50-megawatt (MW) PV solar generating unit authorized by the Council in the First Amended Site Certificate for CGS issued on December 14, 2018 and executed on February 4, 2019. Per Condition 4.1(ii), PGE has until February 4, 2022, to begin construction of the Carty Solar Farm unless a request for extension is submitted.

### **4.1 Location and Current Site Boundary**

The CGS is located in Morrow County, Oregon, southwest of the City of Boardman near the Carty Reservoir and adjacent to the existing BCP. Unit 1 and associated related or supporting facilities, including the 500 kV Unit 1 to Grassland Switchyard transmission line, the Grassland Switchyard, and permanent access roads, are located in Township 3 North, Range 24 East, Sections 32 and 33. The proposed Carty Solar Farm, if constructed, will be located south and southeast of the Carty Reservoir in Township 2 North, Range 24 East, Sections 2, 3, 10, and 11. Carty Solar Farm's related or supporting facilities, including transmission lines and temporary construction areas, will be located in the sections mentioned above and Township 3 North, Range 24 East, Sections 34 and 35.

As defined by OAR 345-001-0010, the Site Boundary is "...the perimeter of the site of the energy facility, its related or supporting facilities, all temporary staging areas, and all corridors and micro-siting corridors proposed by the applicant." The current Site Boundary for CGS encompasses approximately 1,581 acres and is shown in Figure 1.

## 4.2 Carty Generating Station

Unit 1 of CGS is a natural gas–fueled, combined-cycle, electric power generating plant capable of generating up to 450 MW of electrical power. The combined-cycle generating unit consists of one high-efficiency combustion turbine generator (CTG), a heat recovery steam generator, a steam turbine generator, and a cooling tower. A natural gas–fueled auxiliary boiler supplies steam when none is available from the heat recovery steam generator to start the CTG or to maintain the plant in a ready-to-start condition.

In addition to Unit 1, CGS also consists of a not-yet-constructed, 50 MW solar PV electrical power generating unit and associated transmission. The Carty Solar Farm would occupy a 315-acre site located south of the Carty Reservoir (Figure 2a). Electrical power produced by the Carty Solar Farm would be collected and routed via a new 34.5 kV transmission line to one of three interconnection options located north of the Carty Reservoir. Five potential transmission line routes from the Carty Solar Farm to the three interconnection options are currently permitted under the First Amended Site Certificate for CGS (*see* Figure 2a for interconnection options; *see* Figure B-4, Sheet 1 of RFA1 for transmission line routes<sup>4</sup>). Each route would be of the same approximate design and would be approximately 2 to 3 miles long, depending on the route selected. If an interconnection to the Grassland Switchyard is selected, the switchyard would be enlarged to 15 acres, as approved in the original Site Certificate and the First Amended Site Certificate for CGS.

The CGS currently includes the following related or supporting facilities:

- Grassland Switchyard
- 500 kV Unit 1 to Grassland Switchyard transmission line
- 34.5 kV backup transmission line
- 7.2 kV backup transmission line
- 4.2 kV station service line
- Interconnecting water pipelines
- Cooling tower
- Liquid storage facilities
- Accessory buildings
- Communication lines
- Access roads

A control and administrative building provides space for plant controls and offices for plant personnel for Unit 1 and the potential Carty Solar Farm.

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<sup>4</sup> Request for Amendment No. 1 of the Carty Generating Station. 2018. Available at: <https://www.oregon.gov/energy/facilities-safety/facilities/Facilities%20library/2018-02-21-CGS-AMD1-ExAE.PDF>

CGS is interconnected with BCP for use of the following infrastructure permitted under the Site Certificate for BCP: Carty Reservoir, including intake and discharge facilities; sanitary waste infrastructure; potable water supply; and transmission infrastructure. Interconnected transmission infrastructure includes the 500 kV Grassland to Slatt, 230 kV BCP to Dalreed, 34.5 kV BCP to railroad crossing at Tower Road transmission lines; the 7.2 kV distribution line connecting the power block to the construction substation; the 12.5 kV distribution line connecting construction substation to the Boeing Well pump; and the 480-volt underground distribution line connecting the 34.5 kV transmission line to the Carty Reservoir seepage pumps.

A description of major components, structures, and systems of each related or supporting facility that is part of CGS per the Site Certificate for CGS is provided in the following subsections.

#### ***4.2.1 Grassland Switchyard***

The Grassland Switchyard is a 500 kV, alternating current, open-air switchyard located west of CGS (Figure 2a). The switchyard consists of an 8.5-acre leveled and graveled area surrounded by a security fence. The switchyard was approved with a 15-acre permanent disturbance footprint in the original Site Certificate and may be expanded to that size depending on the interconnection needs of the Carty Solar Farm. The switchyard includes 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. An additional small building provides a controlled environment for protective relaying and communication equipment.

#### ***4.2.2 500 kV Unit 1 to Grassland Switchyard Transmission Line***

Generator transformers at CGS step up the voltage produced by Unit 1 to 500 kV. An existing, approximately 1-mile-long 500 kV transmission line mounted on four steel lattice towers connects the generator transformers to the 500 kV Grassland Switchyard (Figure 2a). The towers are 100 to 150 feet tall and are spaced approximately 800 to 1,700 feet apart. Electricity from CGS is connected to the grid via the 17-mile-long, 500 kV Grassland to Slatt transmission line. The Grassland to Slatt transmission line is mounted on steel lattice towers for its entire length and is currently included in the Site Certificate for BCP, not the Site Certificate for CGS.

#### ***4.2.3 On-Site Power Transmission Lines***

Three additional existing transmission lines provide backup and station service power to CGS (Figure 2a, b):

- A 4.2 kV station service line extends approximately 1 mile from CGS to the Grassland Switchyard. For most of its length, this line is mounted on wood poles. However, the line runs underground for approximately 750 feet prior to entering the Grassland Switchyard to avoid clearance conflicts with the 230 kV BCP to Dalreed transmission line. This line provides power to the Grassland Switchyard from CGS.

- A 7.2 kV backup power line extends approximately 0.5 mile from BCP to CGS. This line runs underground approximately 0.10 mile north of BCP; the remainder of the line is mounted on wood poles.
- A 34.5 kV line (referred to as the Grassland backup station service line) provides backup power to Grassland Switchyard via an approximately 800-foot underground line extending west and then north from the transformer within Grassland Switchyard, where it connects to the existing 34.5 kV line permitted under the Site Certificate for BCP.

#### ***4.2.4 Interconnecting Pipelines***

Several pipelines connect CGS with BCP to access the following shared infrastructure: the Carty Reservoir raw water intake structure; the wastewater discharge structure for discharge to Carty Reservoir; and the sanitary sewer (Figure 2a, b). There are four categories of water sources and discharges that serve CGS: raw water/fire water, wastewater, potable water, and sanitary sewer.

##### ***Raw Water/Fire Water***

Raw water from the Carty Reservoir is withdrawn via a single intake structure and is used for two purposes: recirculation water and service water (Figure 2a, b). Independent channels and pumps for recirculation water and service water are located inside the Raw Water Intake Building. Recirculation water is solely used by BCP and is not considered a shared facility for CGS. Service water is taken in through a separate channel with a traveling screen and enters a wet well. CGS's raw water intake is connected to this wet well. Raw water from this intake is also used at CGS for fire water. The CGS intake from the wet well is currently permitted under the Site Certificate for CGS, but the raw water intake from the Carty Reservoir, traveling screen, and wet well are currently permitted under the Site Certificate for BCP.

##### ***Wastewater***

CGS process waste and plant drainage waste flows are discharged into holding ponds, which can provide 7 days of holding capacity (if needed for discharge line maintenance or some other event preventing direct discharge). From the holding ponds, wastewater is discharged via an 8-inch-diameter pipeline into BCP's Water Discharge Channel prior to entering Carty Reservoir (Figure 2b). The holding ponds and 8-inch-diameter discharge pipe are currently permitted under the Site Certificate for CGS, but the Water Discharge Channel is currently permitted under the Site Certificate for BCP.

##### ***Potable Water***

Potable water for drinking fountains, showers (emergency and lavatory), sinks, and flushing of lavatory fixtures comes from the Boeing Well. The Boeing Well is a groundwater extraction well located just south of CGS and northwest of BCP (Figure 2a, b). The well is 600 feet deep with a 30-horsepower pump hung at around 440 feet below ground surface. The well fills a holding tank within CGS prior to direct distribution to the plant services building. The CGS holding tank is piped directly from the Boeing Well discharge pipe and is only filled when the well is turned on to fill the BCP water tank. The CGS potable water system has a control valve to only allow water to flow in

when needed. If water is needed by CGS, but not BCP, the well pump can be manually started and stopped via a hand control on the domestic water pump house control panel. The Boeing Well pump drive motor is powered from a 150-kilovolt-ampere (kVA) 12470-480/277-volt distribution transformer. This transformer is connected via a 12.5 kV underground distribution line to the construction substation (Figure 2a, b). The construction substation, in turn, derives power from a 7.2 kV underground power distribution line coming from BCP.

### ***Sanitary Sewer***

Sanitary sewer flows at CGS are solely from plant lavatories, sinks, and bathroom showers used by plant personnel and are directly discharged to the sewage lagoons that also serve BCP via an independent sewer lift station. There are three existing sewage lagoons: The South Lagoon and Middle Lagoon (both lined), and the North Lagoon (unlined) (Figure 2a, b). The South and Middle Lagoons can also be made common by a gated pipe through the separating dike. The only connection between the lined lagoons and the unlined lagoon is overflow through a chlorinating weir at the northeast corner of the Middle Lagoon. No overflow has occurred since BCP construction was completed in 1980. The clay liners in the South and Middle Lagoons were replaced with new synthetic liners in the fall of 2014. Sewage from CGS enters the sewage lagoons via an independent sewer lift station permitted under the Site Certificate for CGS, but the sewage lagoons are permitted under the Site Certificate for BCP. Sanitary sewer discharges from CGS and BCP to the sewage lagoons are both permitted under WPCF permit number 100189.

## **4.3 Cooling Tower**

The cooling tower at CGS exhausts excess heat from the power generation process (Figure 2a, b). The cooling tower consists of a structure to contain a water-cooling medium, with exhaust fans located within an open-top, bell-shaped housing that pulls air under and through the water-cooling medium. The cooling tower is approximately 50 feet tall. The mechanical-draft wet cooling tower serves the combined cycle unit of CGS.

## **4.4 Liquid Storage Facilities**

Liquid fuel is not stored on CGS. Anhydrous ammonia, used for emissions control, is stored in steel storage tanks with secondary containment. Other liquid chemicals such as sulfuric acid (used for pH control) and sodium hypochlorite and sodium bromide (used as biocides in cooling tower water) are stored in tanks or totes with secondary containment. Small-quantity liquid chemicals such as cleaners and lubricants are stored within on-site accessory buildings.

## **4.5 Accessory Buildings**

Accessory buildings on CGS house boiler feed pumps, chemical feed equipment, water treatment equipment, and other equipment requiring protection from weather or noise containment. Accessory buildings common to CGS and the proposed Carty Solar Farm include warehouse and administration areas.

## 4.6 Communication Lines

In the Application for Site Certificate, the communication lines supporting CGS were expected to originate from BCP and connect to CGS. During construction, the location of the lines was modified to originate from an existing Century Link vault near the northwest corner of the BCP lined evaporation ponds, run down the dirt access road, along Tower Road, and then into CGS.

## 4.7 Access Roads

A paved loop road, approximately 24 feet wide and 2,100 feet long, connects with Tower Road at both ends of the loop to serve normal truck and operator vehicle traffic for Unit 1. This loop road has spur roads leading to individual buildings and areas that require access.

# 5 Description of Proposed Change – OAR 345-027-0360(1)(b)

### *OAR 345-027-0360 Preliminary Request for Amendment*

*(1) To request an amendment to the site certificate required by OAR 345-027-0350(3) and (4), the certificate holder shall submit a written preliminary request for amendment to the Department of Energy that includes the following:*

\*\*\*

*(b) A detailed description of the proposed change, including:*

*(A) a description of how the proposed change affects the facility,*

*(B) a description of how the proposed change affects those resources or interests protected by applicable laws and Council standards, and*

*(C) the specific location of the proposed change, and any updated maps and/or geospatial data layers relevant to the proposed change.*

## 5.1 Analysis of Proposed Change

This RFA2 evaluates the incorporation of existing shared facilities and other existing components associated solely with BCP, and the construction and operation of new infrastructure. This RFA2 also assesses changes to the Site Boundary and provides an update to CGS's facility description. A description of these proposed changes is provided in the following subsections.

### 5.1.1 Site Boundary

PGE is requesting an amendment to the CGS Site Boundary to incorporate related or supporting facilities that are currently located outside of the existing Site Boundary. These related or supporting facilities are currently authorized under the Site Certificate for BCP and include the following existing facilities: 500 kV Grassland to Slatt transmission line, 230 kV BCP to Dalreed transmission line, 34.5 kV BCP to the railroad crossing at Tower Road transmission line, Cart

Reservoir (and associated pumping facilities and seepage collection systems), portions of the Water Discharge Channel and raw water intake structure not already included in the CGS Site Boundary, and sewage lagoons. Addition of the 500kV Grassland to Slatt and 230 kV BCP to Dalreed transmission lines would extend the CGS facility Site Boundary to also include Gilliam County. The Site Boundary would also be modified to remove agricultural lands from the western portion of the current Site Boundary because this area is no longer being considered for future facility development related to CGS. The RFA2 Site Boundary would encompass approximately 4,611 acres and is shown in Figure 1. To address this change, PGE proposes to modify Site Certificate Condition 2.1 to indicate inclusion of Gilliam County.

Modification of the CGS Site Boundary Site Certificate for CGS would alter the operations of CGS as defined in OAR 345-027-0350(c) because a site certificate condition would be modified.

### **5.1.2 Carty Reservoir**

PGE is requesting an amendment to transfer authorization of Carty Reservoir, including its operation and maintenance, into the Site Certificate for CGS (Figure 2a). This facility is currently permitted under the Site Certificate for BCP, but also receives wastewater from CGS. It also serves as the non-potable water source for both BCP and CGS and provides wildlife habitat and irrigation water for nearby farmland. Dams are assigned a hazard rating based on downstream hazard to people and property, not on the condition of the dam; the Carty Reservoir dam is classified as a significant hazard dam and as such is inspected by the Oregon Water Resources Department every three years.

All water for filling and maintaining the reservoir is pumped through a 60-inch pipe from the Columbia River, approximately 10 miles to the north. This pipe is operated by the neighboring Threemile Canyon Farms. Water is withdrawn from Carty Reservoir for irrigation by a 48-inch pipe, also operated by Threemile Canyon Farms. PGE is not requesting to add these pumps, associated piping and metering, and refill structure to the Site Certificate for CGS because they also serve as irrigation infrastructure for surrounding farmland and do not exist solely for the operation of CGS and therefore do not meet the definition of “related or supporting facilities” per OAR 345-001-0010(50). The 60-inch intake pipe is connected to the BCP via a 36-inch pipe that extends across the reservoir bottom to the shoreline, then underground to where it enters a valve vault located by the discharge channel. Within the valve vault there are two valves: one sends water to the Service Water Pump suction header servicing both CGS and BCP, and the second sends water directly to the discharge channel. The 36-inch pipe currently has a blank flange inserted at the origin; however, it is possible that the flange could be removed should CGS chose to have it operational in the future. PGE is requesting that this pipe be added as a related or supporting facility. PGE tests the dewatering gate at the West Dam periodically via a Dewatering Flowage Easement down Sixmile Canyon to verify that it is functional; there are no rules or regulations that require the testing, PGE conducts the tests as part of normal preventative maintenance of the facility. In incorporating Carty Reservoir into the Site Certificate as a related or supporting facility, CGS would not assume the current Water Quality Monitoring Program or Terrestrial Monitoring Program implemented as part of the Site Certificate for BCP. Modifications to the WPCF permit and the plans associated with the WPCF permit will incorporate applicable surface water and groundwater monitoring requirements

for CGS. A modified Wildlife and Habitat Mitigation and Monitoring Plan (WHMMP) will include any applicable monitoring requirements for Carty Reservoir. Over 40 years of monitoring of the reservoir has not shown any significant issues with fish and wildlife use; therefore, PGE proposes that waterfowl use, fish, amphibian and riparian bird surveys can be discontinued. Ongoing raptor nest surveys will ensure identification of raptor nests in riparian trees so they can be protected from any potential impacts from facility operation and maintenance. Incorporating Carty Reservoir into the Site Certificate for CGS would not alter the operations of CGS as defined in OAR 345-027-0350(4) because this change would not result in a significant adverse impact that the Council has not addressed in an earlier order, impair PGE's ability to comply with a site certificate condition, or require a new condition or a change to a condition in the site certificate.

### ***5.1.3 Existing Transmission Infrastructure***

PGE is proposing to transfer authorization of the following existing transmission infrastructure, currently permitted under the Site Certificate for BCP, into the Site Certificate for CGS (Figure 2a, b):

- 500 kV Grassland to Slatt transmission line
- 230 kV BCP to Dalreed transmission line
- 34.5 kV BCP to railroad crossing at Tower Road transmission line
- 7.2 kV underground distribution line from BCP to the construction substation<sup>5</sup>
- 12.5 kV underground distribution line from the construction substation to the Boeing Well<sup>5</sup>
- 480-volt underground distribution line connecting the 34.5 kV transmission line to the Carty Reservoir seepage pumps<sup>5</sup>

Operational access and maintenance would continue to occur using existing roads and occasional overland travel.

Incorporation of the existing transmission infrastructure into the Site Certificate for CGS would alter the operations of CGS as defined in OAR 345-027-0350(c) because site certificate conditions pertaining to the transmission lines would be modified in the Site Certificate for CGS and require the Site Boundary to extend into Gilliam County.

### ***5.1.4 Interconnecting Water Pipelines***

#### ***Wastewater***

PGE is requesting that the Site Certificate for CGS be amended to incorporate the Recirculation Water Discharge Channel currently permitted under the Site Certificate for BCP (Figure 2a, b). For purposes of the Site Certificate for CGS, this feature is referred to as the Water Discharge Channel, since the Recirculation Water is only applicable to BCP. CGS's existing holding ponds will continue to provide 7 days of holding capacity if needed for discharge line maintenance or some other event preventing direct discharge to Carty Reservoir. Incorporation of the existing Water Discharge Channel into the Site Certificate for CGS will not alter the operations of CGS as defined in OAR 345-



027-0350(4) because this change would not result in a significant adverse impact that the Council has not addressed in an earlier order, impair PGE's ability to comply with a site certificate condition, or require a new condition or a change to a condition in the site certificate.

### ***Potable Water/Fire Water***

PGE is requesting that the Site Certificate for CGS be amended to incorporate the existing 300,000-gallon, welded-steel water storage tank with adjacent pump house, 4-inch-diameter intake pipeline from Boeing Well, and new water pipeline connecting the CGS to the 300,000-gallon tank (Figure 2a, b, Figure 3). The 300,000-gallon water storage tank is currently permitted under the Site Certificate for BCP and is used solely by BCP to hold both potable water and fire water, with one-third of the storage volume dedicated to potable water use and the other two-thirds dedicated to backup fire water. Once the 300,000-gallon tank is connected to CGS, water may be used as a backup source for potable water or fire water. The Boeing Well would continue to be the primary source of potable water for CGS.

Incorporation of the existing 300,000-gallon, welded-steel water storage tank and associated facilities into the Site Certificate for CGS would alter the operations of CGS as defined in OAR 345-027-0350(4)(c) because a change to the site certificate conditions pertaining to the construction timeline would be added to the Site Certificate for CGS.

### ***Raw Water***

PGE is requesting that the Site Certificate for CGS be amended to include the raw water intake structure, including the 48-inch-diameter suction pipe, intake structure building, and support equipment (Figure 2a, b). This facility is currently permitted under the Site Certificate for BCP. CGS's fire water system would continue to be fed from the Carty Reservoir via two service water tanks that have two-thirds of each of their capacities reserved for fire water. The CGS fire water system would continue to be supplied from the CGS raw water pumps that draw from a pump pit that is supplied with reservoir water through the existing intake structure.

Incorporation of the existing intake structure and associated facilities into the Site Certificate for CGS will not alter the operations of CGS as defined in OAR 345-027-0350(4) because this change would not result in a significant adverse impact that the Council has not addressed in an earlier order, impair PGE's ability to comply with a site certificate condition, or require a new condition or a change to a condition in the site certificate.

### ***Sanitary Sewer***

PGE is requesting that the Site Certificate for CGS be amended to include the existing sanitary sewage lagoons and authorize construction of a new septic system. The septic system would be sized per state and county standards and the Umatilla County Public Health Department requirements and in a location deemed acceptable for a standard, non-residential septic system. The facility will be constructed in accordance with OAR 340-071-022. Because the design flow of the system is less than 2,501 gallons per day (gpd), a permit from DEQ will not be required. The existing sewage lagoons would remain in place and would continue to be used by BCP and CGS until the new septic system is constructed and operational.

PGE is also requesting that the Site Certificate for CGS be amended to include modifications to WPCF permit number 100189. PGE is coordinating with DEQ to revise the WPCF to more accurately address current operating conditions of CGS, PGE will provide the updated WPCF as Attachment 2 at a later date.

Construction and operation of a new septic system, incorporation of the existing sewage lagoons into the Site Certificate for CGS, and modifications to WPCF permit number 100189 would alter the operations of CGS as defined in OAR 345-027-0350(4)(c) because a change to the site certificate conditions pertaining to the construction timeline and discharge of sanitary wastewater would be added to the Site Certificate for CGS and conditions in the WPCF permit will be modified.

### **5.1.5 Security Guard Station**

PGE proposes to construct a new security guard station along Tower Road to the north of CGS. An entry gate and new fencing will connect to existing fencing on either side of Tower Road. New fencing will not exceed 200 linear feet. The security guard station will have a maximum footprint of 250 square feet and will include a single restroom. The proposed location for the security guard station and new fencing is on currently vegetated land. Potable water, waste water, electricity, and communication conduits will need to be placed, and these new lines are anticipated to cross through paved, unpaved, and vegetated areas. The utility lines will be buried. The temporary disturbance footprint is estimated to be 0.26 acre which assumes a 4-foot wide trench for the plumbing and communication lines and a 10-foot disturbance buffer around the building. Permanent disturbance footprint will be approximately 250 square feet. Construction and operation of a security guard station will not affect operation of CGS. Although the guard station will be built to support the BCP decommissioning project; the guard station will continue to support CGS operations even when the BCP decommissioning project is complete; therefore, it is being included in the Site Certificate for CGS.

Incorporation of the security guard station into the Site Certificate for CGS would alter the operations of CGS as defined in OAR 345-027-0350(4)(c) because a change to site certificate conditions pertaining to the construction timeline would be added to the Site Certificate for CGS.

### **5.1.6 New Office and Warehouse Space for CGS**

PGE proposes to construct a new building within the existing CGS fence line to provide additional office and warehouse space (Figure 2b, Figure 3). The building would be approximately 60 feet by 100 feet and approximately 20 feet tall. It will provide both office and warehouse space and be similar in appearance to the existing site buildings. Temporary disturbance is estimated at 0.2 acres and assumes a 10-foot disturbance buffer around the building. Incorporation of the new office and warehouse space into the Site Certificate for CGS would alter the operations of CGS as defined in OAR 345-027-0350(4)(c) because a change to site certificate conditions pertaining to the construction timeline would be added to the Site Certificate for CGS.

### **5.1.7 Communication Lines**

As stated in Section 4.6, per the Application for Site Certificate communication lines supporting CGS were expected to originate from BCP and connect to CGS. During construction, the location of the lines was modified to originate from an existing Century Link vault near the northwest corner of the BCP lined evaporation ponds, run down the dirt access road, along Tower Road, and then into CGS. PGE worked with the Oregon Department of Energy and Oregon Department of Fish and Wildlife (ODFW) to update the disturbance location at the time of the modification.

Updating the description of the communication lines in the Site Certificate for CGS will not alter the operations of CGS as defined in OAR 345-027-0350(4) because this change would not result in a significant adverse impact that the Council has not addressed in an earlier order, impair PGE's ability to comply with a site certificate condition, or require a new condition or a change to a condition in the site certificate.

### **5.1.8 Additional Temporary Construction Areas**

Additional areas in the vicinity of the proposed CGS would be provided for construction staging and temporary storage of soil displaced during the construction process.

## **5.2 How Proposed Change Affects Protected Resources and Interests – OAR 345-027-0360(1)(b)(B)**

***OAR 345-027-0360(1)(b)(B) – Description of how proposed change affects resources or interests protected by applicable laws and Council standards***

The changes proposed in this RFA2 will not create significant new impacts affecting those resources and interests protected by the Council's siting standards and will not alter the basis of the Council's previous findings that the Facility complies with all applicable laws and standards. To the extent that the proposed changes could affect protected resources and interests, PGE demonstrates that the Facility will continue to comply with all applicable laws and Council standards in Sections 6 through 8 of this RFA2.

## **5.3 Location of Proposed Change – OAR 345-027-0360(1)(b)(C)**

**OAR 345-027-0360(1)(b)(C) - Description of the specific location of the proposed change, and any updated maps and/or geospatial data layers relevant to the proposed change.**

Figure 1 shows the location of CGS and the RFA2 Site Boundary that would apply to the changes proposed in this RFA2, including construction and operation of proposed new facilities and incorporation of existing infrastructure currently authorized under the Site Certificate for BCP shown in Figures 2a, 2b, and 3.

## **6 Applicable Division 21 Requirements – OAR 345-027-0360(1)(c)**

### ***OAR 345-027-0360 Preliminary Request for Amendment***

*(1) To request an amendment to the site certificate required by OAR 345-027-0350(3) and (4), the certificate holder shall submit a written preliminary request for amendment to the Department of Energy that includes the following:*

*\*\*\**

*(c) References to any specific Division 21 information that may be required for the Department to make its findings.*

**Response:** PGE demonstrates compliance with applicable requirements of Division 21 per the original Site Certificate issued on June 29, 2012; First Amended Site Certificate for CGS issued December 14, 2018; and in Sections 6.1 through 6.4 of this RFA2.

### **6.1 OAR 345-021-0010(e) Permits Required and Applicable Requirements**

*(e) Exhibit E. Information about permits needed for construction and operation of the facility, including:*

*(A) Identification of all federal, state and local government permits related to the siting of the proposed facility, a legal citation of the statute, rule or ordinance governing each permit, and the name, mailing address, email address and telephone number of the agency or office responsible for each permit.*

*(B) A description of each permit, the reasons the permit is needed for construction or operation of the facility and the applicant's analysis of whether the permit should or should not be included in and governed by the site certificate.*

*(C) For any state or local government agency permits, licenses or certificates that are proposed to be included in and governed by the site certificate, 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.*

*(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.*

*(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.*

*(iii) An assessment of the impact of the proposed facility on any permits that a third party has obtained and on which the applicant relies to comply with any applicable Council standard.*

*(F) If the applicant relies on a federally-delegated permit 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 responsible agency has received a permit application.*

*(iii) The estimated the date when the responsible agency will complete its review and issue a permit decision.*

*(G) The applicant's proposed monitoring program, if any, for compliance with permit conditions.*

**Response:** The Application for Site Certificate (ASC)<sup>5</sup> and subsequent RFA1 identified the federal, state, and local government permits related to the siting of the Facility, which were incorporated into site certificate conditions as necessary. The construction and operation of the proposed new facilities and infrastructure described in this RFA2 require new permits or permit conditions not previously identified and considered by the Council. New or modified permits not previously addressed by the Council are listed in Table 1 and described in more detail after the table.

**Table 1. List of New Permits for Related or Supporting Facilities Proposed under Request for Amendment No. 2**

Permit Description	Agency	Rule or Statute	Applicability
Energy Facility Site Certificate, as amended	Oregon Department of Energy	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 345-027-0210, 0350, and 0360	This RFA2 provides recommended changes to the language of the Site Certificate to reflect the modifications proposed by PGE in RFA2. The information in the RFA2 demonstrates that PGE has met applicable siting standards.
WPCF	Oregon Department of Environmental Quality	ORS 468B; OAR 340-071-0162; OAR Chapter 340, Division 45	Modification of the existing WPCF (Permit Number 100189) to incorporate changes associated with ceasing operations at BCP as well as other changes unrelated to BCP.

<sup>5</sup> Application for Site Certificate for Carty Generating Station. 2011. Available at: <https://www.oregon.gov/energy/facilities-safety/facilities/Pages/CGS.aspx>

Permit Description	Agency	Rule or Statute	Applicability
Morrow County Building and Utility Permits	Morrow County Planning Department	Morrow County Zoning Ordinance, Article 9	PGE or PGE's contractors will obtain local building and utility permits as needed.
Construction Permit for On-site Sewage Treatment System	Umatilla County Public Health	OAR Chapter 340, Division 71; MCZO 9.060	A new permit will be required for on-site sewage disposal system with design flow less than 2,501 gpd.
Fire Protection Program	Oregon State Fire Marshall's Office	ORS 476, OAR Chapter 837, Divisions 40.	Construction and operation of the new security guard station and new office and warehouse building would be subject to the Fire Protection Program.

**Key:** BCP = Boardman Coal Plant; gpd = gallons per day; MCZO = Morrow County Zoning Ordinance; OAR = Oregon Administrative Rule; ORS = Oregon Revised Statutes; PGE = Portland General Electric Company; RFA2 = Request for Amendment No. 2; WPCF = Water Pollution Control Facility

### **Permit: Energy Facility Site Certificate**

**Agency:** Energy Facility Siting Council, Oregon Department of Energy, 550 Capitol Street NE, First Floor, Salem, Oregon 97301, 503-378-4040

**Standards:** Oregon Revised Statutes (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 RFA2 provides recommended changes to the language of the site certificate to reflect the modifications proposed by PGE, as described in Section 7.0 of this RFA2. The information within Section 8.0 demonstrates that PGE has met applicable siting standards.

### **Permit: Water Pollution Control Facility Permit**

**Agency:** Oregon Department of Environmental Quality, Administrative Office: 700 NE Multnomah Street, Suite 600, Portland, Oregon 97232, 503-229-5696, The Dalles Administration Office: 400 E Scenic Drive, Suite 307, The Dalles, Oregon 97058, 541-298-7255

**Standards:** ORS 468B, OAR 340-071-0162, OAR 340, Division 45

**Response:** Minor changes are required to PGE's existing WPCF permit to include modifications associated with ceasing operations at BCP as well as other modifications unrelated to BCP to better reflect current operations at CGS. The WPCF is included in and governed by the site certificate; the revised WPCF will be included as Attachment 2 at a later date.

### **Permit: Morrow County Building and Utility Permits**

**Agency:** Morrow County Planning Department, 205 3rd St NE, Irrigon, Oregon 97844, 541-922-4624

**Standards:** Morrow County Zoning Ordinance (MCZO), Article 9

Response: PGE or PGE's contractors will obtain local building and utility permits as needed. These permits are not included in or governed by the site certificate.

**Permit: Construction Permit for On-site Sewage Treatment System**

Agency: Umatilla County Public Health, 200 SE Third Street, Pendleton, Oregon 97801, 541-278-5432

Standards: OAR 340, Division 71; MCZO 9.060

Response: The septic system will require a new Construction Permit for On-site Sewage Treatment System issued from Umatilla County Public Health. As of May 3, 2019, all program responsibilities for on-site septic systems in Morrow County have transferred from DEQ to Umatilla County Public Health. On January 10, 2020, Umatilla County Public Health performed a site evaluation for the proposed location of the septic system at CGS. The County found the site to be acceptable for a standard system. The Construction Permit for On-site Sewage Treatment System is not included in or governed by the site certificate.

## **6.2 OAR 345-021-0010(1)(i) Information Regarding Soil Types**

*(i) Exhibit I. Information from reasonably available sources regarding soil conditions and uses in the analysis area, providing evidence to support findings by the Council as required by OAR 345-022-0022, including:*

*(A) Identification and description of the major soil types in the analysis area;*

*(B) Identification and description of current land uses in the analysis area, such as growing crops, that require or depend on productive soils;*

### **6.2.1 OAR 345-021-0010(1)(i)(A) Major Soil Types**

*Identification and description of the major soil types in the analysis area;*

**Response:** The proposed modifications to the Site Boundary considered in this RFA2 would add major soil types not currently represented within the Site Boundary for CGS. These major soil types are associated with the Site Boundary for BCP but are provided in this response to establish a record for CGS.

There are 38 soil map units within the RFA2 Site Boundary (Table 2), 29 of which are not present in the existing Site Boundary. These additional soil types are located within the existing 500 kV and 230 kV transmission line rights-of-way (ROWs) currently authorized under the Site Certificate for BCP. A description of soil types that are not included in the existing Site Boundary but would be included in the RFA2 Site Boundary follows. Land capability classification (LCC) is included in the soil descriptions. LCC is a system of grouping soil map unit components primarily on their capability to produce common cultivated crops and pasture plants without causing soil

deterioration over a long (though undefined) period of time (NRCS 2019<sup>6</sup>). There are eight classes, ranging from Class I, which denotes soils with slight limitations that restrict their use, to Class VIII, which denotes soils and miscellaneous areas that have limitations precluding their use for commercial plant production and thereby restricting them to recreation, wildlife, water supply, or aesthetic purposes. The two subclasses presented are “e,” which indicates susceptibility to erosion as the dominant problem affecting their use, and “s,” which indicates limitations within the rooting zone such as shallow rooting depth, abundance of stones, low moisture-holding capacity, low fertility that is difficult to correct, and salinity or sodium content.

**Table 2. Soil Type by Acres within the Amended Site Boundary (Soil types associated with areas that would be added if RFA2 is approved indicated by grey shading.)**

Map Unit	Soil Type	Total Acres within Amended Site Boundary	Acres within Addition to Site Boundary (New)
4C	Blalock loam, 2 to 12 percent slopes	258.9	258.9
13	Kimberly fine sandy loam	23.2	23.2
14B	Krebs silt loam, 2 to 5 percent slopes	44.9	44.9
14D	Krebs silt loam, 5 to 20 percent slopes	53.9	53.9
23B	Olex silt loam, 0 to 5 percent slopes	23.4	23.4
24D	Olex gravelly silt loam, 5 to 20 percent slopes	5.6	5.6
24E	Olex gravelly silt loam, 20 to 40 percent slopes	34.6	34.6
27B	Prosser-Rock outcrop complex, 1 to 5 percent slopes	12.0	12.0
40B	Sagehill fine sandy loam, 2 to 5 percent slopes	56.8	56.8
40C	Sagehill fine sandy loam, 5 to 12 percent slopes	31.2	31.2
40D	Sagehill fine sandy loam, 12 to 20 percent slopes	83.4	83.4
41B	Sagehill fine sandy loam, hummocky, 2 to 5 percent slopes	13.7	13.7
41C	Sagehill fine sandy loam, hummocky, 5 to 12 percent slopes	13.6	13.6
45B	Taunton loamy fine sand, 2 to 5 percent slopes	14.3	14.3
55B	Warden silt loam, 2 to 5 percent slopes	29.7	29.7
55D	Warden silt loam, 12 to 20 percent slopes	37.6	37.6
56B	Willis silt loam, 2 to 5 percent slopes	10.3	10.3

<sup>6</sup> Natural Resources Conservation Service Soils. Available at:  
<https://www.nrcs.usda.gov/wps/portal/nrcs/surveylist/soils/survey/state/?stateId=OR>



<b>Map Unit</b>	<b>Soil Type</b>	<b>Total Acres within Amended Site Boundary</b>	<b>Acres within Addition to Site Boundary (New)</b>
9	Dune land	57.6	3.9
13E	Gravden very gravelly loam, 20 to 40 percent slopes	0.7	0.7
26B	Koehler loamy fine sand, 2 to 5 percent slopes	76.5	76.5
26C	Koehler loamy fine sand, 5 to 12 percent slopes	3.3	3.3
37A	Prosser silt loam, 0 to 2 percent slopes	15.7	15.7
37B	Prosser silt loam, 2 to 7 percent slopes	10.4	10.4
38D	Prosser-Rock outcrop complex, 1 to 20 percent slopes	47.2	47.2
40C	Quincy loamy fine sand, 2 to 12 percent slopes	35.2	35.2
49F	Rock outcrop-Rubble land complex, very steep	1.7	1.7
53A	Royal silt loam, 0 to 3 percent slopes	106.2	49.6
54B	Sagehill fine sandy loam, 2 to 5 percent slopes	1,357.6	852.2
54C	Sagehill fine sandy loam, 5 to 12 percent slopes	29.0	29.0
54D	Sagehill fine sandy loam, 12 to 20 percent slopes	179.0	123.3
55B	Sagehill fine sandy loam, hummocky, 2 to 5 percent slopes	567.5	306.6
55C	Sagehill fine sandy loam, hummocky, 5 to 12 percent slopes	552.1	468.5
58B	Taunton fine sandy loam, 2 to 5 percent slopes	387.9	253.9
58C	Taunton fine sandy loam, 5 to 12 percent slopes	406.6	354.6
59B	Taunton fine sandy loam, hummocky, 0 to 5 percent slopes	6.6	6.6
71E	Warden silt loam, 20 to 40 percent slopes	1.9	1.9
78	Xeric Torriorthents, nearly level	19.0	16.4
93B	Taunton loamy fine sand, 2 to 5 percent slopes	2.0	2.0

Source: NRCS 2019

***Blalock loam, 2 to 12 percent slopes (Map Unit 4C)***

The Blalock component makes up 85 percent of the map unit. This component is on old river terraces in river valleys. The parent material consists of wind-worked old river alluvium over a silica-cemented duripan over weathered shale. Depth to a root restrictive layer (duripan) is 10 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is low, available water to a depth of 60 inches (or restricted depth) is very low and shrink-swell potential is low. This soil is not flooded or ponded, and there is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Non-irrigated LCC is VIe.

***Kimberly fine sandy loam (Map Unit 13)***

The Kimberly component makes up 85 percent of the map unit. This component is on stream terraces and in river valleys. The parent material consists of mixed alluvium, and depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained, water movement in the most restrictive layer is high, available water to a depth of 60 inches (or restricted depth) is moderate and shrink-swell potential is low. This soil is rarely flooded and is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Non-irrigated LCC is IIIe, and irrigated LCC is IIe.

***Krebs silt loam, 2 to 5 percent slopes (Map Unit 14B)***

The Krebs component makes up 85 percent of the map unit. Slopes are 2 to 5 percent. This component is on hillslopes. The parent material consists of loess over calcareous, diatomite residuum over partially decomposed diatomite. Depth to a root restrictive layer (bedrock, paralithic) is 40 to 60 inches, and the natural drainage class is well drained. Water movement in the most restrictive layer is very low, available water to a depth of 60 inches (or restricted depth) is high and shrink-swell potential is moderate. This soil is not flooded or ponded, and there is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. LCC is VIe.

***Krebs silt loam, 5 to 20 percent slopes (Map Unit 14D)***

Soil characteristics are the same as for map unit 14B described above, except slopes are steeper.

***Olex silt loam, 0 to 5 percent slopes (Map Unit 23B)***

The Olex component makes up 85 percent of the map unit. This component is on Columbia River Basalt plateaus. The parent material consists of loess over very gravelly alluvium, and depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained, water movement in the most restrictive layer is moderately high, available water to a depth of 60 inches (or restricted depth) is moderate and shrink-swell potential is low. This soil is not flooded or ponded, and there is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Non-irrigated LCC is VIe.

***Olex gravelly silt loam, 5 to 20 percent slopes (Map Unit 24D)***

Soil characteristics are the same as map unit 23D described above, except slopes are steeper.

***Olex gravelly silt loam, 20 to 40 percent slopes (Map Unit 24E)***

Soil characteristics are the same as map unit 24D described above, except slopes are steeper.

***Prosser-Rock outcrop complex, 1 to 5 percent slopes (Map Unit 27B)***

The Prosser component makes up 60 percent of the map unit. This component is on outwash terraces, and the parent material consists of loess over basalt. Depth to a root restrictive layer (bedrock, lithic) is 20 to 40 inches. The natural drainage class is well drained, and water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is low and shrink-swell potential is low. This soil is not flooded or ponded, and there is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. The non-irrigated LCC is IVe, the irrigated LCC is IIIe, and the soil is classified as farmland of statewide importance.

***Sagehill fine sandy loam, 2 to 5 percent slopes (Map Unit 40B)***

The Sagehill component makes up 85 percent of the map unit. This component is on terraces. The parent material consists of loess over calcareous, lacustrine deposits, and depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained, water movement in the most restrictive layer is moderately high, available water to a depth of 60 inches (or restricted depth) is high and shrink-swell potential is low. This soil is not flooded or ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Non-irrigated LCC is IVe, and irrigated LCC is IIe.

***Sagehill fine sandy loam, 5 to 12 percent slopes (Map Unit 40C – Gilliam County / Map Unit 54C – Morrow County)***

Soil characteristics are the same as map unit 40B described above, except slopes are steeper, non-irrigated LCC is IVe, and irrigated LCC is IIIe.

***Sagehill fine sandy loam, 12 to 20 percent slopes (Map Unit 40D)***

Soil characteristics are the same as map unit 40B described above, except slopes are steeper, non-irrigated LCC is IVe, and irrigated LCC is VIe.

***Sagehill fine sandy loam, hummocky, 2 to 5 percent slopes (Map Unit 41B)***

The Sagehill hummocky component makes up 85 percent of the map unit. This component is on terraces. The parent material consists of loess over calcareous, lacustrine deposits, and depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained, water movement in the most restrictive layer is moderately high, available water to a depth of 60 inches (or restricted depth) is high and shrink-swell potential is low. This soil is not flooded or ponded, and there is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Non-irrigated LCC is IVe, and irrigated LCC is IIe.

***Sagehill fine sandy loam, hummocky, 5 to 12 percent slopes (Map Unit 41C)***

Soil characteristics are the same as map unit 41B described above, except slopes are steeper, and irrigated LCC is IIIe.

***Taunton loamy fine sand, 2 to 5 percent slopes (Map Unit 45B)***

The Taunton component makes up 85 percent of the map unit. This component is on Columbia River terraces, and the parent material consists of old alluvium reworked by wind. Depth to a root restrictive layer (duripan) is 20 to 40 inches. The natural drainage class is well drained, and water movement in the most restrictive layer is low. Available water to a depth of 60 inches (or restricted depth) is low and shrink-swell potential is low. This soil is not flooded and or ponded, and there is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. The non-irrigated LCC is VIIe, and irrigated LCC is IVe.

***Warden silt loam, 2 to 5 percent slopes (Map Unit 55B)***

The Warden component makes up 85 percent of the map unit. This component is on hillslopes. The parent material consists of loess over calcareous, silty lacustrine deposits, and depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained, water movement in the most restrictive layer is moderately high, available water to a depth of 60 inches (or restricted depth) is high and shrink-swell potential is low. This soil is not flooded or ponded, and there is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Non-irrigated LCC is IVe, and irrigated LCC is IIe.

***Warden silt loam, 12 to 20 percent slopes (Map Unit 55D)***

Soil characteristics are the same as map unit 55B described above, except slopes are steeper, and irrigated LCC is VIe.

***Willis silt loam, 2 to 5 percent slopes (Map Unit 56B)***

The Willis component makes up 90 percent of the map unit. This component is on terraces. The parent material consists of loess over a cemented hardpan, and depth to a root restrictive layer is 20 to 40 inches. The natural drainage class is well drained, water movement in the most restrictive layer is low, available water to a depth of 60 inches (or restricted depth) is low and shrink-swell potential is low. This soil is not flooded or ponded, and there is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Non-irrigated LCC is IIIe, and irrigated LCC is IIe.

***Gravden very gravelly loam, 20 to 40 percent slopes (Map Unit 13E)***

The Gravden component makes up 85 percent of the map unit. This component is on south-facing hillslopes. The parent material consists of gravelly alluvium and colluvium, and depth to a root restrictive layer (duripan) is 20 to 60 inches. The natural drainage class is well drained, water movement in the most restrictive layer is low, available water to a depth of 60 inches (or restricted depth) is very low and shrink-swell potential is low. This soil is not flooded or ponded, and there is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Non-irrigated LCC is VIIe.

***Koehler loamy fine sand, 2 to 5 percent slopes (Map Unit 26B)***

The Koehler component makes up 75 percent of the map unit. This component is on strath terraces in Columbia River valleys. The parent material consists of eolian sands over cemented alluvium, and

the depth to a root restrictive layer (duripan) is 20 to 40 inches. The natural drainage class is somewhat excessively drained, water movement in the most restrictive layer is low, available water to a depth of 60 inches (or restricted depth) is very low and shrink-swell potential is low. This soil is not flooded or ponded, and there is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Non-irrigated LCC is VIIe, and irrigated LCC is IVe.

***Koehler loamy fine sand, 5 to 12 percent slopes (Map Unit 26C)***

Soil characteristics are the same as map unit 26B described above, except slopes are steeper.

***Prosser silt loam, 0 to 2 percent slopes (Map Unit 37A)***

The Prosser component makes up 65 percent of the map unit. This component is on strath terraces in Columbia River valleys. The parent material consists of loess, depth to a root restrictive layer (bedrock, lithic) is 20 to 40 inches. The natural drainage class is well drained, water movement in the most restrictive layer is moderately high, available water to a depth of 60 inches (or restricted depth) is low and shrink-swell potential is low. This soil is not flooded or ponded, and there is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. The non-irrigated LCC is IVe, irrigated LCC is IIIe, and the soil is classified as prime farmland if irrigated.

***Prosser silt loam, 2 to 7 percent slopes (Map Unit 37B)***

Soil characteristics are the same as map unit 37A described above, except slopes are steeper.

***Prosser-Rock outcrop complex, 1 to 20 percent slopes (Map Unit 38D)***

The Prosser component makes up 60 percent of the map unit. This component is on strath terraces and in Columbia River valleys. The parent material consists of loess, depth to a root restrictive layer (bedrock, lithic) is 20 to 40 inches. The natural drainage class is well drained, water movement in the most restrictive layer is moderately high, available water to a depth of 60 inches (or restricted depth) is low and shrink-swell potential is low. This soil is not flooded or ponded, and there is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Non-irrigated and irrigated LCC is IVe, and the soil is classified as farmland of statewide importance.

***Quincy loamy fine sand, 2 to 12 percent slopes (Map Unit 40C)***

The Quincy component makes up 85 percent of the map unit. This component is on strath terraces and in Columbia River valleys. The parent material consists of eolian sands, and depth to a root restrictive layer is greater than 60 inches. The natural drainage class is excessively drained, water movement in the most restrictive layer is high, available water to a depth of 60 inches (or restricted depth) is moderate and shrink-swell potential is low. This soil is not flooded or ponded, and there is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Non-irrigated LCC is VIIe, and irrigated LCC is IVe.

***Rock outcrop-Rubble land complex, very steep (Map Unit 49F)***

Rock outcrop makes up 50 percent of the map unit and rubble land makes up 35 percent. This component is present on hillsides and consists of unweathered bedrock and fragmented material.

***Taunton fine sandy loam, hummocky, 0 to 5 percent slopes (Map Unit 59B)***

The Taunton, hummocky component makes up 85 percent of the map unit. This component is on strath terraces in Columbia River valleys. The parent material consists of eolian sands over strongly cemented alluvium, and the depth to a root restrictive layer (duripan) is 20 to 40 inches. The natural drainage class is well drained, water movement in the most restrictive layer is low, available water to a depth of 60 inches (or restricted depth) is low and shrink-swell potential is low. This soil is not flooded or ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Non-irrigated LCC is VIe, irrigated LCC is IVe, and the soil is classified as farmland of statewide importance.

***Warden silt loam, 20 to 40 percent slopes (Map Unit 71E)***

The Warden component makes up 85 percent of the map unit. This component is on strath terraces in Columbia River valleys. The parent material consists of loess over calcareous lacustrine deposits, and depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained, water movement in the most restrictive layer is moderately high, available water to a depth of 60 inches (or restricted depth) is high and shrink-swell potential is low. This soil is not flooded or ponded, and there is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. The non-irrigated LCC is VIe, and the soil is classified as farmland of statewide importance.

***Taunton loamy fine sand, 2 to 5 percent slopes (Map Unit 93B)***

The Taunton component makes up 85 percent of the map unit. This component is on terraces in Columbia River valleys. The parent material consists of eolian sands over strongly cemented alluvium, and the depth to a root restrictive layer (duripan) is 20 to 40 inches. The natural drainage class is well drained, water movement in the most restrictive layer is low, available water to a depth of 60 inches (or restricted depth) is low and shrink-swell potential is low. This soil is not flooded or ponded, and there is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. The non-irrigated LCC is VIIe, the irrigated LCC is IVe, and the soil is classified as farmland of statewide importance.

**6.2.2 OAR 345-021-0010(1)(i)(B) Current Land Uses**

*Identification and description of current land uses in the analysis area, such as growing crops, that require or depend on productive soils;*

**Response:** The predominant land uses in the area added to the Site Boundary include open rangeland, cultivated cropland, and developed/industrial (Unit 1). The open rangeland and cultivated cropland added to the RFA2 Site Boundary is crossed by the existing 500 kV and 230 kV transmission lines; there will be no change to the uses of those lands as a result of the amended site certificate. The new septic system and water line will be constructed in the developed/industrial

area and will be consistent with those existing uses. The area of the existing Site Boundary that will be removed if RFA2 is approved is used for agriculture, and once the land is removed from the Site Boundary, it will remain zoned Exclusive Farm Use (EFU) by Morrow County.

### **6.3 OAR 345-021-0010(1)(j)(D) Explanation of Removal-Fill Determination**

#### ***OAR 345-021-0010(1)(j)(D)***

*If the proposed facility would not need a removal-fill authorization as described under OAR 141-085-0018, an explanation of why no such authorization is required for the construction and operation of the proposed facility.*

**Response:** A removal-fill permit will not be required because no impacts to waters of the state are expected. No proposed new project features occur in water features, and no removal-fill in waters of the state will be necessary to construct or operate new accessory uses to CGS (septic system, water pipeline, office/warehouse building, and security guard station).

This conclusion is based on extensive analysis of wetlands and other waters provided in Exhibit J of the 2011 ASC that covered areas within the vicinity of CGS where disturbance associated with new construction considered in RFA2 would occur. Consistent with Site Certificate Condition 10.27, PGE will provide to the Department of Energy a map showing the final design locations of all components of the facility, the areas that would be disturbed during construction, and the wetlands and stream channels delineated through field surveys conducted prior to construction.

Therefore, the continued operation of related or supporting facilities currently authorized under the Site Certificate for CGS or BCP and the construction and operation of new minor infrastructure proposed in this RFA2 (see Section 5), in compliance with Site Certificate Conditions 10.26(a), and 10.27, will not alter the Council's basis for its previous findings that the Facility complies with this standard. The Facility will continue to comply with the standard if the Council approves the RFA2.

### **6.4 OAR 345-021-0010(1)(k)(C) Council Determination on Land Use**

#### ***OAR 345-021-0010(1)(k)(C)***

*If the applicant elects to obtain a Council determination on land use:*

*(i) Identify the affected local government(s).*

**Response:** Morrow County and Gilliam County are the affected local governments for the proposal in this RFA2.

*(ii) Identify the applicable substantive criteria from the affected local government's acknowledged comprehensive plan and land use regulations that are required by the statewide planning goals and that are in effect on the date the application is submitted and describe how the proposed facility complies with those criteria.*

**Response:** RFA2 includes project components necessary for the continued operation of CGS that are permitted under Site Certificates for both CGS and BCP. The RFA2 Site Boundary also includes

modification of the Site Boundary to remove approximately 418 acres of agricultural lands that are not under PGE’s ownership and adjust the southern boundary to include Carty Reservoir (Figure 1). The RFA2 Site Boundary encompasses approximately 4,611 acres in the EFU, General Industrial (MG), and Space Age Industrial zones in Morrow County and the EFU zone in Gilliam County. Table 3 details the acreage by county and zone.

**Table 3. Zoning by County for RFA2**

County	Zone	Acres
Morrow	EFU	3,523
	MG	330
	SAI	11
Gilliam	EFU	748
Total	---	4,611

**Key:** EFU = Exclusive Farm Use; MG = General Industrial; RFA2 = Request for Amendment No. 2; SAI = Space Age Industrial

Land use approvals have already been obtained for existing CGS infrastructure authorized under the Site Certificate for CGS and for those additional facilities included in this RFA2 that are authorized under the Site Certificate for BCP. Therefore, no additional applicable substantive criteria of the MCZO or the Gilliam County Zoning Ordinance apply to existing facilities.

The new septic system, water pipeline, security guard station, and office/warehouse building will be constructed in the EFU zone in Morrow County and are considered “accessory use or accessory structure” as defined in MCZO 1.030. The following substantive criteria of the MCZO and Morrow County Comprehensive Plan are applicable to the septic system, water pipeline, security guard station, and office/warehouse building:

- MCZO 3.010.M4 Stream Setback
- MCZO 3.010.N Transportation Impacts
- MCZO 3.070.D1 Lot Size and Frontage
- MCZO 3.070.D2 Setbacks
- MCZO 3.070.D3 Stream Setback
- MCZO 3.070.E Transportation Impacts
- MCZO 1.050 Zoning Permit

(iii) *Identify all Land Conservation and Development Commission administrative rules, statewide planning goals and land use statutes directly applicable to the facility under ORS 197.646(3) and describe how the proposed facility complies with those rules, goals and statutes.*

**Response:** There are no new state statutes or Land Conservation and Development Commission administrative rules directly applicable to the facility, as new facilities that are not already considered in the First Amended Site Certificate for CGS are considered an “accessory use or accessory structure” as defined in MCZO 1.030.



- (iv) *If the proposed facility might not comply with all applicable substantive criteria, identify the applicable statewide planning goals and describe how the proposed facility complies with those goals.*

**Response:** The facility, including proposed new infrastructure, will comply with all applicable substantive criteria.

## 6.5 Additional Statutes and Rules – OAR 345-021-0010(cc)

*(cc) Exhibit CC. Identification, by legal citation, of all state statutes and administrative rules and local government ordinances containing standards or criteria that the proposed facility must meet for the Council to issue a site certificate, other than statutes, rules and ordinances identified in Exhibit E, and identification of the agencies administering those statutes, administrative rules and ordinances. The applicant shall identify all statutes, administrative rules and ordinances that the applicant knows to be applicable to the proposed facility, whether or not identified in the project order. To the extent not addressed by other materials in the application, the applicant shall include a discussion of how the proposed facility meets the requirements of the applicable statutes, administrative rules and ordinances.*

**Response:** Additional statutes and rules that are applicable to the continued operation of related or supporting facilities currently authorized under the Site Certificate for CGS or BCP and the construction and operation of new minor infrastructure (see Section 5), are summarized in Table 4.

**Table 4. Applicable Statutes and Rules**

State Statute/ Administrative Rules	Administering Agency	Compliance Issue	Associated Section of this RFA2
Noise			
ORS 467.020 and ORS 467.030	DEQ	DEQ Noise Standard Compliance	Section 9.1
OAR 340-035-0035			
Fish and Wildlife			
ORS 496	ODFW	Oregon Habitat Conservation Compliance	Sections 8.7 and 8.8
OAR Chapter 635, Division 415		ODFW Habitat Mitigation Policy Compliance	
Threatened and Endangered Plant Species			
ORS 654	ODA	State and federal threatened and endangered species protection and compliance programs	Section 8.8
OAR Chapter 603, Division 73			
Historic Preservation			
ORS 97.745	SHPO; State Parks and Recreation	Historic, Cultural, or Archaeological Resources Site	Section 8.10
ORS 358.905 through 358.961			

State Statute/ Administrative Rules	Administering Agency	Compliance Issue	Associated Section of this RFA2
ORS 390.235 through 390.240	Department	Assessment	
OAR Chapter 736, Division 51			
Land Use			
OAR 660-033-0120, Agricultural Lands	Department of Land Conservation and Development	Statewide Planning Goal 3	Sections 6.4 and 8.4

**Key:** DEQ = Oregon Department of Environmental Quality; OAR = Oregon Administrative Rule; ODA = Oregon Department of Agriculture; ODFW = Oregon Department of Fish and Wildlife; ORS = Oregon Revised Statutes; RFA2 = Request for Amendment No. 2; SHPO = State Historic Preservation Office

## 7 Site Certificate Revisions

### ***OAR 345-027-0360(1)(d)***

*The specific language of the site certificate, including conditions, that the certificate holder proposes to change, add or delete through the amendment.*

Attachment 1 provides a redlined version of the current Site Certificate for CGS. PGE has proposed modifications to the certificate to reflect the proposed changes described in this RFA2, as well as to update information that has changed since the First Amended Site Certificate for CGS.

## 8 Analysis of Council Standards and Other Laws

### ***OAR 345-027-0360(1)(e)***

*A list of the Council standards and all other laws - including statutes, rules and ordinances - applicable to the proposed change, and an analysis of whether the facility, with the proposed change, would comply with those applicable laws and Council standards.*

Council standards for siting energy facilities are intended to address three broad issues:

- The ability of the applicant to construct and operate the Facility
- The suitability of the site
- What adverse impacts the Facility could have on the environment and community

These same issues apply to the Council's evaluation of a request for amendment to a site certificate. The Council standards that would be relevant to the changes proposed in this RFA2 are presented in Table 5 together with a response from PGE that summarizes the analysis of compliance with those standards by the new and modified facilities proposed at CGS. Where applicable, supporting information from the original Application for Site Certificate, RFA1, the Final Order<sup>7</sup>, and the Final Order on Amendment 1 is provided.

<sup>7</sup> [https://www.oregon.gov/energy/facilities-safety/facilities/Facilities%20library/CGS\\_final\\_order\\_062912.pdf](https://www.oregon.gov/energy/facilities-safety/facilities/Facilities%20library/CGS_final_order_062912.pdf)

**Table 5. Summary of Analysis of Compliance with Applicable Standards**

<b>Council Standard</b>	<b>Description</b>	<b>Analysis</b>	<b>Supporting Information</b>
OAR 345-022-0010 Organizational Expertise	Demonstrated ability to construct, operate, and retire facility	PGE has extensive experience in construction and operation of natural gas and transmission facilities and will provide financial security to ensure appropriate retirement.	Section 8.1 of this RFA2
OAR 345-022-0020 Structural Standard	Seismic and site-specific soil analysis to guide safe design	Construction and operation of new components proposed in this RFA2 would occur in areas where potential geological and soils hazards were characterized in the 2011 ASC. Therefore, the continued operation of CGS in compliance with Site Certificate Conditions 5.4 (as modified), 6.6, 6.7, 6.8, 6.10, and 6.11 will not alter the Council's basis for its previous findings that the Facility complies with this standard. The Facility will continue to comply with the standard if the Council approves the RFA2.	Analysis provided in Exhibits H and I of the ASC and RFA1; Findings of fact documented in the Final Order and the Final Order on Amendment 1 of the Site Certificate for CGS; the First Amended Site Certificate for CGS; Site Certificate Conditions 5.4 (as modified by this RFA2), 6.6, 6.7, 6.8, 6.10, and 6.11 of the First Amended Site Certificate.
OAR 345-022-0022 Soil Protection	Impacts to soil from erosion, facility operations/discharge, or salt deposition from cooling towers	Impacts to soils could result from wind or water erosion; potential oil or other spills from stationary or power-driven equipment; soil compaction; septic system effluent; and, possibly, from construction debris and other construction pollutants. Where soil disturbance is anticipated from construction activities, the soil erosion potential within the facility site boundary is classified as "slight to moderate." PGE proposes to operate CGS in compliance with site certificate conditions listed in Section 9.0 of the First Amended Site Certificate (as modified by this RFA2) and the proposed modified site certificate conditions and therefore will not alter the Council's basis for its previous findings that the Facility complies with this standard.	NRCS soil survey data; Findings of fact documented in the Final Order and the Final Order on Amendment 1 of the Site Certificate for CGS; the First Amended Site Certificate for CGS; site certificate conditions listed in Section 9.0 of the First Amended Site Certificate (as modified by this RFA2).

Council Standard	Description	Analysis	Supporting Information
OAR 345-022-0030 Land Use	Compliance with statewide planning goals	<p>In its evaluation of the Facility under the Land Use Standard (OAR 345-022-0030) in the ASC for CGS and in RFA1, the Council considered the applicable, substantive criteria. These include the comprehensive plans and zoning ordinances of both Morrow and Gilliam Counties. Findings of fact were provided in the Final Order and the Final Order on Amendment 1 of the CGS, documenting compliance with applicable substantive criteria.</p> <p>The original 1975 Site Certificate for BCP specifies the necessity to obtain a conditional use permit from Morrow County, as necessary. PGE assumes this documentation satisfies the Council's consideration of applicable, substantive criteria for the Facility components associated with the operation of BCP (including those that are shared with CGS).</p> <p>The new septic system, water pipeline, security guard station, and office/warehouse building are each an "accessory use or accessory structure" to the CGS as defined in MCZO 1.030 and will not require a land use approval. There will be no new off-site impacts that affect the surrounding land uses (agricultural and industrial).</p>	Findings of fact documented in the Final Order and the Final Order on Amendment 1 of the Site Certificate for CGS; First Amended Site Certificate for CGS; the Site Certificate for BCP; Section 8.4.2 of this RFA2.
OAR 345-022-0040 Protected Areas	Facility not located in listed Protected Areas, and no significant impacts to Protected Areas from Facility-related traffic, water use, and wastewater disposal	The 2011 ASC identified 11 Protected Areas, and RFA1 identified nine Protected Areas (all of which were previously identified in the 2011 ASC) within the respective analysis areas. None of the identified Protected Areas would be significantly impacted by changes proposed in RFA2. PGE proposes to operate CGS in compliance with Site Certificate Conditions 6.12, 6.13, and 6.14 of the First Amended Site Certificate and therefore will not alter the Council's basis for its previous findings that the Facility complies with this standard.	Analysis provided in Exhibit L of the ASC and RFA1 for CGS; Findings of fact documented in the Final Order and the Final Order on Amendment 1 of the Site Certificate for CGS; Site Certificate Conditions 6.12, 6.13, and 6.14 of the First Amended Site Certificate for CGS.
OAR 345-022-0050 Retirement and Financial Assurance	Site can be restored following retirement and applicant is able to document financial assurance.	Exhibit W of the 2011 ASC and Exhibit W for RFA1 detail actions to restore CGS to a useful, non-hazardous condition upon retirement per OAR 345-027-0110. RFA2 would carry forward Site Certificate Conditions 15.1 through 15.7, including modified Condition 15.1 that commits PGE to providing a revised letter of credit to include CGS and all related or supporting facilities per this RFA2 within 60 days of execution of the Site Certificate on Amendment No. 2. Therefore, changes proposed in this RFA2 will not alter the Council's basis for its previous findings that the Facility complies with this standard.	Exhibit W of the ASC and RFA for CGS; Findings of fact documented in the Final Order and the Final Order on Amendment 1 of the Site Certificate for CGS; Site Certificate Conditions 15.1 (as modified in this RFA2)-15.7 of the First Amended Site Certificate for CGS.

<b>Council Standard</b>	<b>Description</b>	<b>Analysis</b>	<b>Supporting Information</b>
OAR 345-022-0060 Fish and Wildlife Habitat	Facility construction and operation consistent with mitigation goals and standards	Habitat types have been mapped in areas where new construction is proposed as part of the RFA2. Per existing and modified Site Certificate Conditions 10.1-10.21 (with minor modifications), and consistent with the WHMMP, PGE proposes to incorporate new areas included in the RFA2 Site Boundary (currently authorized under the Site Certificate for BCP) into the 5-year interval surveys. Habitat mapping for the portion of the RFA2 Site Boundary that coincides with the existing 230 kV BCP to Dalreed transmission line would occur as part of this stipulation. Therefore, changes proposed in this RFA2 will not alter the Council's basis for its previous findings that the Facility complies with this standard.	Biological and habitat surveys conducted for the ASC for CGS and RFA1 for CGS; Findings of fact documented in the Final Order and the Final Order on Amendment 1 of the Site Certificate for CGS; Site Certificate Conditions 10.1-10.21 (as modified by this RFA2) of the First Amended Site Certificate for CGS.
OAR 345-022-0070 Threatened and Endangered Species	Facility construction and operation will not cause significant reduction in likelihood of survival or recovery of species	The WGS is listed as endangered by the State of Oregon and is known to occur in the analysis area. In this RFA2, PGE proposes to carry forward Site Certificate Conditions 10.1-10.21, with minor modifications. WGS surveys will be conducted within disturbance areas prior to construction of the new septic system, water pipeline, security guard station, and office/warehouse building to determine their occupied area. Consistent with Condition 10.21 of the First Amended Site Certificate and elements of the WHMMP, PGE proposes to incorporate new areas incorporated into the RFA2 Site Boundary that coincide with new and existing facilities into the 5-year interval surveys, extending for the life of the project. Therefore, changes proposed in this RFA2 will not alter the Council's basis for its previous findings that the Facility complies with this standard.	Surveys for state-listed species conducted for ASC and RFA1 for CGS; Findings of fact documented in the Final Order and the Final Order on Amendment 1 of the Site Certificate for CGS; Site Certificate Conditions 10.1-10.21 (as modified by this RFA2) of the First Amended Site Certificate for CGS.
OAR 345-022-0080 Scenic Resources	No significant impacts to scenic resources	Exhibit R for the ASC and RFA1 documents existing conditions and potential project-related impacts to Scenic Resources within 10 miles of the original Site Boundary for CGS and the RFA1 Site Boundary. No scenic resources were identified for any lands within these analysis areas. The Council included Site Certificate Conditions 6.12, 6.13, and 6.14 to mitigate visibility impacts during construction and from larger infrastructure and facility lighting. With the continuation of the conditions above, changes proposed in this RFA2 will not alter the Council's basis for its previous findings that the Facility complies with this standard.	Analysis presented in Exhibit R of the ASC and RFA1 for CGS; Findings of fact documented in the Final Order and the Final Order on Amendment 1 of the Site Certificate for CGS; Conditions 6.12-6.14 of the First Amended Site Certificate for CGS.

<b>Council Standard</b>	<b>Description</b>	<b>Analysis</b>	<b>Supporting Information</b>
OAR 345-022-0090 Historic, Cultural, and Archaeological Resources	No significant impacts to cultural resources	Field surveys conducted in support of the 2011 ASC and RFA1 included the areas where ground disturbance would occur as a result of construction of the water pipeline, septic system, security guard station, and office/warehouse building. PGE proposed to carry forward the site certificate conditions listed in Section 11.0 of the First Amended Site Certificate for CGS, and as such, commits to pre-construction surveys in disturbance areas that have not been previously surveyed. Therefore, changes proposed in this RFA2 will not alter the Council's basis for its previous findings that the Facility complies with this standard.	Analysis provided in Exhibit S of the ASC and RFA1 for CGS; Findings of fact documented in the Final Order and the Final Order on Amendment 1 of the Site Certificate for CGS; site certificate conditions listed in Section 11.0 of the First Amended Site Certificate for CGS.
OAR 345-022-0100 Recreation	No significant impact to recreational opportunities	As documented in Exhibit T for the 2011 ASC and 2018 RFA1, five recreational resources were identified within 5 miles of the original Site Boundary for CGS and RFA1, respectively. In the original and First Amended Site Certificate for CGS, the Council found that recreation resources would not be significantly impacted by noise, traffic, visual impacts, water usage, or wastewater management activities associated with construction and operation of CGS and related or supporting facilities. No conditions specific to recreational resources were applied to the First Amended Site Certificate for CGS. Consistent with these findings, PGE does not propose any new site certificate conditions specific to recreation resources. Changes proposed in this RFA2 will not alter the Council's basis for its previous findings that the Facility complies with this standard.	Analysis provided in Exhibit T of the 2011 ASC and RFA1 for CGS; Findings of fact documented in the Final Order and the Final Order on Amendment 1 of the Site Certificate for CGS; and the First Amended Site Certificate for CGS.
OAR 345-022-0110 Public Services	No significant impact to public and private service providers	Exhibit U of the 2011 ASC and RFA1 addressed the potential impacts of the Facility on public and private service providers. Following review of the 2011 ASC, the Council found that the Facility would not have significant adverse impacts to public and private service providers: however, the Council adopted conditions to ensure there would be no significant impacts to Public Services from construction and operation of CGS and related or supporting facilities. Following review of RFA1, the Council found, considering modified and new site certificate conditions, that Carty Solar Farm would not have significant adverse impacts to public and private service providers. With the continuation of these conditions, changes proposed in this RFA2 will not alter the Council's basis for its previous findings that the Facility complies with this standard.	Analysis presented in Exhibit U of the ASC and RFA1 for CGS; Findings of fact documented in the Final Order and the Final Order on Amendment 1 of the Site Certificate for CGS; Conditions 6.3, 6.17(modified as proposed in this RFA2), 6.27, 8.1, 8.2, 8.3, 8.7, 9.1 (modified as proposed in this RFA2), and 10.22 for the First Amended Site Certificate for CGS.

Council Standard	Description	Analysis	Supporting Information
OAR 345-022-0120 Waste Minimization	Solid waste and wastewater plans to minimize waste and provide recycling/reuse to the extent reasonably practical	Exhibit V of the 2011 ASC and 2018 RFA1 addressed the potential for the Facility's solid waste and wastewater plans to minimize the generation of solid waste and wastewater during construction and operation and to recycle and reuse such wastes if generated. Following review of the 2011 ASC and Exhibit V, the Council adopted Conditions 6.2, 6.3, 6.24, 6.25, 10.22, 10.24, 10.30, 10.32, and 10.36 to address waste and wastewater minimization in the 2011 Site Certificate for CGS; these same conditions were carried forward in the First Amended Site Certificate. With the continuation of these conditions, changes proposed in this RFA2 will not alter the Council's basis for its previous findings that the Facility complies with this standard.	Analysis provided in Exhibit V of the ASC and RFA1 for CGS; Findings of fact documented in the Final Order and the Final Order on Amendment 1 of the Site Certificate for CGS; Conditions 6.2, 6.3, 6.24, 6.25, 10.22, 10.24, 10.30, 10.32, and 10.36 of the Site Certificate for CGS and First Amended Site Certificate for CGS.
OAR 345-024-0090 Transmission Lines	Limits on electric fields and induced current	Analysis of the potential safety hazards associated with electric fields around existing and proposed transmission lines was documented in Exhibit AA of the ASC and RFA1. In the original Site Certificate and First Amended Site Certificate, the Council adopted Conditions 7.1 and 7.9. PGE proposes to continue operation of CGS consistent with Condition 7.1 (as modified in this RFA2) and Condition 7.9. Changes proposed in this RFA2 will not alter the Council's basis for its previous findings that the Facility complies with this standard.	Analysis provided in Exhibit AA of the ASC and RFA1 for CGS; Findings of fact documented in the Final Order and the Final Order on Amendment 1 of the Site Certificate for CGS; Site Certificate Conditions 7.1 (as modified in this RFA2) and 7.9.
Other Applicable Requirements – OAR 345-027-0360(1)(e)	Noise	No new noise sources will occur as a result of RFA2, therefore DEQ's noise control standards are not applicable. Noise from construction activities associated with RFA2 will generally be of lesser magnitude and duration than construction of Unit 1 and similar magnitude and duration to existing related or supporting facilities.	Past findings in Exhibit X of the ASC and the First Amended Site Certificate for CGS.
	Wetlands	Except for the existing 230 kV BCP to Dalreed transmission line, PGE has determined wetland and water boundaries in the vicinity of existing facilities and proposed septic system and water pipeline to be included with this RFA2. No work is proposed in any of the identified wetlands or waters.	Wetland surveys conducted for the ASC and RFA1 for CGS.
	Water Pollution Control Facility Permit	The WPCF permit will be modified to better represent actual operating conditions at CGS.	Section 6.5 of this RFA2.
	Water rights	No change in water rights will occur as a result of this RFA2.	NA

**Key:** ASC = 2011 Application for Site Certificate for CGS; BCP = Boardman Coal Plant; CGS = Carty Generating Station; DEQ = Oregon Department of Environmental Quality; NRCS = Natural Resources Conservation Service; NWI = National Wetland Inventory; OAR = Oregon Administrative Rule; RFA1 = Request for Amendment No. 1; RFA2 = Request for Amendment No. 2; WGS = Washington ground squirrel; WHMMP = wildlife and habitat mitigation and monitoring plan; WPCF = Water Pollution Control Facility

## 8.1 OAR 345-022-0010 Organizational Expertise

### ***OAR 345-022-0010 Organizational Expertise***

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

**Response:** CGS and applicable facilities shared with BCP are currently operated in compliance with their respective site certificate conditions and in a manner that protects public health and safety. PGE therefore demonstrates its ability to design, construct, and operate the amended facility and will provide financial security to ensure appropriate retirement. PGE will restore the site to a useful non-hazardous condition after retiring CGS. Therefore, the continued operation of related or supporting facilities currently authorized under the Site Certificate for CGS or BCP and the construction and operation of new minor infrastructure (see Section 5) in compliance with existing, modified, or new site certificate conditions described in this RFA2 will not alter the Council's basis for its previous findings that CGS complies with this standard. The Council may conclude that CGS will continue to comply with OAR 345-022-0010.

## 8.2 OAR 345-022-0020 Structural Standard

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

*(a) The applicant, through appropriate site-specific study, has adequately characterized the seismic hazard risk of the site; and*

*(b) The applicant can design, engineer, and construct the facility to avoid dangers to human safety and the environment presented by seismic hazards affecting the site, as identified in s[u]bsection (1)(a);*

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

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

**Response:** The Council's finding of fact in the Final Order and the Final Order on Amendment 1 of the Site Certificate for CGS concluded that with inclusion of site certificate conditions, PGE has the ability to design and construct the proposed facility in a manner that avoids danger to human safety presented by the non-seismic hazards identified at the site.



Construction and operation of the new septic system, water pipeline, security guard station, and office/warehouse building proposed in this RFA2 will occur in areas where potential geological and soils hazards were characterized in the 2011 ASC and RFA1. PGE proposed to modify Condition 5.4 to clarify when exploratory borings would be required. Site certificate condition 5.4 (as modified in this RFA2) and Site Certificate Conditions 6.6, 6.7, 6.8, 6.10, and 6.11 will ensure continued compliance with the structural standard.

Therefore, the continued operation of related or supporting facilities currently authorized under the Site Certificate for CGS or BCP and the construction and operation of new minor infrastructure (see Section 5) in compliance with existing and modified site certificate conditions will not alter the Council's basis for its previous findings that CGS complies with this standard. The Council may conclude that CGS will continue to comply with OAR 345-022-0020.

### 8.3 OAR 345-022-0022 Soil Protection

*To issue a site certificate, the Council must find that the design, construction and operation of the facility, taking into account mitigation, are not likely to result in a significant adverse impact to soils including, but not limited to, erosion and chemical factors such as salt deposition from cooling towers, land application of liquid effluent, and chemical spills.*

**Response:** Construction and operation of CGS has the potential to adversely impact soils through erosion, compaction, chemical spills, salt deposition from cooling tower drift, and land application of liquid effluent. Adverse impacts to soils can affect crop production on adjacent agricultural lands, native vegetation, fish and wildlife habitat, and surface and groundwater quality.

Exhibit I and Z of the ASC assessed existing conditions and potential project-related impacts to soils from erosion and chemical factors such as salt deposition from cooling towers, land application of liquid effluent, and chemical spills. The soils analysis area was the Site Boundary. In issuing the 2012 Site Certificate for CGS, the Council found that, with Conditions 9.1 through 9.7 and 9.9 through 9.11, erosion and chemical factors such as salt deposition from cooling towers, land application of liquid effluent, and chemical spills would not result in significant adverse impacts to soils.

Exhibit I of the RFA1 also assessed existing conditions and potential project-related impacts to soils within the RFA1 Site Boundary. In issuing the First Amended Site Certificate for CGS, the Council again determined that, in carrying forward Conditions 9.1 through 9.7 and 9.9 through 9.11, changes considered in RFA1 would not result in significant adverse impacts to soils.

This RFA2 assesses construction and operation of a new septic system, water pipeline, security guard station, and office/warehouse building and associated utilities that have the potential to impact soils. Sections 6.2 and 6.3 provide additional information regarding soils and land uses specific to the RFA2 Site Boundary that the Council requires to make its findings for compliance with OAR 345-022-0022.

The analysis area for the Soil Protection Standard in this RFA2 is the area that will be affected during construction and operation of the proposed new components, estimated at approximately 1.4 acre. Potential adverse impacts to soils during construction would be similar to those evaluated in the 2011 ASC and 2018 RFA1, such as impacts caused by wind or water erosion; potential oil or

other spills from stationary or power-driven equipment; soil compaction; and, possibly, construction debris and other construction pollutants. Construction activities would increase the risk of introducing or spreading invasive weeds in the RFA2 Site Boundary. The seeds or propagules of invasive weeds affixed to tires and undercarriages of construction equipment and vehicles could be transported onto the site or spread from one project location to another.

All areas temporarily disturbed will be reclaimed similar to existing conditions, either by re-paving in areas that are currently paved or re-seeding in areas that are currently vegetated. Soil classes, summarized in Table 2, were identified using the Natural Resources Conservation Service soil survey program (NRCS 2019<sup>8</sup>). PGE estimated that where soil disturbance is anticipated from construction activities, the soil erosion potential within the Site Boundary is slight to moderate, based on the gently sloping nature of the site and the soil types present, which are characterized by low to moderate wind and water erosion potentials. Construction activities would occur primarily in areas previously disturbed in soil map unit 54B and potentially a small area within soil map unit 54D. A National Pollutant Discharge Elimination System (NPDES) 1200-C permit will not be necessary because the disturbance areas associated with the new septic system, water pipeline, guard station, and office/warehouse building would not discharge to surface waters of the State. Due to the dry nature of the area and lack of surface waters immediately adjacent to the potential disturbance areas, stormwater would infiltrate. NPDES 1200-C permits regulate construction stormwater runoff to surface waters but do not regulate stormwater that would be infiltrated; therefore, no NPDES 1200-C permit would be necessary. Per Site Certificate Condition 5.5 (as modified for this RFA2), PGE will continue to follow the measures outlined in the Revegetation and Noxious Weed Control Plan to reduce the potential impacts of soil compaction during the restoration phase of construction (Attachment 3). Areas of temporary disturbance would be graded to be consistent with existing topography and drainage patterns as soon as possible after the final construction ground disturbance. If necessary, areas compacted by construction activities would be ripped to a depth of 12 inches, where feasible, and roughened to provide maximum surface area for seed-soil contact and to reduce the chance of seed loss due to wind.

During operations, potential adverse impacts on soils could result from septic system discharge. The system would be sized per state and county standards and the Umatilla County Public Health Department requirements. On January 10, 2020, the Umatilla County Public Health Department performed a site evaluation at the proposed septic system location and determined the site to be acceptable for a standard, non-residential septic system. The site evaluation result of “acceptable” demonstrates that the septic system will be constructed in a location that provides sufficient protection to nearby surface and groundwater resources and potable water lines per OAR 340-071-0220. Due to the design flow of the system (less than 2,501 gpd), a permit from DEQ will not be required. The septic system, water pipeline, security guard station, and office/warehouse building will primarily be constructed in soil map unit 54B, although a small portion of the absorption facility may be constructed in soil map unit 54D.

PGE will continue to comply with all relevant conditions of the First Amended Site Certificate for CGS, including those pertinent to soil protection. It should be noted that although an NPDES 1200-C permit would not be triggered for the new facilities included in this RFA2, it would still be required

<sup>8</sup> Natural Resource Conservation Service: Soils. 2019. Available at:  
<https://www.nrcs.usda.gov/wps/portal/nrcs/surveylist/soils/survey/state/?stateId=OR>

for Carty Solar Farm if constructed. Therefore, PGE proposes to modify Condition 9.1 as specified in Attachment 1.

PGE proposes to operate CGS in compliance with site certificate conditions listed in Section 9.0 of the First Amended Site Certificate (as modified by this RFA2). Therefore, the continued operation of related or supporting facilities currently authorized under the Site Certificate for CGS or BCP and the construction and operation of new minor infrastructure (see Section 5) will not alter the Council's basis for its previous findings that CGS complies with this standard. The Council may conclude that CGS will continue to comply with OAR 345-022-0022.

## **8.4 OAR 345-022-0030 Land Use**

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

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

*\*\*\**

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

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

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

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

**Response:**

### **8.4.1 Land Use Consistency with Existing Components**

#### ***Background – Carty Generating Station***

Exhibit K of the 2011 CGS ASC included an analysis of the proposed Facility's compliance with statewide planning goals. The analysis area encompassed the Site Boundary (as proposed in the 2011 ASC) plus a half-mile buffer. In its evaluation of the Facility under the Land Use Standard (OAR 345-022-0030) in the 2011 ASC and in RFA1, the Council considered the applicable, substantive criteria, which are the comprehensive plans and zoning ordinances of both Morrow and Gilliam Counties. The 2011 ASC documented the Facility's consistency with statewide planning goals, as confirmed by the Council in the original 2011 Site Certificate for CGS.

Exhibit K prepared in support of RFA1 in 2018 included an analysis of the proposed Facility's compliance with statewide planning goals within the RFA1 Site Boundary to include the Carty Solar Farm, plus a half-mile buffer. RFA1 provided documentation that an exception to Statewide Planning Goal 3 needed for construction of the Carty Solar Farm was justified. Applicable sections of comprehensive plans and zoning ordinances have not changed in ways that would impact the Council's prior findings under the Land Use Standard documented in the First Amended Site Certificate for CGS. PGE holds a Conditional Use Permit (CUP) for CGS and proposed Carty Solar Farm from Morrow County.

### ***Background – Boardman Coal Plant***

Under the broad categories of “associated facilities,” the Site Certificate for BCP authorizes the following related or supporting facilities, some of which are shared with CGS:

- 500 kV Grassland to Slatt transmission line
- 230 kV BCP to Dalreed transmission line
- 34.5 kV BCP to railroad crossing at Tower Road transmission line
- 7.2 kV underground distribution line from BCP to the construction substation
- 12.5 kV underground distribution line providing power to the Boeing Well pump from the construction substation
- Carty Reservoir, including portions of the raw water intake system
- Water Discharge Channel
- Sanitary sewer lagoons and sanitary sewer line
- Boeing Well (potable water source)
- 300,000-gallon potable/fire water tank

The original 1975 Site Certificate for BCP documents the County's preference to change the zoning from EFU to MG and to obtain a CUP for BCP. The County's direction was followed. PGE considers this documentation sufficient to satisfy the Council's consideration of applicable, substantive criteria for the Facility components associated with the operation of BCP (including those that will be transferred into the Site Certificate for CGS, as outlined in Section 5.0 of this RFA2).

Additionally, ORS 215.230(5) recognizes a right to continue a lawfully established use of land:

*The lawful use of any building, structure or land at the time of the enactment or amendment of any zoning ordinance or regulation may be continued (emphasis added). Alteration of any such use may be permitted subject to subsection (9) of this section. Alteration of any such use shall be permitted when necessary to comply with any lawful requirement for alteration in the use. Except as provided in ORS 215.215, a county shall not place conditions upon the continuation or alteration of a use described under this subsection when necessary to comply with state or local health or safety requirements, or to maintain in good repair the existing structures associated with the use. A change of ownership or occupancy shall be permitted (emphasis added).*

Therefore, the existing infrastructure included under either the CGS or BCP Site Certificate was lawfully established and, with respect to land use law, may continue to be used. Just as a “change in ownership or occupancy” is permitted for lawfully established facilities, the existing facilities under either the existing CGS or BCP Site Certificate do not require any discretionary land use review.

### ***Analysis of Changes Proposed in RFA2***

There would be no change in operation or maintenance of facilities currently authorized under the Site Certificate for CGS or BCP other than to transfer authorization of the components current authorized under the Site Certificate for BCP into the Site Certificate for CGS. Applicable sections of comprehensive plans and zoning ordinances have not changed in ways that would impact the Council’s prior findings under the land use standard.

#### ***8.4.2 Land Use Consistency with Proposed New Facilities***

This RFA2 includes the following new facilities:

- Septic system
- Water pipeline connecting BCP’s 300,000-gallon water tank
- Security guard station
- Office/warehouse building

The following discussion documents how the new components listed above that are included in CGS per this RFA2 are consistent with the land use standard OAR 345-022-0030.

### ***Applicable Substantive Criteria***

#### **Morrow County Ordinances**

The proposed septic system, water pipeline connecting BCP’s 300,000-gallon water tank, security guard station, and office/warehouse building will be constructed entirely within the portion of the current Site Boundary located in Morrow County. The septic system and a portion of the water pipeline are within the EFU zone and a portion of the water pipeline and the entire security guard station are within the MG zone. The office/warehouse building will likely be within the EFU zone, although depending on final design it could partially be within the MG zone; therefore, applicable ordinances for both the EFU and MG zone are evaluated for the office/warehouse building. The facilities would be constructed as private facilities solely to serve CGS and the BCP property after BCP ceases operation. As such, these facilities are not considered a “primary” use of land under the MCZO, but rather an “accessory use or accessory structure” as defined in MCZO 1.030: “*A use or structure incidental and subordinate to the main use of the property and located on the same lot as the main use.*”

Proposed new facilities therefore comply with the applicable substantive criteria as identified in Section 6.4 of the RFA2, as justified below.

#### ***MCZO 3.010 Exclusive Farm Use Zone***

The septic system, water pipeline, security guard station, and office/warehouse building will be constructed within the EFU zone. Consistency with applicable portions of the MCZO is discussed below.

### MCZO 3.010.M Yards

*In an EFU Zone, the minimum yard setback requirements shall be as follows:*

- 1. The front yard setback from the property line shall be 20 feet for property fronting on a local minor collector or marginal access street ROW, 30 feet from a property line fronting on a major collector ROW, and 80 feet from an arterial ROW unless other provisions for combining accesses are provided and approved by the County.*
- 2. Each side yard shall be a minimum of 20 feet except that on corner lots or parcels the side yard on the street side shall be a minimum of 30 feet.*
- 3. Rear yards shall be a minimum of 25 feet.*
- 4. Stream Setback. All sewage disposal installations such as outhouses, septic tank and drainfield systems shall be set back from the high-water line or mark along all streams and lakes a minimum of 100 feet, measured at right angles to the high-water line or mark. All structures, buildings, or similar permanent fixtures shall be set back from the high-water line or mark along all streams or lakes a minimum of 100 feet measured at right angles to the high-water line or mark.*

**Response:** Condition 6.22.b of the First Amended Site Certificate for CGS requires compliance with the yard and stream setback requirements of MCZO 3.010.M. The new septic system, water pipeline, and office/warehouse building considered in this RFA2 are consistent with these criteria based on planned setbacks because each are located a minimum of 100 feet from the high-water line or mark along all streams and lakes. PGE proposes in this RFA2 that Condition 6.22.b be carried forward as written.

### MCZO 3.010.N Transportation Impacts

- 1. Traffic Impact Analysis (TIA). In addition to the other standards and conditions set forth in this section, a TIA will be required for all projects generating more than 400 passenger car equivalent trips per day. Heavy vehicles – trucks, recreational vehicles and buses – will be defined as 2.2 passenger car equivalents. A TIA will include: trips generated by the project, trip distribution for the project, identification of intersections for which the project adds 30 or more peak hour passenger car equivalent trips, and level of service assessment, impacts of the project, and, mitigation of the impacts. If the corridor is a State Highway, use ODOT standards. (MC-C-8-98)*

**Response:** Section 8.12 of this RFA2 discusses potential traffic impacts for the construction and operation of the proposed septic system, water pipeline, security guard station, and the office/warehouse building and the Council's previous findings of compatibility with OAR 345-022-0110 as documented in the Final Order and the Final Order on Amendment 1 of the Site Certificate for CGS and the First Amended Site Certificate for CGS. PGE assessment of potential impacts to public services from the proposed infrastructure isolation and separation activities at BCP and CGS and construction and operation of the septic system, water pipeline, security guard station, and office/warehouse building determined that, because these activities would require fewer construction workers, generate fewer peak construction trips, and require shorter construction durations than activities addressed in previous orders, actions described in this RFA2 will not alter the Council's basis for its previous findings that the Facility complies with this standard.

PGE would continue to apply Condition 6.17 (as modified in this RFA2) for construction of new facilities proposed in this RFA2.

**MCZO 3.070 General Industrial Zone, MG**

*MCZO 3.070.D. Dimension Requirements.*

*The following Dimensional requirements apply to all buildings and structures constructed, placed or otherwise established in the MG zone.*

- 1. Lot size and frontage: A minimum lot size has not been determined for this zone although the lot must be of a size necessary to accommodate the proposed use, however, it is anticipated that most, if not all uses will be sited on lots of at least two acres. The determination of lot size will be driven by the carrying capacity of the land given the proposed use. Minimum lot frontage shall be 300 feet on an arterial or collector; 200 feet on a local street.*

**Response:** The water pipeline, security guard station, and the office/warehouse building (if constructed within the MG zone) will be located on a lot larger than 2 acres that is large enough to accommodate the use.

- 2. Setbacks: No specific side or rear yard setbacks are identified within this zone, but may be dictated by provisions of the Building Code or other siting requirements. The minimum setback between a structure and the right-of-way of an arterial shall be 50 feet. The minimum setback of a structure from the right-of-way of a collector shall be 30 feet, and from all lower class streets the minimum setback shall be 20 feet. There shall be no setback requirement where a property abuts a railroad siding or spur if the siding or spur will be utilized by the permitted use.*

**Response:** Tower Road is a private road where the security guard station would be located; therefore, the road setback as identified in MCZO 3.070.D does not apply.

- 3. Stream Setback: All sewage disposal installations such as outhouses, septic tank and drainfield systems shall be set back from the high-water line or mark along all streams and lakes a minimum of 100 feet, measured at right angles to the high-water line or mark. All structures, buildings, or similar permanent fixtures shall be set back from the high-water line or mark along all streams or lakes a minimum of 10 feet measured at right angles to the high-water line or mark.*

**Response:** The septic system will not be constructed in the MG zone. The water pipeline, security guard station, and office/warehouse building will be located greater than 10 feet from the high-water line or mark along all streams and lakes.

*MCZO 3.070.E. Transportation Impacts*

- 1. Traffic Impact Analysis (TIA). In addition to the other standards and conditions set forth in this section, a TIA will be required for all projects generating more than 400 passenger car equivalent trips per day. Heavy vehicles B trucks, recreational vehicles and buses B will be defined as 2.2 passenger car equivalents. A TIA will include: trips generated by the project, trip distribution for the project, identification of intersections for which the project adds 30 or more peak hour passenger car equivalent trips, and level of service assessment, impacts of the*

*project, and, mitigation of the impacts. If the corridor is a State Highway, use ODOT standards. (MC-C-8-98)*

**Response:** This standard is the same as MCZO 3.010.N. Please see response above.

### ***Conditional Uses***

Article 6 of the MCZO addresses conditional uses. The proposed septic system, water pipeline, security guard station, and office/warehouse building are each an “accessory use or accessory structure” as defined in MCZO 1.030 and would not constitute an amendment to the existing CUP for CGS or have an effect on CGS’s compliance with Article 6 of the MCZO. Additionally, because the existing BCP components that are requested to be included in the Second Amended Site Certificate for CGS under this RFA2 do not constitute a change in use, they also do not require any new land use approvals or an amendment to the existing CUP.<sup>9</sup> PGE will submit an updated facility layout map to the County as a courtesy, although there are no formal requirements by the County.<sup>10</sup>

### ***Other Applicable Zoning Provisions***

#### **MCZO 1.050 Zoning Permit**

*Prior to the construction, reconstruction, alteration, or change of use of any structure larger than 100 square feet or use for which a zoning permit is required, a zoning permit for such construction, reconstruction, alteration, or change of use or uses shall be obtained from the Planning Director or authorized agent thereof. A zoning permit shall become void after 1 year unless the development action has commenced. A 12-month extension may be granted when submitted to the Planning Department prior to the expiration of the approval period.*

**Response:** Construction of the security guard station and office/warehouse building will require a Zoning Permit from Morrow County to comply with MCZO 1.050, as stated above; no zoning permit is required for the septic system or water pipeline.<sup>11</sup> Additionally, Condition 4.6 of the First Amended Site Certificate for CGS requires that the certificate holder obtain a Zoning Permit. PGE would comply with that requirement prior to construction of any elements of the proposed security guard station.

- 1. The land use, building/yard setback, lot area, lot dimension, density, lot coverage, building height and other applicable standards of the underlying land use district and any sub-district(s) are met.*

**Response:** Condition 6.22.b of the First Amended Site Certificate for CGS requires compliance with the yard and stream setback requirements of MCZO 3.010.M. The septic system would be set back 100 feet from the high-water line of all nearby water sources. The guard station and office/warehouse building side and back yard setbacks would be over 100 feet from the adjacent lot.

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<sup>9</sup> Personal communication between Emily Newell, AECOM, and Stephen Wrecsics and Stephanie Case, Morrow County Planning Department on February 3, 2020

<sup>10</sup> Personal communication between Emily Newell, AECOM, and Stephen Wrecsics, Morrow County Planning Department on January 14, 2020

<sup>11</sup> Ibid.



2. *Development in flood plains shall comply with Section 3.100 Flood Hazard Overlay Zone of the Ordinance.*

**Response:** The development proposed in this RFA2 is not within a floodplain.

3. *Development in hazard areas identified in the Morrow County Comprehensive Plan shall safely accommodate and not exacerbate the hazard and shall not create new hazards.*

**Response:** Morrow County Comprehensive Plan, Natural Hazards Element states: “A natural hazard occurs when a natural hazard impacts people or property and creates adverse conditions with the community.” The Natural Hazards Element and the Morrow County Natural Hazard Mitigation Plan updated in 2016 identify eight natural hazards of concern within some or all of Morrow County: drought, earthquake, flood, landslide, volcano, wildfire, windstorm, and winter storm.

The Natural Hazard Element indicates that only some natural hazards, “such as flooding and landslide hazard areas,” can be mitigated through development standards, whereas “for other, more widespread or random hazards such as drought, wildfire, winter storm, or windstorms, effective mitigation must come in the form of public awareness, preparedness and participation.”

As indicated in response to MCZO 4.165(D)(4), the new development proposed in this RFA2 is not within a floodplain. Section 6.2 of this RFA2 addresses soil conditions. Moreover, conditions of the First Amended Site Certificate for CGS address natural hazards. Condition 6.8 requires the certificate holder to “design, engineer and construct the facility to avoid dangers to human safety presented by non-seismic hazards,” including “settlement, landslides, flooding and erosion.” Condition 6.7 requires the certificate holder to “design, engineer and construct the facility to avoid danger to human safety presented by seismic hazards affecting the area that are expected to result from all maximum probable seismic events.” Other conditions (6.10 and 6.11) require notification to the Oregon Department of Energy, Department of Geology and Mineral Industries, and the State Building Codes Division if previously unknown conditions are identified at the energy facility site. PGE proposes to implement actions included in RFA2 in compliance with these standards.

4. *Off-street parking and loading-unloading facilities shall be provided as required in Section 4.040 and 4.050 of the Morrow County Zoning Ordinance. Safe and convenient pedestrian access to off-street parking areas also shall be provided as applicable.*

**Response:** Any permanent employees associated with CGS would park on-site, which has developed parking facilities.

5. *County transportation facilities shall be located, designed and constructed in accordance with the design and access standards in the Morrow County Transportation System Plan.*

**Response:** The facilities proposed in this RFA2 do not involve or require the development of new county transportation facilities or new access to existing county transportation facilities.

6. *Site planning, including the siting of structures, roadways and utility easements, shall provide, wherever practicable, for the protection of trees eight inch caliper or greater measured four feet from ground level, with the exception of noxious or invasive species, such as Russian olive trees.*

**Response:** Development and operation of the septic system, water pipeline, security guard station, or office/warehouse building are not expected to require the removal of any trees 8 inches or more in diameter.

7. *Development shall comply with Section 3.200 Significant Resources Overlay Zone or 3.300 Historic Buildings and Sites protecting inventoried significant natural and historic resources.*

**Response:** There are no inventoried historic buildings or sites on the site.

8. *The applicant shall determine if compliance is required with Oregon Water Resources Department water quantity and/or Oregon Department of Environmental Quality water quality designations.*

**Response:** Water use and wastewater disposal are addressed in Section 8.13 of the RFA2.

9. *The applicant shall determine if previous Code Enforcement violations have been cleared as applicable.*

**Response:** PGE is not aware of any prior Code Enforcement violations.

10. *The applicant shall determine the method of disposal for solid waste, with staff providing information to the applicant about recycling opportunities.*

**Response:** Section 8.13 of the RFA2 addresses recycling and disposal of solid waste. In addition, Condition 6.3 of the First Amended Site Certificate for CGS requires the implementation of a waste management plan during construction, and Condition 10.22 requires a waste management plan during operation. PGE proposes to implement actions included in RFA2 in compliance with these site certificate conditions.

11. *The applicant shall obtain the necessary access permit through the Public Works Department as required by Morrow County Resolution R-29-2000.*

**Response:** PGE does not anticipate needing new access to county roads. If access is needed, Condition 4.5 of the First Amended Site Certificate for CGS requires that the certificate holder obtain the permit. PGE proposes to implement actions included in RFA2 in compliance with this site certificate condition.

MCZO 9.060. Sewage Disposal Approval

*No zoning permit shall be issued for any use or structure which will have an individual sanitary subsurface disposal system until written approval is obtained by the applicant for said system.*

**Response:** PGE will obtain a Construction Permit for On-site Sewage Treatment System from the Umatilla County Public Health Department for the septic system. Therefore, CGS will remain in compliance with its Zoning Permit.

## **Morrow County Comprehensive Plan**

### ***Agricultural Lands Element***

*Agricultural Policy 1: It shall be the policy of Morrow County, Oregon, to preserve agricultural lands, to protect agriculture as its main economic enterprise, to balance economic and environmental considerations, to limit non-compatible nonagricultural development, and to maintain a high level of livability in the County.*

**Response:** The locations of the septic system, water pipeline, security guard station, and office/warehouse building were selected, in part, to minimize land disturbance and avoid critical resource areas. The sites selected do not impact any cultivated farmland and are sites currently owned by PGE.

*Agricultural Policy 4: It shall be the policy of the County to develop and implement comprehensive and definitive criteria for the evaluation of all non-farm developments to ensure that all objectives and policies set forth herein are complied with to the maximum level possible.*

**Response:** The new septic, water pipeline, security guard station, and office/warehouse building will be constructed in the EFU zone in Morrow County and are considered an "accessory use or accessory structure" as defined in MCZO 1.030 and are therefore not considered a "primary" use under the MCZO.

### ***Directly Applicable Statutes and Administrative Rules***

#### **ORS 215.296(1)**

- A. *In the Exclusive Farm Use zone a conditional use may be approved only when the County finds that the use will not:*
1. *Force a significant change in accepted farm or forest practices on surrounding lands devoted to farm or forest use; or*
  2. *Significantly increase the cost of accepted farm or forest practices on surrounding lands devoted to farm or forest use.*

**Response:** The new septic system, water pipeline, security guard station, and office/warehouse building will each be an "accessory use or accessory structure" to CGS and will not force significant changes in farm practices or cause significant increases in the costs of accepted farm practices on surrounding lands devoted to farm use.

#### **OAR 660-033-130(5)**

**Response:** The criteria of OAR 660-033-130(5) are identical to ORS 215.296(1) and are addressed above.

### **Statewide Planning Goal 3–Agricultural Lands**

As discussed in the sections above, the proposed isolation and separation of infrastructure currently shared by CGS and BCP and the construction and operation of the septic system, water pipeline, security guard station, and office/warehouse building described in this RFA2 will not alter the Council's basis for its previous findings that an exception to the statewide planning goal for

construction of the Carty Solar Farm is justified. These proposed changes do not require an exception to the goal; therefore, the Facility will continue to comply with the standard if the Council approves the proposed RFA2.

## **Statewide Planning Goal 6–Air, Water, and Land Resources Quality**

### ***Air Quality***

The proposed isolation and separation of infrastructure currently shared by CGS and BCP and the construction and operation of the septic system, water pipeline, security guard station, and office/warehouse building described in this RFA2 will not alter the Council’s basis for its previous findings that the Facility complies with this standard, and the Facility will continue to comply with the standard if the Council approves the proposed RFA2.

### ***Water Quality***

The proposed isolation and separation of infrastructure currently shared by CGS and BCP and the construction and operation of the septic system, water pipeline, security guard station, and office/warehouse building described in this RFA2 will not alter the quantity of water usage for CGS. Discharges to Carty Reservoir will also remain the same. Sanitary sewer waste from CGS will be managed by the existing BCP sewage lagoons until the new septic system is constructed, at which time sanitary waste from both CGS and the remaining administrative buildings after BCP ceases operations will be managed by the septic system. The existing sewage lagoons are covered under WPCF permit number 100189 issued by DEQ, which expires April 30, 2023. PGE would continue to satisfy the conditions of the permit to ensure that waste and process discharges do not exceed the carrying capacity, degrade, or threaten the availability of water resources. Umatilla County Public Health will issue a Construction Permit for On-site Sewage Treatment System for construction and operation of the new septic system. On January 10, 2020, the Umatilla County Public Health Department performed a site evaluation and determined the site to be acceptable for a standard, non-residential septic system. The system will be sited with enough distance from groundwater and surface waters to prevent pollution to water resources and will be consistent with Goal 6.

### ***Land Resources***

Potential impacts to land resources are addressed above under the discussion of Statewide Planning Goal 3.

### ***Conditions***

The Site Certificate for CGS issued in 2012 included seven site certificate conditions for land use to ensure consistency with the land use standard. The Site Certificate on Amendment 1 for CGS did not alter the conditions applied to land use. Similarly, no modifications to existing conditions or new conditions associated with land use are necessary for RFA2, except for clarifying the application of Condition 6.17 to pertain specifically to Carty Solar Farm. Therefore, the continued operation of related or supporting facilities currently authorized under the Site Certificate for CGS or BCP and the construction and operation of new minor infrastructure (*see* Section 5) will not alter the Council’s basis for its previous findings that an exception to the statewide planning goal is justified. The proposed changes in RFA2 do not require an exception to the goal, and therefore the Facility

will continue to comply with this standard if the Council approves the proposed RFA2. The Council may conclude that CGS will continue to comply with OAR 345-022-0030.

## **8.5 OAR 345-022-0040 Protected Areas**

*(1) Except as provided in sections (2) and (3), the Council shall not issue a site certificate for a proposed facility located in the areas listed below. To issue a site certificate for a proposed facility located outside the areas listed below, the Council must find that, taking into account mitigation, the design, construction and operation of the facility are not likely to result in significant adverse impact to the areas listed below. References in this rule to protected areas designated under federal or state statutes or regulations are to the designations in effect as of May 11, 2007:*

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

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

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

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

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

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

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

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

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

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

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

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

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

*Coastal Oregon Marine Experiment Station, Astoria.*

*Mid-Columbia Agriculture Research and Extension Center, Hood River.*

*Agriculture Research and Extension Center, Hermiston.*

*Columbia Basin Agriculture Research Center, Pendleton.*

*Columbia Basin Agriculture Research Center, Moro.*

*North Willamette Research and Extension Center, Aurora.*

*East Oregon Agriculture Research Center, Union.*

*Malheur Experiment Station, Ontario.*

*Eastern Oregon Agriculture Research Center, Burns.*

*Eastern Oregon Agriculture Research Center, Squaw Butte.*

*Central Oregon Experiment Station, Madras.*

*Central Oregon Experiment Station, Powell Butte.*

*Central Oregon Experiment Station, Redmond.*

*Central Station, Corvallis.*

*Coastal Oregon Marine Experiment Station, Newport.*

*Southern Oregon Experiment Station, Medford.*

*Klamath Experiment Station, Klamath Falls.*

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

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

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

**Response:** Exhibit L of the 2011 ASC included an analysis of potential impacts to Protected Areas within 20 miles of the proposed Site Boundary for CGS. The Site Boundary included the proposed Grassland Switchyard, a new 500 kV transmission line between CGS and the Grassland Switchyard, and a new approximately 17-mile 500 kV transmission line between the Grassland Switchyard and the Slatt Substation. Exhibit L prepared in support of RFA1 in 2018 included a similar analysis of potential impacts to Protected Areas within 20 miles of the RFA1 Site Boundary for the Carty Solar Farm.

As documented in Exhibit L for the ASC and RFA1, existing conditions and potential project-related impacts to Protected Areas from noise, visual changes, traffic, water use, and wastewater disposal were assessed. Exhibit L for the 2011 ACS identified 11 Protected Areas within 20 miles of the

original Site Boundary, the closest of which was the Horn Butte Area of Critical Environmental Concern (ACEC) administered by the Bureau of Land Management. The Horn Butte ACEC is located approximately 800 feet south of the existing 500 kV Grassland to Slatt transmission line. Exhibit L of RFA1 identified nine Protected Areas within 20 miles of the RFA1 Site Boundary for the Carty Solar Farm, all of which were previously identified and analyzed in Exhibit L for the 2011 ASC.

Following review of the 2011 ASC and 2018 RFA1 and supporting Exhibit L, the Council found that noise, Facility-related traffic, water use, and wastewater disposal during construction and operation of the proposed Facility would not result in significant adverse impacts to Protected Areas. However, due to concerns of potential visual impacts, primarily associated with exhaust towers and Facility lighting, the Council included Conditions 6.12, 6.13, and 6.14 in the 2012 Site Certificate for the protection of scenic resources (*see* Section 8.9 in this RFA2). The same conditions to protect scenic resources were carried forward into the First Amended Site Certificate for CGS issued in 2018.

PGE proposes to operate CGS, including those actions described in this RFA2, in compliance with Site Certificate Conditions 6.12, 6.13, and 6.14. Therefore, the continued operation of related or supporting facilities currently authorized under the Site Certificate for CGS or BCP and the construction and operation of new minor infrastructure (*see* Section 5) will not alter the Council's basis for its previous findings that CGS complies with this standard. The Council may conclude that CGS will continue to comply with OAR 345-022-0040.

## 8.6 OAR 345-022-0050 Retirement and Financial Assurance

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

- (1) The site, taking into account mitigation, can be restored adequately to a useful, non-hazardous condition following permanent cessation of construction or operation of the facility.*
- (2) The applicant has a reasonable likelihood of obtaining a bond or letter of credit in a form and amount satisfactory to the Council to restore the site to a useful, non-hazardous condition.*

**Response:** Exhibit W of the 2011 ASC and Exhibit W for RFA1 detail actions to restore CGS to a useful, non-hazardous condition upon retirement per OAR 345-027-0110. In the First Amended Site Certificate, the Council found that the site of the Facility, subject to compliance with Site Certificate Conditions 15.1 through 15.7, could be restored adequately to a useful, non-hazardous condition following permanent cessation of construction or operation of the Facility.

In accordance with Condition 15.1, a letter of credit for CGS is currently maintained and updated annually for portions of CGS that have been constructed. In the most recent update (for 2020), the letter of credit stands at \$9,114,000. PGE will update this amount to include related or supporting facilities per this RFA2, per the proposed modified Site Certificate Condition 15.1:

15.1(g). The certificate holder shall provide a revised letter of credit to include CGS and all related or supporting facilities per RFA2 within 60 days of execution of the Site Certificate on Amendment No. 2.

Final decommissioning costs associated with the related or supporting facilities that will be added to the site certificate and described in this RFA2 are still being developed. Once developed, the cost

estimate will be included as Attachment 4 of this RFA2. A letter of credit to the certificate holder will be provided within 60 days of execution of the Second Amended Site Certificate for CGS that will include all related or supporting facilities.

PGE proposes to operate CGS, including new facilities described in this RFA2, in compliance with existing and Site Certificate Conditions 15.1 (as modified in this RFA2) through 15.7. Therefore, the continued operation of related or supporting facilities currently authorized under the Site Certificate for CGS or BCP and the construction and operation of new minor infrastructure (see Section 5) will not alter the Council's basis for its previous findings that CGS complies with this standard. The Council may conclude that CGS will continue to comply with OAR 345-022-0050.

## **8.7 OAR 345-022-0060 Fish and Wildlife Habitat**

*To issue a site certificate, the Council must find that the design, construction and operation of the facility, taking into account mitigation, are consistent with:*

*(1) The general fish and wildlife habitat mitigation goals and standards of OAR 635-415-0025(1) through (6) in effect as of February 24, 2017, and*

*(2) For energy facilities that impact sage-grouse habitat, the sage-grouse specific habitat mitigation requirements of the Greater Sage-Grouse Conservation Strategy for Oregon at OAR 635-415-0025(7) and OAR 635-140-0000 through -0025 in effect as of February 24, 2017.*

### **Response:**

#### ***Background***

Exhibit P for the 2011 ASC included an analysis of fish and wildlife habitats in the vicinity of CGS, the Grassland Switchyard, and the ROW of a 500 kV transmission line between the Grassland Switchyard and the Slatt Substation proposed as part of the 2011 ASC. The analysis area for fish and wildlife habitat impacts was the area within the original Site Boundary and areas within 0.5 mile of all ground-disturbing activities that would occur during construction.

As part of the ASC, PGE committed to developing a WHMMP to provide compensation for impacts that could not be avoided or minimized, in compliance with the ODFW habitat mitigation goals and standards (OAR 635-415-0025). PGE also provided additional habitat mitigation in the form of a permanent conservation easement on a habitat mitigation area (HMA) by creating a 78-acre HMA for Unit 1, located northeast of BCP and on the western edge of the voluntary Multi-Species Candidate Conservation Agreement with Assurances Conservation Area associated with BCP.

Council concluded that construction and operation of the CGS would comply with the Fish and Wildlife Habitat Standard (OAR 345-022-0060) with the adoption of Conditions 10.1-10.21 to ensure compliance with the general fish and wildlife habitat mitigation goals and standards OAR 635-415-0025(1) through (6).

Exhibit P prepared in support of RFA1 in 2018 included an analysis of fish and wildlife habitats within and 0.5 mile from the RFA1 Site Boundary. Habitat mapping, wetland and waterbody delineations, and species-specific Washington ground squirrel (*Urocitellus washingtoni*) (herein, WGS) surveys were completed in the relevant portions of analysis area as they related to RFA1. WGS surveys were conducted in 2016 and 2017 in portions of the analysis area within the CGS



Habitat Mitigation Area and WGS activity areas being monitored under the CGS WHMMP and within existing PGE conservation areas associated with BCP. Incidental wildlife and noxious weed observations were also recorded. The First Amended Site Certificate carried forward all site certificate conditions and amended the WHMMP and Revegetation and Noxious Weed Control Plan.

### ***Evaluation of RFA2***

The proposed RFA2 Site Boundary would reduce portions of the current Site Boundary (southwest of the Grassland Switchyard) but would add new area that is currently within the BCP Site Boundary and authorized under the Site Certificate for BCP, including the Carty Reservoir (and associated intake and discharge structures) and the 230 kV BCP to Dalreed and 500 kV Grassland to Slatt transmission lines. No improvements or alterations are currently proposed for these existing and permitted facilities. The RFA2 analysis area for fish and wildlife habitat includes disturbance areas that would result from construction and operation of the new septic system, water pipeline, security guard station, and office/warehouse building.

The changes included in this RFA2 do not require any new conditions. Existing conditions 10.1-10.21 (with minor modifications) are detailed in Attachment 1. Collectively, these conditions are sufficient for continued protection of fish and wildlife habitat. PGE will continue to operate CGS, including the changes proposed in this RFA2, according to these existing conditions. Modifications to existing site certificate conditions include incorporating the portions of the RFA2 Site Boundary that coincide with new and existing facilities into the 5-year interval surveys, extending for the life of the project. In coordination with ODFW, species surveys would be targeted to focus on suitable habitat conditions for the BCP to Dalreed transmission line where no habitat characterization or survey records are available. Revisions to the existing mitigation and monitoring plan could occur depending on the survey results. This commitment is also detailed in the amended WHMMP is provided in Attachment 5 of this RFA2.

PGE proposes to operate CGS in compliance with existing and modified Site Certificate Conditions 10.1 through 10.21. Therefore, the continued operation of related or supporting facilities currently authorized under the site certificate for CGS or BCP and the construction and operation of new minor infrastructure (*see* Section 5) will not alter the Council's basis for its previous findings that CGS complies with this standard. The Council may conclude that CGS will continue to comply with OAR 345-022-0060.

## **8.8 OAR 345-022-0070 Threatened and Endangered Species**

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

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

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

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

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

**Response:**

***Background***

Exhibit Q of the 2011 ASC included an analysis of potential threatened and endangered species in the vicinity of CGS, the Grassland Substation, and the ROW of the 500 kV Grassland to Slatt transmission line proposed as part of the 2011 ASC (paralleling the existing BCP to Slatt transmission line between Grassland and Slatt).

Field investigations were conducted for raptor nests, WGS, special status plants and wildlife, wetlands and streams, and general wildlife occurrence and habitat in 2009 and 2010. During the 2009 surveys, biologists recorded numerous potential WGS burrows near the CGS, as well as along the 500kV Grassland to Slatt transmission line route proposed as part of the 2011 ASC; however, no evidence of occupation was detected. Due to the suitability of the soils and abundance of potential burrows in these areas, portions of the transmission corridor located west of CGS were considered potential WGS habitat and were included in the 2010 surveys. No evidence of WGS was observed along the 500 kV Grassland to Slatt transmission line corridor proposed as part of the 2011 ASC during the 2010 surveys. However, these surveys verified the presence of WGS in two general areas outside of the CGS disturbance area proposed under the 2011 ASC, but within the original Site Boundary. A group of active WGS burrows was located approximately 705 feet north of where the current CGS facility is located.

No state or federally listed plant species were found during the 2009 or 2010 surveys near CGS or within the transmission line corridor. Habitat types present on-site are not ideal for the special status plant species potentially occurring in the area.

As documented in the Final Order and established in the Site Certificate for CGS, the Council concluded that construction and operation of the CGS as proposed as part of the 2011 ASC would comply with the Threatened and Endangered Species Standard (OAR 345-022-0070), with inclusion of Site Certificate Conditions 10.1-10.21. Among other stipulations, these conditions required, in consultation with the ODFW, the development of WHMMP; creation, enhancement, and maintenance of a habitat mitigation area, and post-construction surveys on known WGS colonies. The post-construction surveys are required on PGE-owned lands in the CGS area, both within the HMA and in areas where known active burrows were recorded during preconstruction field surveys. Post-construction surveys are required in year 1, year 3, and year 5 after operations have begun, and then at least every 5 years after that for the life of the project, in years divisible by five.

The RFA1 analysis area for threatened and endangered plant and animal species included all areas within the RFA1 Site Boundary and all areas within 5 miles from the RFA1 Site Boundary. Portions of the RFA1 Site Boundary most relevant to this RFA2 include areas located north of Carty

Reservoir (see Figure 2a, Exhibit Q of RFA1). Survey data from 2013 showed active WGS sites in the analysis area north of BCP; however, four of these locations were spot checked in 2016, and no signs of WGS activity were found.

As documented in the Final Order on Amendment 1, the Council again concluded that, in carrying forward Site Certificate Conditions 10.1-10.21 (as modified), changes proposed in RFA1 would comply with the Threatened and Endangered Species Standard (OAR 345-022-0070).

### ***Evaluation of RFA2***

The RFA2 analysis area for threatened and endangered species includes disturbance areas that would result from construction and operation of the new septic system, water pipeline, security guard station, and office/warehouse building. Based on the available data, it was determined that the WGS is the only state-listed wildlife species that could occur in the analysis area. Previous surveys completed for the 2011 ASC and 2018 RFA1 did not detect presence of other special status plant and animal species within the RFA2 analysis area. The analysis area does not coincide with Category 1 habitat.

The changes included in this RFA2 do not require any new site certificate conditions. Site Certificate Conditions 10.1-10.21 (with minor modifications) are detailed in Attachment 1. Collectively, these conditions will ensure continued protection of threatened and endangered species. PGE will continue to operate CGS, including the changes proposed in this RFA2, according to these conditions. Accordingly, and consistent with Condition 10.14, surveys will be conducted for WGS within disturbance areas prior to planned construction activities associated with the new septic system, water pipeline, and security guard station to determine their occupied area, surveys are not necessary for the office/warehouse building because it would be built in a gravel area within the existing fence line. As described in Section 8.7, PGE proposes to apply Condition 10.1 (as modified) of the First Amended Site Certificate and elements of the WHMMP to new areas incorporated into the RFA2 Site Boundary that coincide with new and existing facilities into the 5-year interval surveys, extending for the life of the project. In coordination with ODFW, species surveys would be targeted to focus on suitable habitat conditions for the BCP to Dalreed transmission line where no habitat characterization or survey records are available. Revisions to the existing mitigation and monitoring plan could occur depending on the survey results. Surveys conducted in 2010 yielded no evidence of WGS along the 500 kV Grassland to Slatt transmission line corridor proposed as part of the 2011 ASC. These findings are also assumed to apply to the *existing* 500 kV BCP to Slatt transmission line, since the existing line coincides with the survey area for the Grassland to Slatt transmission line proposed as part of the 2011 ASC. Mitigation measures and best management practices will be followed to reduce the potential for impacting WGS.

PGE proposes to operate CGS, including changes proposed in this RFA2, in compliance with existing Site Certificate Conditions 10.1 (as modified) through 10.21. Therefore, the continued operation of related or supporting facilities currently authorized under the Site Certificate for CGS or BCP and the construction and operation of new minor infrastructure (see Section 5) will not alter the Council's basis for its previous findings that CGS complies with this standard. The Council may conclude that CGS will continue to comply with OAR 345-022-0070.

## 8.9 OAR 345-022-0080 Scenic Resources

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

### **Response:**

As documented in Exhibit R for the ASC, project-related impacts to Scenic Resources within 10 miles of the original Site Boundary for CGS were assessed. Exhibit R for the ASC included an assessment of potential visual or aesthetic impacts from CGS, with focus on the Facility's most prominent features (exhaust stacks, large buildings [up to 100 feet in height], the Grassland Switchyard, and the 500 kV transmission line proposed as part of the 2011 ASC). The analysis concluded that visual impacts would be limited due to the existing industrial character of the site.

As documented in the Final Order, the Council found that the design, construction, and operation of CGS, considering mitigation, would comply with the Scenic Resources Standard (OAR 345-022-0080). The site certificate was conditioned to mitigate visual impacts during construction and to address concerns of potential operational visual impacts, primarily associated with exhaust towers and lighting (Conditions 6.12-6.14).

The analysis of changes proposed in RFA1 considered the same scenic resources present within 10 miles of the RFA1 Site Boundary for the Carty Solar Farm. Following review of the RFA1 and supporting Exhibit R, the Council again found, as documented in the Final Order on Amendment 1, the design, construction, and operation of the Carty Solar Farm and its supporting facilities would comply with the Scenic Resources Standard (OAR 345-022-0080). The Council carried forward the same conditions related to protecting Scenic Resources from the 2012 Site Certificate for CGS into the First Amended Site Certificate for CGS issued in 2018.

The potential septic system and water pipeline will be constructed underground, and the ground surface will be reclaimed to appear similar to existing conditions and therefore would not impact scenic resources or values. The security guard station will be small in stature and located within the existing Site Boundary. The office/warehouse building will be located within the existing fence line and similar in size and appearance to the existing administrative building. All new facilities will be constructed in areas already characterized as industrial.

PGE proposes to continue operation of CGS, including changes proposed in this RFA2, in compliance with existing Site Certificate Conditions 6.12-6.14. Therefore, the continued operation of related or supporting facilities currently authorized under the Site Certificate for CGS or BCP and the construction and operation of new minor infrastructure (see Section 5) will not alter the Council's basis for its previous findings that CGS complies with this standard. The Council may conclude that CGS will continue to comply with OAR 345-022-0080.

## 8.10 OAR 345-022-0090 Historic, Cultural and Archaeological Resources

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

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

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

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

### **Response:**

#### ***Background***

Exhibit S of the 2011 ASC included an analysis of potential impacts to historic, cultural, and archaeological resources in the vicinity of the proposed CGS, including related or supporting facilities. The analysis area was approximately 780 acres and included portions of the Site Boundary that would be impacted by the construction and operation of the Grassland Switchyard, 500 kV transmission line between CGS and the Grassland Switchyard, and approximately 17-mile 500 kV transmission line between the Grassland Switchyard and the Slatt Substation as proposed as part of the 2011 ASC.

As documented in Exhibit S for the ASC, field surveys conducted in 2009 identified two prehistoric archaeological isolates and two historic period archaeological sites, none of which were considered eligible for the National Register of Historic Places (NRHP). One additional previously recorded site near Carty Reservoir originally recorded in the 1970s (35MW19) and identified during background research for the ASC could not be located during field surveys in 2009 and 2016. The site was subsequently determined by the Oregon State Historic Preservation Office to be ineligible for listing. A second recorded site (35MW15) was identified in 2016 during a records review for RFA1. The 2012 Site Certificate for CGS included six site certificate conditions for Historic, Cultural, and Archaeological Resources. The Council concluded that with the application of these conditions, CGS complied with Historic, Cultural and Archaeological Resources Standard (OAR 345-022-0090).

Exhibit S prepared in support of RFA1 in 2018 included a similar analysis of potential impacts to historic, cultural, and archaeological resources for an approximately 321.5-acre disturbance area within the RFA1 Site Boundary for the Carty Solar Farm. During the 2016 field survey for RFA1, two additional isolates (one a prehistoric artifact and the other a historic-period artifact) were identified. Neither isolate was recommended as eligible for listing in the NRHP.

These same conditions were carried forward to the First Amended Site Certificate, with the following changes: the Council deleted a condition related to site 35MW19 (Condition 11.1) and modified another (Condition 11.6) to remove Condition 11.6(i)(a) and add Condition 11.6(f)(ii) to require amendment of the Inadvertent Discovery Plan to include coordination with the Confederated Tribes of the Umatilla Indian Reservation during proposed ground-disturbing activities.

## ***Evaluation of RFA2***

Despite extensive survey completed for the 2011 ASC and the 2018 RFA1, there remain areas within the proposed Site Boundary for this RFA2 that have not been recently surveyed for historic, cultural, and archaeological resources. These primarily include the ROW for the 230 kV BCP to Dalreed transmission line and areas along the western and southern shores of the Carty Reservoir and potentially the footprint of the proposed new septic and security guard station. The locations of the proposed new septic, security guard station, water pipeline, and office/warehouse building have been previously surveyed.

PGE proposes to carry forward the site certificate conditions listed in Section 11.0 of the First Amended Site Certificate for CGS, and as such, commits to pre-construction surveys in disturbance areas that have not been previously surveyed. Therefore, the continued operation of related or supporting facilities currently authorized under the Site Certificate for CGS or BCP and the construction and operation of new minor infrastructure (see Section 5) will not alter the Council's basis for its previous findings that CGS complies with this standard. The Council may conclude that CGS will continue to comply with OAR 345-022-0090.

## **8.11 OAR 345-022-0100 Recreation**

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

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

**Response:** Exhibit T for the 2011 ASC and the 2018 RFA1 evaluated potential project-related impacts to Recreational Resources located within 5 miles of the original Site Boundary for CGS and the RFA1 Site Boundary for the Carty Solar Farm, respectively.

Exhibit T for the 2011 ASC identified five recreational resources within the analysis area that the Council also found to be important recreational resources as defined by OAR 345-022-0100(1). These included the Columbia River Waterfront, Lewis and Clark Historic Trail, the Port of Arlington RV park and marina, the Blue Mountain Scenic Byway (State Route 74), and a portion of the Oregon Historic Trail located approximately 4 to 6 miles south of CGS. The analysis concluded that noise, traffic, visual impacts, water usage, or wastewater management activities associated with construction and operation of CGS and related or supporting facilities would not result in significant impacts to these important recreational resources. Following review of the ASC, the Council concurred with these findings and did not adopt any site certificate conditions specific to the

Recreation Standard. The Council found that the design, construction, and operation of CGS and related or supporting facilities would comply with the Recreation Standard (OAR 345-022-0080).

In consideration of the Carty Solar Farm, the 2018 RFA1 addressed the same recreation resources that were evaluated in the 2011 ASC. The Council again concluded that changes considered in RFA1 would comply with the Recreation Standard (OAR 345-022-0080). No conditions specific to Recreational Resources were applied to the First Amended Site Certificate for CGS.

Consistent with these findings, PGE does not propose any new site certificate conditions specific to recreation resources. The continued operation of CGS, including related or supporting facilities currently authorized under the Site Certificate for CGS or BCP and the construction and operation of new minor infrastructure (*see* Section 5), will not alter the Council's basis for its previous findings that CGS complies with this standard. The Council may conclude that CGS will continue to comply with OAR 345-022-0100.

## 8.12 OAR 345-022-0110 Public Services

*(1) Except for facilities described in sections (2) and (3), to issue a site certificate, the Council must find that the construction and operation of the facility, taking into account mitigation, are not likely to result in significant adverse impact to the ability of public and private providers within the analysis area described in the project order to provide: sewers and sewage treatment, water, storm water drainage, solid waste management, housing, traffic safety, police and fire protection, health care and schools.*

**Response:** Exhibit U of the 2011 ASC addressed the potential impacts of the proposed CGS on public and private service providers within the Site Boundary and within 10 miles of the Site Boundary. Exhibit U prepared in support of RFA1 included a similar analysis of potential impacts to public services related to the Carty Solar Farm. Public services included sewers, sewage treatment, water, stormwater drainage, solid waste management, housing, traffic safety, police and fire protection, health care, and schools.

Following review of the 2011 ASC, the Council found, as documented in the Final Order, that the Facility would not have significant adverse impacts to sewers, sewage treatment, stormwater drainage, solid waste management, housing, police and fire protection, health care, or schools. These findings were predicated on Site Certificate Conditions 6.3, 6.17 (as modified in this RFA2), 6.27, 8.1, 8.2, 8.3, 8.7, 9.1 (as modified in this RFA2), and 10.22 that address fire protection, health care, and traffic safety to ensure there would be no significant impacts to these Public Services from construction and operation of CGS and related or supporting facilities. Following review of the 2018 RFA1, the Council again determined CGS complied with OAR 345-022-0110, carrying forward these site certificate conditions to the First Amended Site Certificate, with minor modifications.

PGE has assessed the potential impacts to public services from transferring authorization of existing related or supporting facilities from the Site Certificate for BCP to the Site Certificate for CGS, and operation of the proposed new septic system, water pipeline, security guard station, and office/warehouse building described in this RFA2. These activities would require fewer construction workers, generate fewer peak construction trips, and require shorter construction durations than activities addressed in the previous 2011 ASC or 2018 RFA1.

PGE proposes continued operation of CGS, including changes proposed in this RFA2, in compliance with relevant existing Site Certificate Conditions in Sections 6.0 (as modified), 8.0, 9.0 (as modified), and 10.0 listed above. Therefore, the continued operation of related or supporting facilities currently authorized under the Site Certificate for CGS or BCP and the construction and operation of new minor infrastructure (see Section 5) will not alter the Council's basis for its previous findings that CGS complies with this standard. The Council may conclude that CGS will continue to comply with OAR 345-022-0110.

### **8.13 OAR 345-022-0120 Waste Minimization**

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

*(a) The applicant's solid waste and wastewater plans are likely to minimize generation of solid waste and wastewater in the construction and operation of the facility, and when solid waste or wastewater is generated, to result in recycling and reuse of such wastes;*

*(b) The applicant's plans to manage the accumulation, storage, disposal and transportation of waste generated by the construction and operation of the facility are likely to result in minimal adverse impact on surrounding and adjacent areas.*

**Response:** Exhibit V of the 2011 ASC and 2018 RFA1 addressed the potential for the Facility's solid waste and wastewater plans to minimize the generation of solid waste and wastewater during construction and operation and to recycle and reuse such wastes if generated. Following review of the 2011 ASC, the Council adopted Conditions 6.2, 6.3, 6.24, 6.25, 10.22, 10.24, 10.30, 10.32, and 10.36 to address waste and wastewater minimization in the 2011 Site Certificate for CGS. As documented in the Final Order on Amendment 1, the Council again found that, with the inclusion of Conditions 6.3 and 10.22, CGS would continue to comply with OAR 345-022-0120. These conditions were carried forward in the First Amended Site Certificate.

PGE proposes to continue operation of CGS, including changes proposed in this RFA2, in compliance with existing site certificate Conditions 6.2, 6.3, 6.24, 6.25, 10.22, 10.24, 10.30, 10.32, and 10.36. Therefore, the continued operation of related or supporting facilities currently authorized under the Site Certificate for CGS or BCP and the construction and operation of new minor infrastructure (see Section 5) will not alter the Council's basis for its previous findings that CGS complies with this standard. The Council may conclude that CGS will continue to comply with OAR 345-022-0120.

### **8.14 OAR 345-024-0090 Transmission Lines**

*To issue a site certificate for a facility that includes any transmission line under Council jurisdiction, the Council must find that the applicant:*

*(1) Can design, construct and operate the proposed transmission line so that alternating current electric fields do not exceed 9 kV per meter at one meter above the ground surface in areas accessible to the public;*

*(2) Can design, construct and operate the proposed transmission line so that induced currents resulting from the transmission line and related or supporting facilities will be as low as reasonably achievable.*



**Response:** Exhibit AA of the 2011 ASC described the results of an analysis of the potential safety hazards associated with electric fields around existing and proposed transmission lines located within the same corridor as the existing 500 kV BCP to Slatt transmission line. Five different transmission line scenarios were analyzed, including one that analyzed existing conditions at the time (Case 1), which included the existing 500 kV BCP to Slatt transmission line with no other new parallel transmission lines. This scenario is consistent with the current existing condition. The electric field analysis for this scenario calculated the electric field assuming a maximum loading of the 500 kV transmission line and a minimum conductor clearance of 35 feet above the ground. The maximum electric field strength at 1 meter above the ground surface was calculated to be 7.695 kV per meter near BCP and 8.547 kV per meter near the existing Slatt substation where other existing lines are present. These calculated field strengths do not exceed the 9 kV per meter limit established in OAR 345-024-0090(1). Other scenarios that included construction and operation of new additional lines yielded similar results.

A related analysis of induced current described in Exhibit AA of the 2011 ASC determined that the potential risk for shock or injury from induced voltage from existing or proposed new transmission lines along the BCP to Slatt corridor would be significantly reduced because of the lack of existing structures within 200 feet of the corridor at the time the analysis was conducted.

In the 2011 Site Certificate for CGS, the Council included Conditions 7.1 and 7.9, which use standard condition language from OAR 345-027-0023(4) to address public safety for transmission lines, including the risk of shock or injury from induced current. With the implementation of these conditions, the Council found that the proposed Facility complied with the Siting Standard for Transmission Lines in OAR 345-024-0090.

Exhibit AA prepared in support of RFA1 in 2018 included a similar analysis of potential safety hazards associated with electric fields around the proposed 34.5 kV transmission lines proposed for the Carty Solar Farm. That analysis calculated that electric fields for the three transmission line route options being considered at the time would range from 0.01 to 8.83 kV per meter, which was also below the 9 kV per meter standard established in OAR 345-024-0090(1).

Following review of RFA1 and Exhibit AA, the Council found, as documented in the Final Order on Amendment 1 of the Site Certificate, that the 34.5 kV transmission lines proposed for the Carty Solar Farm would not exceed the 9 kV per meter limit at 1 meter above ground level. The Council carried forward to the First Amended Site Certificate, without amendments, the two standard conditions from the 2012 Site Certificate for CGS that address public safety for transmission lines and the risk of shock or injury from induced current.

While PGE has not conducted modeling to assess the electric fields associated with the existing 230 kV BCP to Dalreed transmission line or existing 34.5 kV BCP to railroad crossing at Tower Road transmission lines authorized under the Site Certificate for BCP, the electric fields associated with these transmission lines are not expected to exceed the 9 kV per meter limit at 1 meter above ground level based on the results of analysis conducted for the original ASC and RFA1.

PGE proposes to incorporate exiting transmission lines currently authorized under the site certificate for BCP into the site certificate for CGS in compliance with Site Certificate Condition 7.9. PGE would continue to operate CGS in compliance with existing Site Certificate Conditions 7.1, modified to clarify its relevance to construction of new transmission lines constructed after June 29,

2012 (see Attachment 1), and Condition 7.9. Therefore, the continued operation of related or supporting facilities currently authorized under the Site Certificate for CGS or BCP and the construction and operation of new minor infrastructure (see Section 5) will not alter the Council's basis for its previous findings that CGS complies with this standard. The Council may conclude that CGS will continue to comply with OAR 345-024-0090.

## **9 Other Applicable Requirements – OAR 345-027-0360(1)(e)**

### **9.1 Noise Control Regulations**

#### ***OAR 340-035-0035 Noise Control Regulations for Industry and Commerce***

##### *(1) Standards and Regulations:*

\*\*\*

*(b) New Noise Sources: (A) New Sources Located on Previously Used Sites. No person owning or controlling a new industrial or commercial noise source located on a previously used industrial or commercial site shall cause or permit the operation of that noise source if the statistical noise levels generated by that new source and measured at an appropriate measurement point, specified in subsection (3)(b) of this rule, exceed the levels specified in Table 8, except as otherwise provided in these rules. For noise levels generated by a wind energy facility including wind turbines of any size and any associated equipment or machinery, subparagraph (1)(b)(B)(iii) applies.*

**Response:** Construction of the septic system, water pipeline, security guard station, or office/warehouse building will not alter the Council's basis for its previous findings that the Facility complies with the standard, and the Facility will continue to comply with the standard if the Council approves RFA2. All new noise impacts will comply with DEQ's applicable noise control standards. Noise from construction activities associated with RFA2 will generally be of lesser magnitude and duration than construction of Unit 1 and existing related or supporting facilities. Construction activities will be limited to daytime hours. In the event nighttime construction is required for specific activities, activities will be of limited duration.

### **9.2 Removal-Fill Law**

A removal-fill permit will not be required because no impacts to waters of the state are expected. No project features occur in water features, and no removal-fill in waters of the state will be necessary to construct or operate CGS.

### **9.3 Water Pollution Control Facilities Permit**

PGE is currently working with DEQ to determine what modification will be made to the WPCF permit. Additional details will be provided later, and a draft WPCF permit will be provided as an Attachment 2. In general, the modifications being requested include minor changes in sampling frequency and location for surface water impoundments, to allow for additional approved discharges from CGS to Carty Reservoir, and new groundwater monitoring requirements as a result of the Water Quality Analysis Report completed per Schedule C Condition 7.

## **10 Property Owners List**

*OAR 345-027-0360(1)(f) - An updated list of the owners of property located within or adjacent to the site of the facility, as described in OAR 345-021-0010(1)(f)*

An updated list of property owners located within the proposed RFA2 Site Boundary or within 500-feet of the proposed RFA2 Site Boundary is provided in Attachment 6. The information is current as of February 18, 2020.

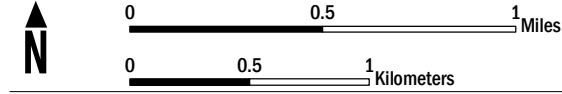
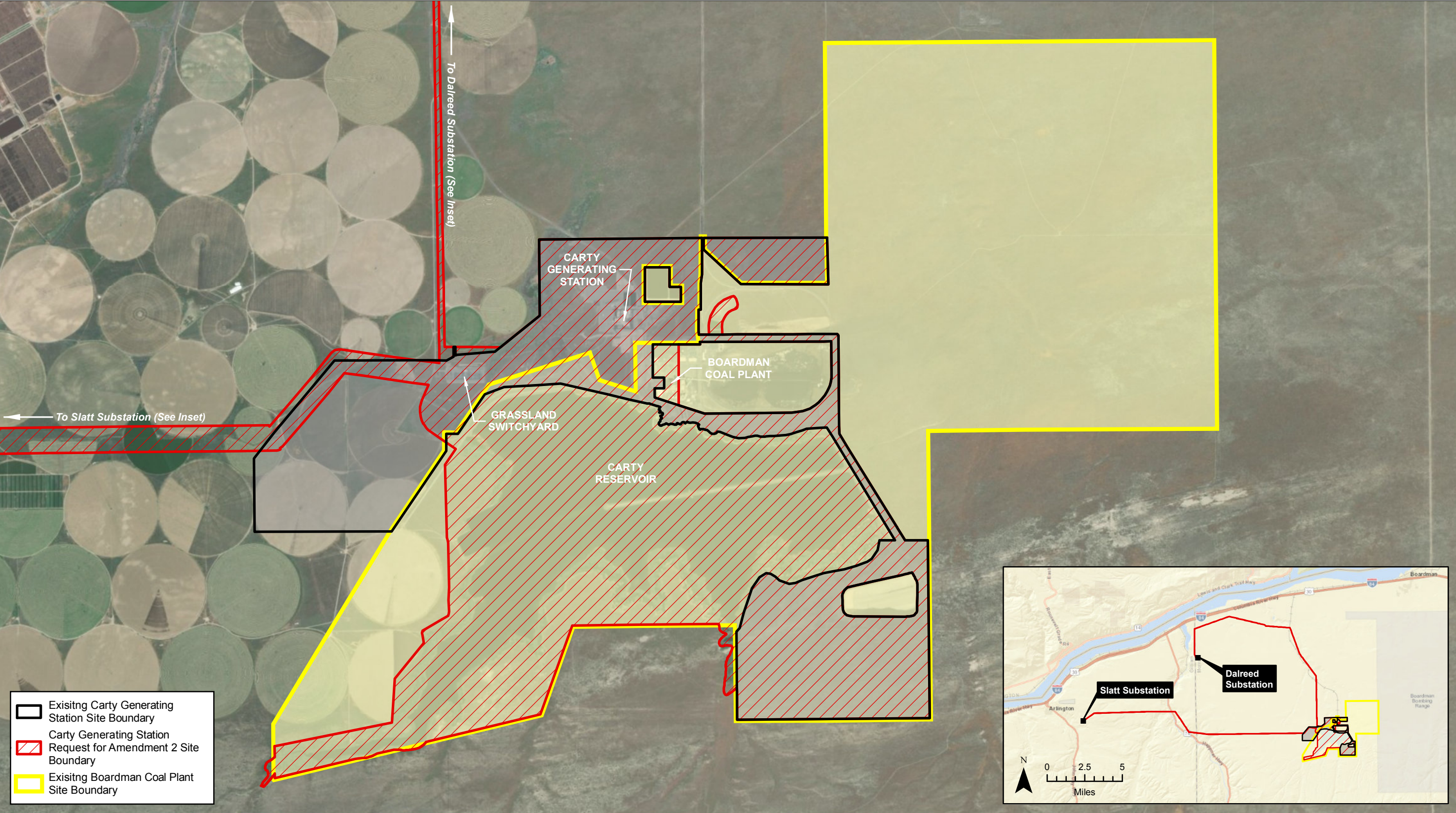
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## Figure 1

Carty Generating Station – Site Boundary –Request for  
Amendment 2

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**FIGURE 1 - CARTY GENERATING STATION - SITE BOUNDARY - REQUEST FOR AMENDMENT 2**  
PORTLAND GENERAL ELECTRIC COMPANY





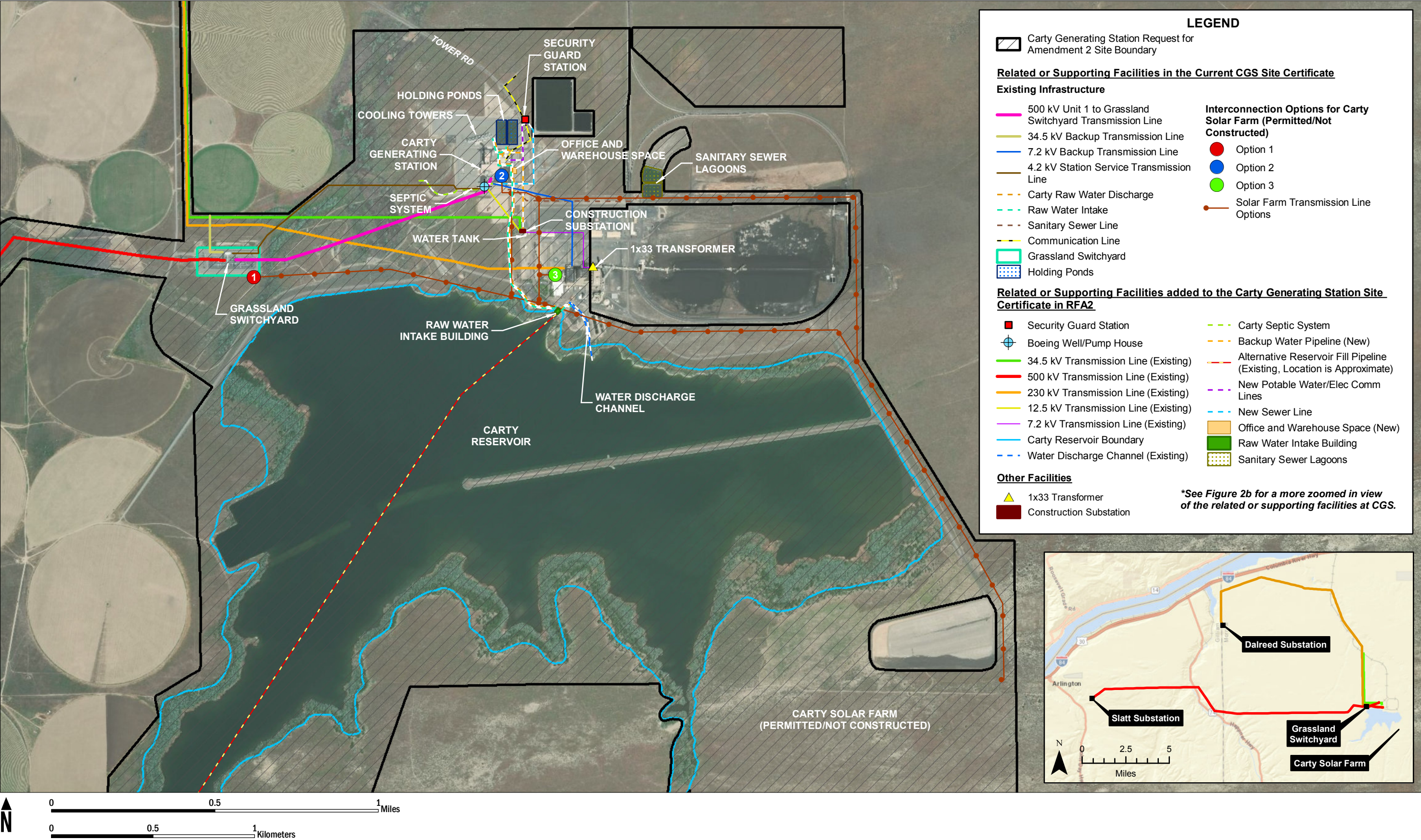
## Figure 2

### Carty Generating Station – Related or Supporting Facilities – Request for Amendment 2

NOTE: Figure 2a illustrates the location of related or supporting facilities within the RFA2 site boundary. Figure 2b provides a higher resolution illustration of related or supporting facilities within the immediate vicinity of the Carty Generating Station.

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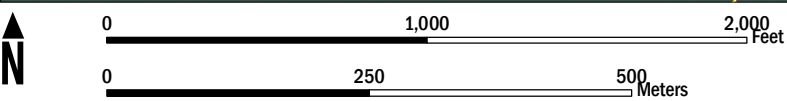
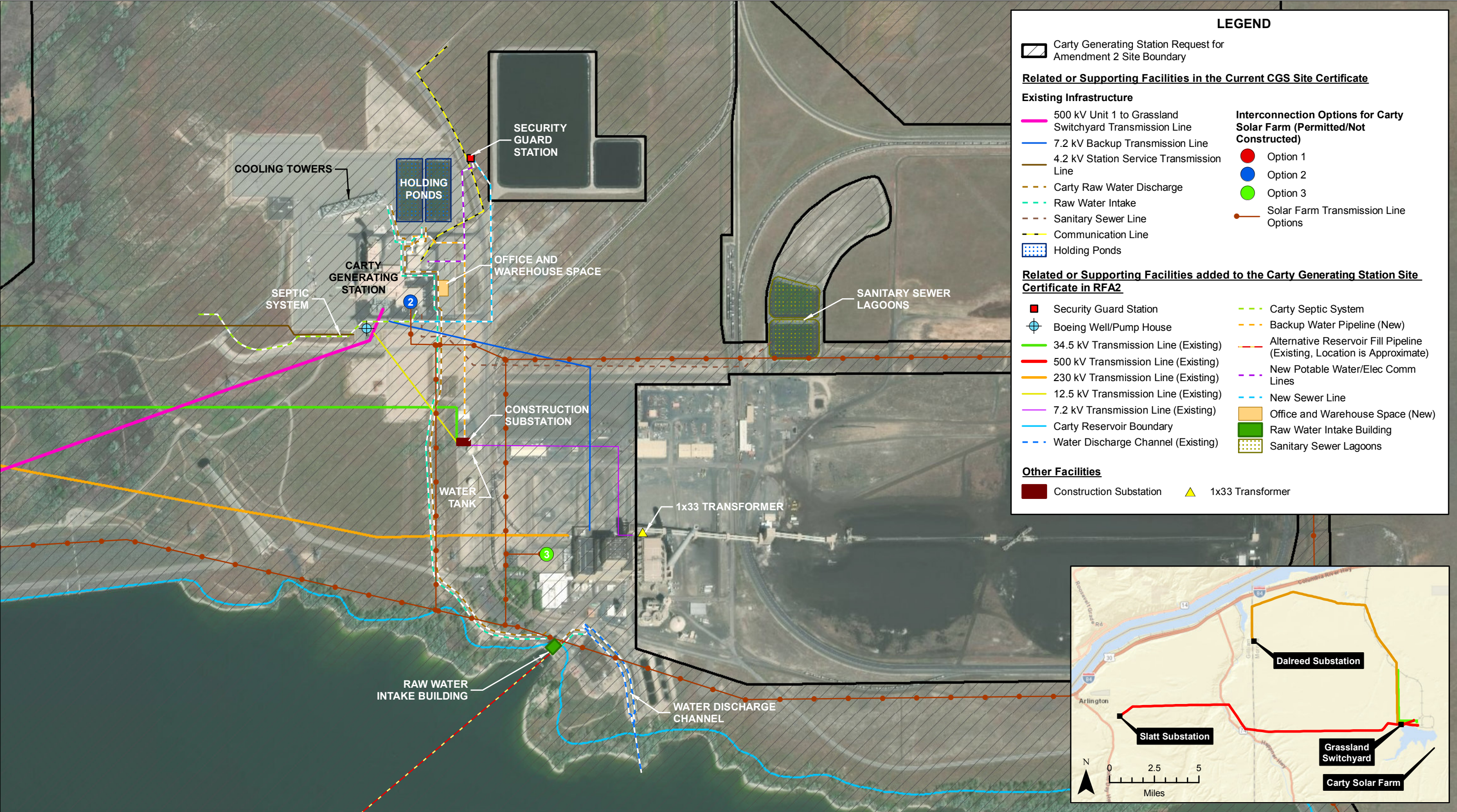


**FIGURE 2A - CARTY GENERATING STATION - RELATED OR SUPPORTING FACILITIES - REQUEST FOR AMENDMENT 2**









**FIGURE 2B - CARTY GENERATING STATION - RELATED OR SUPPORTING FACILITIES - REQUEST FOR AMENDMENT 2**



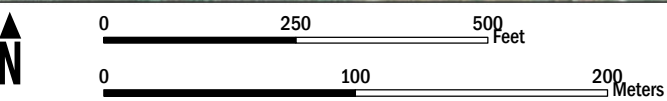
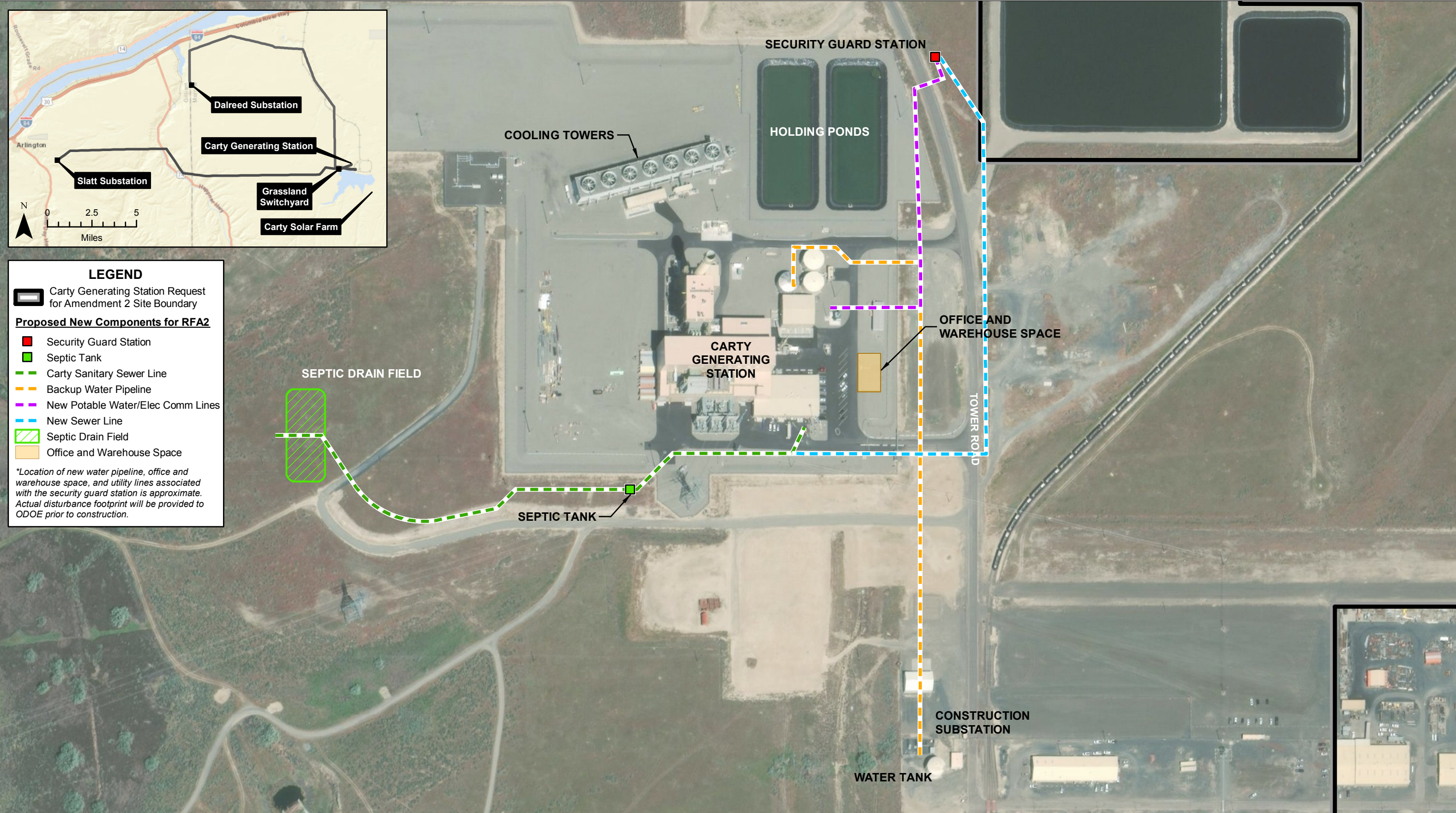


## Figure 3

Carty Generating Station – Proposed New Related or  
Supporting Facilities – Request for Amendment 2

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**FIGURE 3 - CARTY GENERATING STATION - PROPOSED NEW RELATED OR SUPPORTING FACILITIES - REQUEST FOR AMENDMENT 2**

**PORTLAND GENERAL ELECTRIC COMPANY**





# Attachment 1

Proposed Revisions to the Carty Generating Station  
Site Certificate

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**Second Amended Site Certificate  
for the  
Carty Generating Station**

Submitted to:  
**Oregon Department of Energy**

**February 28, 2020**

Prepared by:  
  
**Portland General Electric Company**  
**121 SW Salmon St.**  
**3WTC-0403**  
**Portland, OR 97204**



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**CARTY GENERATING STATION SITE CERTIFICATE  
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## ACRONYMS AND ABBREVIATIONS

AC	<u>alternating current</u>
ACEC	<del>Area of Critical Environmental Concern</del>
ADA	Americans with Disabilities Act
AMD1	<u>Final Order on Amendment No. 1</u>
AMD2	<u>Final Order on Amendment No. 2</u>
Btu	British Thermal Unit
Carty	<del>Carty Generating Station</del>
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	<u>Code of Federal Regulations</u>
Council	Oregon Energy Facility Siting Council
CTG	<del>Combustion Turbine Generator</del> <u>combustion turbine generator</u>
CTUIR	<u>Confederated Tribes of the Umatilla Indian Reservation</u>
Department	Oregon Department of Energy
DC	<u>direct current</u>
DEQ	Oregon Department of Environmental Quality
DOGAMI	Oregon Department of Geology and Mineral Industries
DPO	<del>Draft Proposed Order</del>
EPCRA	Emergency Planning and Community Right-to-Know Act
ESCP	Erosion and Sediment Control Plan
FAA	Federal Aviation Administration
FERC	Federal Energy Regulatory Commission
GTN	Gas Transmission Northwest LLC
HMA	Habitat Mitigation Area
HRSG	<del>Heat Recovery Steam Generator</del> <u>heat recovery steam generator</u>
kV	<del>Kilovolt</del> <u>kilovolt</u>
MCZO	Morrow County Zoning Ordinance
MOU	<u>Memorandum of Understanding</u>

<u>MSL</u>	<u>mean sea level</u>
<u>MW</u>	<u>megawatt</u>
NPDES	National Pollutant Discharge Elimination System
O&M	Operations and Maintenance
OAR	Oregon Administrative Rule
ODFW	Oregon Department of Fish and Wildlife
ORS	Oregon Revised Statutes
<del>OSSC</del>	<del>Oregon Structural Specialty Code</del>
PGE	Portland General Electric Company
<u>PV</u>	<u>photovoltaic</u>
SHPO	Oregon State Historic Preservation Office
<u>SPCC</u>	<u>Spill Prevention, Control and Countermeasure</u>
STG	<del>Steam Turbine Generator</del> <u>steam turbine generator</u>
USFWS	United States Fish and Wildlife Service
WGS	<del>Washington Ground Squirrel</del> <u>ground squirrel</u>
WPCF	Water Pollution Control Facilities

# 1 INTRODUCTION

The Oregon Energy Facility Siting Council (Council) issues this site certificate for the Carty Generating Station (~~Carty~~) in the manner authorized under the Oregon Revised Statutes (ORS) Chapter 469. This site certificate is a binding agreement between the State of Oregon (State), acting through the Council, and Portland General Electric Company (certificate holder) authorizing the certificate holder to construct and operate the facility in Morrow and Gilliam County Counties, Oregon.

The findings of fact, reasoning, and conclusions of law underlying the terms and conditions of this site certificate are set forth in the following documents, which by this reference are incorporated herein: (a) the Council's *Final Order in the Matter of the Application for a Site Certificate for the Carty Generating Station* (Final Order on the Application) issued on June 29, 2012, ~~and~~ (b) the Council's *Final Order in the Matter of the Site Certificate for the Carty Generating Station Request for Amendment No.1* (Final Order on Amendment No. 1 [AMD1]), ~~and~~ (c) the Council's Final Order in the Matter of the Site Certificate for the Carty Generating Station Request for Amendment No.2 (Final Order on Amendment No. 2 [AMD2]). In interpreting this site certificate, any ambiguity will be clarified by reference to the following, in order of priority: (1) this Site Certificate, (2) the Final Order on Amendment No. ~~12~~, (3) the record of the proceedings that led to the Final Order on Amendment No. ~~12~~, (4) the Final Order on Amendment No. 1, (5) the record of the proceedings that led to the Final Order on Amendment No. 1, ~~(4)(6)~~ the Final Order on the Application, and ~~(5)(7)~~ the record of the proceedings that led to the Final Order on the Application.

This Site Certificate does not address, and is not binding with respect to, matters that were not addressed in the Council's Final Order on the Application, ~~or~~ Final Order on Amendment No. 1, or Final Order on Amendment No. 12. Such matters include, but are not limited to: building code compliance; wage; hour; and other labor regulations; local government fees and charges; other design or operational issues that do not relate to siting the facility [ORS 469.401(4)]; and permits issued under statutes and rules for which the decision on compliance has been delegated by the federal government to a state agency other than the Council. ORS 469.503(3).

The obligation of the certificate holder to report information to the Department or the Council under the conditions listed in this site certificate is subject to the provisions of ORS 192.502 *et seq.* and ORS 469.560. To the extent permitted by law, the Department and the Council will not publicly disclose information that may be exempt from public disclosure if the certificate holder has clearly labeled such information and stated the basis for the exemption at the time of submitting the information to the Department or the Council. If the Council or the Department receives a request for the disclosure of the information, the Council or the Department, as appropriate, will make a reasonable attempt to notify the certificate holder and will refer the matter to the Attorney General for a determination of whether the exemption is applicable, pursuant to ORS 192.450.

The Council recognizes that many specific tasks related to the design, construction, operation and retirement of the facility will be undertaken by the certificate holder's agents or contractors. Nevertheless, the certificate holder is responsible for ensuring compliance with all provisions of the site certificate. The definitions in ORS 469.300 and Oregon Administrative Rule (OAR) 345-001-0010 apply to terms used in this site certificate, except where otherwise stated, or where the context clearly indicates otherwise.

## **2 SITE CERTIFICATION**

- 2.1 To the extent authorized by state law and subject to the conditions set forth herein, the State authorizes the certificate holder to construct, operate, and retire a facility that includes a natural gas-fueled electrical generating unit and a photovoltaic (PV) solar electrical generating unit, together with certain related or supporting facilities, at the site in Morrow County and Gilliam County, Oregon, as described in Section 3.0 of this site certificate.  
[ORS 469.401(1)] [AMD1] [AMD2]
- 2.2 This site certificate is effective until 1) it is terminated under OAR 345-027-0110 or the rules in effect on the date that termination is sought; or 2) until the site certificate is revoked under ORS 469.440 and OAR 345-029-0100 or the statutes and rules in effect on the date that revocation is ordered.  
[ORS 469.401(1)]
- 2.3 Both the State and the certificate holder shall abide by local ordinances, state law, and the rules of the Council in effect on the date this site certificate is executed. ORS 469.401(2). In addition, upon a clear showing of a significant threat to public health, safety, or the environment that requires application of later-adopted laws or rules, the Council may require compliance with such later-adopted laws or rules.  
[ORS 469.401(2)]
- 2.4 For a permit, license, or other approval addressed in and governed by this site certificate, the certificate holder shall comply with applicable state and federal laws adopted in the future to the extent that such compliance is required under the respective state agency statutes and rules.  
[ORS 469.401(2)]

- 2.5 Subject to the conditions herein, this site certificate binds the State and all counties, cities, and political subdivisions in Oregon as to the approval of the site and the construction, operation, and retirement of the facility as to matters that are addressed in and governed by this site certificate.  
[ORS 469.401(3)]
- 2.6 Each affected state agency, county, city, and political subdivision in Oregon with authority to issue a permit, license, or other approval addressed in or governed by this site certificate shall, upon submission of the proper application and payment of the proper fees, but without hearings or other proceedings, issue such permit, license, or other approval subject only to conditions set forth in this site certificate.  
[ORS 469.401(3)]
- 2.7 After issuance of this site certificate, each state agency or local government agency that issues a permit, license, or other approval for the facility shall continue to exercise enforcement authority over such permit, license, or other approval.  
[ORS 469.401(3)]
- 2.8 After issuance of this site certificate, the Council shall have continuing authority over the site and may inspect, or direct the Oregon Department of Energy (Department) to inspect, or request another state agency or local government to inspect, the site at any time in order to ensure that the facility is being operated consistently with the terms and conditions of this site certificate.  
[ORS 469.430]
- 2.9 The certificate holder shall design, construct, operate and retire the facility:
- a. Substantially as described in the site certificate;
  - b. In compliance with the requirements of ORS Chapter 469, applicable Council rules, and applicable state and local laws, rules and ordinances in effect at the time the site certificate is issued; and
  - c. In compliance with all applicable permit requirements of other state agencies.
- [Final Order III.D.2] [Mandatory Condition OAR 345-027-0020(3)]
- 2.10 Before any transfer of ownership of any unit of the facility or ownership of the site certificate holder, the certificate holder shall inform the Department of the proposed new owners. The requirements of ~~OAR 345-027-0100~~ OAR 345-027-0350(1) apply to any transfer of ownership that requires a transfer of the site certificate (per OAR 345-027-0400).  
[Final Order IV.B.2.8] [Mandatory Condition OAR 345-027-0020(15)] [AMD1] [AMD2]

- 2.11 Any matter of non-compliance under the site certificate shall be the responsibility of the certificate holder. Any notice of violation issued under the site certificate shall be issued to the certificate holder. Any civil penalties assessed under the site certificate shall be levied on the certificate holder.  
[Final Order IV.B.2.5]
- 2.12 Within 72 hours after discovery of conditions or circumstances that may violate the terms or conditions of the site certificate, the certificate holder shall report the conditions or circumstances to the Department.  
[Final Order IV.B.2.7]
- 2.13 The Council shall not change the conditions of this site certificate except as provided for in OAR Chapter 345, Division 27.  
[Final Order VI.1] [Mandatory Condition OAR 345-027-0020(1)]
- 2.14 The certificate holder must:
- Prior to construction of the Carty Solar Farm, provide evidence to the Department that a limited water use license from Oregon Department of Water Quality has been obtained by its third-party-contractor.
  - During construction of the Carty Solar Farm, provide to the Department in semi-annual reports, pursuant to OAR 345-026-0080, documentation of the record of all water use, as required by the third-party's limited water use license, demonstrating that the allowable total and per minute water use (total gallons and gallons per minute) have not been exceeded.  
[AMD1]

### 3 DESCRIPTION OF FACILITY

#### Location and Site Boundary

The Carty Generating Station is located in Morrow ~~and Gilliam County~~Counties, Oregon, southwest of the City of Boardman and adjacent to the Carty Reservoir. ~~This location is also adjacent to the existing Boardman Coal Plant.~~

As defined by OAR 345-001-0010, the "site boundary" is the perimeter of the site of the energy facility, its related or supporting facilities, all temporary staging areas, and all corridors. The site boundary for the Carty Generating Station encompasses approximately ~~1,581~~1,611 acres.

#### The Energy Facility

Unit 1 of ~~CGS~~ Carty Generating Station is a natural gas-fueled, combined-cycle, electric power generating plant capable of generating up to 450 megawatt [MW] of electrical power. The

combined-cycle generating unit consists of one high efficiency combustion turbine generator (CTG), heat recovery steam generator (HRSG), and a steam turbine generator (STG). Within this unit, the natural gas CTG produces electricity, with the exhaust gases from the CTG supplying heat to the HRSG. Steam produced in the HRSG is used to power the STG to produce additional electricity. Duct burners fueled by natural gas in the HRSG allow for production of additional steam and additional electricity from the STG. Steam exhausted from the STG is condensed in a water-cooled condenser, with the resultant condensate returned to the HRSG to produce additional steam. Water used for cooling in the water-cooled condenser is routed to a cooling tower, where the water is cooled and then pumped back through the condenser. If required for starting the CTG or to maintain the plant in a ready-to-start condition, a natural gas-fueled auxiliary boiler will be used to supply steam when none is available from the HRSG. The CTG and STG are located within a generating building to control noise during operation and to allow a controlled atmosphere for maintenance activities. A separate water treatment building houses the equipment necessary to purify raw water, producing de-mineralized water for use in the steam cycle of the unit.

Generator transformers step up the voltage produced by the gas-fueled unit to 500 kilovolts (kV). A 500-kV transmission line connects the generator transformers to a 500-kV switchyard, the Grassland Switchyard. From the switchyard, Portland General Electric Company (PGE) utilizes the existing 500-kV Boardman to Slatt transmission line to connect to the Slatt Substation.

The Carty Generating Station will consume about 75 million cubic feet of natural gas per day during operation of the gas-fired generating unit. Natural gas is supplied to the facility through a lateral pipeline operated by Gas Transmission Northwest LLC (GTN). This lateral pipeline is owned and operated by GTN and is outside the jurisdiction of the Council. This natural gas pipeline was permitted by the Federal Energy Regulatory Commission (FERC). A control and administrative building provide space for plant controls and offices for plant personnel for all units.

In addition to Unit 1, Carty Generating Station also consists of a, 50 MW solar PV electrical power generating unit, the Carty Solar Farm, and associated transmission. As permitted through the First Amended Site Certificate, the Carty Solar Farm would occupy a 315-acre site located south of the Carty Reservoir. The facility would consist of multiple solar modules mounted on racking systems, connected in series strings, to produce direct current (DC) electricity from sunlight. The DC electricity is then routed to inverters and step-up transformers to be converted to alternating current (AC) electricity and voltage increased to the appropriate collector circuit potential. Electrical power produced by the Carty Solar Farm would be collected and routed via a new 34.5 kV transmission line to one of three interconnection options located north of the Carty Reservoir. Five potential transmission line routes from the Carty Solar Farm to the three interconnection options are currently permitted under the First Amended Site Certificate for Carty Generating Station. Each route would be of the same approximate design and would be approximately 2 to 3 miles long, depending on the route selected. If an interconnection to the Grassland Switchyard is selected, the

switchyard would be enlarged to 15 acres, as approved in the original Site Certificate and the First Amended Site Certificate for Carty Generating Station.

The Carty Generating Station includes the following related or supporting facilities:

- Carty Reservoir
- Grassland Switchyard
- 500 kV Unit 1 to Grassland Switchyard transmission line
- 500 kV Grassland to Slatt substation transmission line
- 230 kV Boardman to Dalreed substation transmission line
- 34.5 kV Grassland backup station service line
- 34.5 kV construction substation to railroad crossing transmission line
- 34.5 kV solar farm transmission line
- 7.2 kV Carty Generating Station backup transmission line
- 4.2 kV Grassland station service line
- Interconnecting water pipelines
- Well/pump house and associated 12.5 kV power line
- Cooling tower
- Liquid storage facilities
- Sanitary sewer (sewage lagoons and septic system)
- Accessory buildings
- Utility and Communication lines
- Access roads
- Additional temporary construction areas

Two control and administrative buildings provides space for plant controls and offices for plant personnel for Unit 1 and the Carty Solar Farm. In addition to those facilities listed above, Carty Generating Station includes several new related or supporting facilities authorized under the Second Amended Site Certificate for Carty Generating Station. These facilities include: a water pipeline connecting to the existing 300,000-gallon water tank; a septic system; a security guard station, and a new office and warehouse space.

A description of major components, structures, and systems of each related or supporting facility that is part of Carty Generating Station per the Site Certificate for Carty Generating Station is provided in the following subsections.

## **Carty Reservoir**

Carty Reservoir is a wastewater and cooling pond that provides service water to the Carty Generating Station and receives 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, a surface area of approximately 1,450 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. The reservoir is not used for recreation, and there is no public access to it.

Water leaves Carty Reservoir through withdrawals for use at the Carty Generating Station, through evaporation from the surface of the reservoir, and through underground seepage from the reservoir. A buried toe drain at the West Dam captures seepage to pump back into the reservoir, and there is a concrete emergency spillway adjacent to the West Dam. Additional withdrawals may occur by entities other than PGE as needed to service nearby agricultural fields.

## **Grassland Switchyard**

The Grassland Switchyard is a 500 kV, alternating current, open-air switchyard located west of CGS Carty Generating Station. The switchyard consists of an 8.5-acre leveled and graveled area surrounded by a security fence. The switchyard was approved with a 15-acre permanent disturbance footprint in the original Site Certificate and may be expanded to that size depending on the interconnection needs of the Carty Solar Farm. The switchyard includes 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. An additional small building provides a controlled environment for protective relaying and communication equipment.

## **Offsite Transmission Lines**

### **500 kV Grassland Switchyard to Slatt Transmission Line**

To access the grid, PGE utilizes the existing 500-kV Boardman to Slatt transmission line, a 500-kV single circuit transmission line, to connect the Grassland Switchyard to the existing Slatt Substation. The transmission line is approximately 17 miles long from Grassland Switchyard to Slatt Substation.

### **230 kV BCP to Dalreed Transmission Line**

The 230kV BCP to Dalreed transmission line connects the Dalreed substation to the power block at BCP. It is used to provide power to Carty Generating Station via the 7.2 kV Carty Generating Station back up transmission line.

### **34.5 kV BCP to Railroad Crossing at Tower Road Transmission Line**

The 34.5 kV BCP to Railroad Crossing at Tower Road Transmission Line provides power to the railroad crossing signal at Tower Road and power to the seepage pumps for Carty Reservoir.

## On-Site Power Transmission Lines

### 500 kV Unit 1 to Grassland Switchyard Transmission Line

~~A 500-kV transmission line connects the step-up transformers located at the gas-fueled generating unit to the Grassland Switchyard. One transmission line serves this unit, and is approximately 0.75 miles long and requires four transmission support towers.~~

Generator transformers at Carty Generating Station step up the voltage produced by Unit 1 to 500 kV. An existing, approximately 1-mile-long 500 kV transmission line mounted on four steel lattice towers connects the generator transformers to the 500 kV Grassland Switchyard. These towers are between 100 and 150 feet tall and are spaced approximately between 800 feet and 1,700 feet apart.

Three additional existing transmission lines provide backup and station service power to Carty Generating Station:

- A 4.2 kV station service line extends approximately 1 mile from Carty Generating Station to the Grassland Switchyard. For most of its length, this line is mounted on wood poles. However, the line runs underground for approximately 750 feet prior to entering the Grassland Switchyard to avoid clearance conflicts with the 230 kV BCP to Dalreed transmission line. This line provides power to the Grassland Switchyard from Carty Generating Station.
- A 7.2 kV backup power line extends approximately 0.5 mile from BCP to Carty Generating Station. This line runs underground approximately 0.10 mile north of BCP; the remainder of the line is mounted on wood poles.
- A 34.5 kV line (referred to as the Grassland backup station service line) provides backup power to Grassland Switchyard via an approximately 800-foot underground line extending west and then north from the transformer within Grassland Switchyard, connecting to the existing 34.5 kV BCP to Railroad Crossing at Tower Road Transmission Line described above.

A 34.5-kV transmission line from the Carty Solar Farm will route around the eastern end of Carty Reservoir and then follow one of five potential routes to the point of interconnection at the Grassland Switchyard, Unit 1, or the Boardman Plant.

## Interconnecting Pipelines

~~Water pipelines connect the Carty Generating Station with the Boardman Coal Plant to access the raw Carty Reservoir water intake structure, wastewater discharge structure for discharge to Carty Reservoir, potable water system, and sanitary sewer. The pipes are installed either below grade, or above grade with trenches under road and railroad crossings.~~

~~Water from the Carty Reservoir passes into the existing intake structure and enters one of two separate water systems serving the Boardman Plant; a circulation water system and a service water system. This circulating water system is a 180,000-gpm withdrawal, supplied from a 96-inch pipe. The Boardman Plant service water system is a 14,000-gpm withdrawal supplied from a 48-inch~~

pipe. The service water connection for the Carty Generating Station is connected to the intake structure at this 48-inch pipe. No changes were made to the in-water portion of the intake structure. From the intake structure, water passes through a 14 to 16-inch pipe approximately 5,000 feet to the Carty facility.

There are four categories of water sources and discharges that serve Carty Generating Station: raw water/fire water, wastewater, potable water, and sanitary sewer.

#### Raw Water/Fire Water

Raw water from the Carty Reservoir is used for service water and fire water. It is withdrawn via a single intake structure located inside the Raw Water Intake Building, from which it is taken in through a channel outfitted with a traveling screen and enters a wet well.

#### Wastewater

Carty Generating Station process waste and plant drainage waste flows are discharged into holding ponds, which can provide 7 days of holding capacity (if needed for discharge line maintenance or some other event preventing direct discharge). From the holding ponds, wastewater is discharged via an 8-inch-diameter pipeline into Water Discharge Channel prior to entering Carty Reservoir.

#### Potable Water

Potable water for drinking fountains, showers (emergency and lavatory), sinks, and flushing of lavatory fixtures comes from the Boeing Well. The Boeing Well is a groundwater extraction well located just south of Carty Generating Station. The well is 600 feet deep with a 30-horsepower pump hung at around 440 feet below ground surface. The well fills a holding tank within Carty Generating Station prior to direct distribution to the plant services building. The Boeing Well pump drive motor is powered from a 150-kilovolt-ampere 12470-480/277 V distribution transformer. This transformer is connected via a 12.5 kV overhead distribution line to the construction substation. The construction substation, in turn, derives power from a 12.5kV originating at the 1X33 transformer at BCP.

Carty Generating Station also includes backup potable/firewater storage in a 300,000-gallon, welded-steel water storage tank with adjacent pump house. This facility is connected to Boeing well via a 4-inch-diameter intake pipeline to Carty Generating Station via a water pipeline.

#### Sanitary Sewer

Sanitary sewer flows at Carty Generating Station are solely from plant lavatories, sinks, and bathroom showers used by plant personnel. These flows are directly discharged to the sewage lagoons via a sewer lift station, or an onsite septic system. There are three existing sewage lagoons: the South Lagoon and Middle Lagoon (both lined), and the North Lagoon (unlined). The South and Middle Lagoons can also be made common by a gated pipe through the separating dike. The only connection between the lined lagoons and the unlined lagoon is overflow through a chlorinating weir at the northeast corner of the Middle Lagoon. The clay liners in the South and Middle Lagoons were replaced with new synthetic liners in the fall of 2014. The sewage lagoons are permitted under Water Pollution Control Facilities (WPCF) permit number 100189.

The septic system is sized per state and county standards and the Umatilla County Public Health Department requirements and is in an area deemed acceptable for a standard, non-residential septic system. Because the design flow of the system is less than 2,501 gallons per day, the facility is not governed by a permit from Oregon Department of Environmental Quality (DEQ).

## **Cooling Tower**

The cooling tower at Carty Generating Station CCGS exhausts excess heat from the power generation process. The cooling tower consists of a structure to contain a water-cooling medium, with exhaust fans located within an open-top, bell-shaped housing that pulls air under and through the water-cooling medium. The cooling tower is approximately 50 feet tall. The mechanical-draft wet cooling tower serves the combined cycle unit of CCGS-Carty Generating Station.

## **Liquid Storage Facilities**

Liquid fuel is not stored on CCGS-Carty Generating Station. Anhydrous ammonia, used for emissions control, is stored in steel storage tanks with secondary containment. Other liquid chemicals such as sulfuric acid (used for pH control) and sodium hypochlorite and sodium bromide (used as biocides in cooling tower water) are stored in tanks or totes with secondary containment. Small-quantity liquid chemicals such as cleaners and lubricants are stored within on-site accessory buildings.

## **Accessory Buildings**

Accessory buildings ~~on~~ at the Carty Generation Station site house boiler feed pumps, chemical feed equipment, water treatment equipment, and other equipment requiring protection from weather or noise containment. Accessory buildings common to the gas-fired generating unit and solar unit include warehouse and office space, and administration areas, and security guard station.

## **Communication Lines**

~~An electrical raceway connects the Carty Generating Station to the Boardman Plant. The raceway contains communication cables to connect the Carty phone and data highway systems into the Boardman Plant communication and data highway systems. In addition, the raceway contains electric power cables that allow for transmission of auxiliary power from the existing Boardman Plant to the Carty Generating Station in emergency operating conditions. The raceway is installed in areas already disturbed by the Boardman Plant or areas within the Carty site. The Carty Generating Station also includes electric power cables that provide power from Carty Generating Station to Grassland Switchyard, and electric power cables that allow for auxiliary power from an existing 34.5 kV transmission line to Grassland Switchyard.~~

Communication lines supporting CCGS-Carty Generating Station originate from a Century Link vault near the northwest corner of the BCP lined evaporation ponds, run down the dirt access road, along Tower Road, and then into CCGS-Carty Generating Station.

## Access Roads

A paved loop road, approximately 24 feet wide and 2,100 feet long, connects with Tower Road at both ends of the loop to serve normal truck and operator vehicle traffic for Unit 1. This loop road has spur roads leading to individual buildings and areas that require access. An existing paved and graveled road provides access to the permitted location of Carty Solar Farm. The Carty Solar Farm would contain unpaved on-site access roads.

## Additional Temporary Construction Areas

Additional areas in the vicinity of the proposed Carty Generating Station are provided for construction offices, construction parking, construction staging, and temporary storage of soil displaced during the construction process. Similar temporary construction areas are provided in the vicinity of the Grassland Switchyard.

# 4 GENERAL ADMINISTRATIVE CONDITIONS

## 4.1 The certificate holder shall:

- i. Begin construction of Unit 1 within three years after the effective date of the site certificate. Under OAR 345-015-0085(9), a site certificate is effective upon execution by the Council Chair and the applicant. The Council may grant an extension of the deadline to begin construction in accordance with OAR 345-027-0030 or any successor rule in effect at the time the request for extension is submitted.  
[Final Order III.D.3; Mandatory Condition OAR 345-027-0020(4)]
- ii. Begin construction of the Carty Solar Farm within three years after the effective date of the amended site certificate, or February 4, 2022. Under OAR 345-015-0085(8), the site certificate is effective upon execution by the Council Chair and the certificate holder.  
[AMD1]
- iii. Begin construction of the new septic system, water pipeline, security guard station, and warehouse within three years after the effective date of the amended site certificate, or XXXX XX, XXXX. Under OAR 345-015-0085(8), the site certificate is effective upon execution by the Council Chair and the certificate holder  
[AMD2]

## 4.2 The certificate holder must:

- i. Complete construction of Unit 1 of the facility within three years of beginning construction of Unit 1. Construction is complete when: 1) the facility is substantially complete as defined by the certificate holder's construction contract documents; 2) acceptance testing has been satisfactorily completed; and 3) the energy facility is ready to begin continuous operation consistent with the site certificate. The certificate holder shall promptly notify the Department of the date of completion of construction of Unit 1. The Council may grant an extension of the deadline for

completing construction in accordance with OAR 345-027-0030 or any successor rule in effect at the time the request for extension is submitted.

[Final Order III.D.4] [Mandatory Condition OAR 345-027-0020(4)] [AMD1]

- ii. Complete construction of the Carty Solar Farm within six years of the effective date of the amended site certificate, or February 4, 2025. The certificate holder shall promptly notify the Department of the date of completion of construction of the Carty Solar Farm and its supporting facilities.

[AMD1]

- iii. Complete construction of the new septic system, water pipeline, security guard station, and warehouse within six years of the effective date of the amended site certificate, or XXX, XX, XXXX. The certificate holder shall promptly notify the Department of the date of completion of construction of these supporting facilities.

[AMD2]

- 4.3 ~~[DELETED] The certificate holder must begin construction of Block 2 no later than five years after the effective date of the site certificate. The certificate holder shall complete construction of the facility within three years of beginning construction of Block 2. Construction is complete when: 1) Block 2 is substantially complete as defined by the certificate holder's construction contract documents; 2) acceptance testing has been satisfactorily completed; and 3) Block 2 is ready to begin continuous operation consistent with the site certificate. The certificate holder shall notify the Department when the construction of Block 2 begins, and notify the Department of the date of completion of Block 2 construction. The Council may grant an extension of the deadline for completing construction in accordance with OAR 345-027-0030 or any successor rule in effect at the time the request for extension is submitted~~ [AMD1]

- 4.4. The certificate holder shall submit a legal description of the site to the Department of Energy within 90 days after beginning operation of the facility. The legal description required by this rule means a description of metes and bounds or a description of the site by reference to a map and geographic data that clearly and specifically identifies the outer boundaries that contain all parts of the facility.

[Final Order III.D.1] [Mandatory Condition OAR 345-027-0020(2)] [AMD1]

- 4.5 The certificate holder shall obtain all necessary federal, state, and local permits or approvals required for construction, operation, and retirement of the facility or ensure that its contractors obtain the necessary federal, state, and local permits or approvals.

[Final Order IV.B.2.4]

- 4.6 The certificate holder must obtain, as required by ORS 469.401(3), all local permits, to include a Conditional Use Permit for the portion of the Carty Generating Station facility located on land zoned Exclusive Farm Use and a Zoning Permit for the entire facility located within Morrow County.

[Final Order IV.E.4.6][AMD2]

## 5 PRE-CONSTRUCTION REQUIREMENTS

In addition to pre-construction requirements contained elsewhere in this site certificate, the certificate holder must meet the following requirements:

- 5.1 Before beginning construction of each unit, the certificate holder must notify the Department of the identity and qualifications of the major design, engineering, and construction contractor(s) for the facility. The certificate holder must select contractors that have substantial experience in the design, engineering, and construction of similar facilities. The certificate holder must report to the Department any change of major contractors.  
[Final Order IV.B.2.1] [AMD1]
- 5.2 The certificate holder must contractually require all construction contractors and subcontractors involved in the construction of the facility to comply with all applicable laws and regulations and with the terms and conditions of the site certificate. Such contractual provisions do not relieve the certificate holder of responsibility under the site certificate.  
[Final Order IV.B.2.3] [AMD1]
- 5.3 Before beginning construction of the energy facility, the certificate holder shall submit a final parking lot plan to Morrow County for approval as part of the certificate holder's building permit application for the energy facility. This parking lot plan shall comply with Section 4.040 and 4.060 of the Morrow County Zoning Ordinance (MCZO) and with Americans with Disabilities Act (ADA) requirements. This plan shall provide a minimum of 22 parking spaces and one ADA-accessible space, or the minimum number of parking spaces required by MCZO Section 4.040 based on the number of employees on the largest shift, whichever is greater. The certificate holder shall construct on-site parking in conformance with the approved parking lot plan.  
[Final Order IV.E.4.2] [MCZO Section 4.040-4.060] [AMD2]
- 5.4 Before beginning construction, the certificate holder must:
  - i. Complete an investigation of subsurface soil and geologic conditions to identify geological or geotechnical hazards per Condition 5.4.a and obtain Department approval of the investigation report per Condition 5.4.b.
    - a. The investigation must include at least the following activities:
      1. Drilling of six to eight exploratory borings up to a depth of 75 feet under proposed critical structure locations, including the gas turbine units, cooling tower, transmission structures, and switchyard. Standard penetration tests should be conducted at 2.5-foot and 5-foot intervals. Drilling of exploratory borings along transmission line corridor is not necessary if such information is available from the construction of the existing transmission line. Likewise, drilling of exploratory borings where new construction was authorized as part of AMD2 would not be required if it is determined that geotechnical information is available for these locations or if proposed new facilities are considered non-critical.

2. Digging of test pits to assess the extent and thickness of any loose, surficial soil layers at the site. Key focus areas should include planned locations of critical structures, roadways, and landscaped areas where irrigation would occur.
  3. Performing laboratory testing to evaluate the engineering properties of soils, including natural water contents on all samples collected, mechanical and hydrometer gradations, Atterberg limits, and collapsibility and consolidation tests on selected samples.
- b. The certificate holder must prepare a geotechnical report with final facility design recommendations based on the investigation conducted per the requirements of Condition 5.4.a. The geotechnical report must be submitted to the Oregon Department of Geology & Mineral Industries (DOGAMI) and the Department. The certificate holder may not commence construction of the facility prior to Department approval of this report.

[Final Order IV.C.2.1] [AMD2]

ii. Complete an investigation of subsurface soil and geologic conditions, based upon a protocol reviewed and approved by the Department in consultation with DOGAMI, to identify geological or geotechnical hazards per Condition 5.4.a and obtain Department approval of the investigation report per Condition 5.4.b.

a. The investigation must include at least the following activities:

1. Drilling of additional borings at scattered locations across the Carty Solar Farm and associated transmission lines and access roads, up to a depth of 50 feet.  
[AMD1]

5.5. During construction and operation of the facility, the certificate holder must implement a revegetation and weed control plan. The certificate holder must comply with the applicable provisions of the Morrow County and Gilliam County Weed Control Ordinances, as determined by the Morrow County Weed Control Supervisor. Prior to beginning construction, the certificate holder must consult with the Morrow County Weed Control Supervisor and obtain approval of a Revegetation and Noxious Weed Control Plan. The final Revegetation and Noxious Weed Control Plan must be submitted to the Department of Energy, based upon the draft amended plan provided in Attachment 3 of the Final Order on Amendment ~~4~~2, for approval prior to the start of construction.  
[Final Order IV.D.2.6] [AMD1] [AMD2]

5.6. Before beginning construction, the certificate holder must submit a Notice of Proposed Construction or Alteration to the Federal Aviation Administration (FAA) and the Oregon Department of Aviation identifying the final location of the facility exhaust stack. The certificate holder must promptly notify the Department of the responses from the FAA and the Oregon Department of Aviation.  
[Final Order V.D.2.5]



- 5.7. Except as necessary for the initial survey or as otherwise allowed for wind energy facilities, transmission lines or pipelines under OAR 345-027-0020, the certificate holder shall not begin construction, as defined in OAR 345-001-0010, or create a clearing on any part of the site until the certificate holder has construction rights on all parts of the site. For the purpose of this rule, “construction rights” means the legal right to engage in construction activities.  
[Final Order III.D.6] [Mandatory Condition OAR 345-027-0020(5)]
- 5.8. Before beginning construction, the certificate holder must notify the Department in advance of any work on the site that does not meet the definition of “construction” in ORS 469.300 (excluding surveying, exploration, or other activities to define or characterize the site) and must provide to the Department a description of the work and evidence that its value is less than \$250,000.  
[Final Order IV.B.2.6]
- 5.9. The certificate holder shall develop and implement a Spill Prevention, Control and Countermeasure (SPCC) Plan in accordance with 40 Code of Federal Regulations (CFR) 112. A copy of this plan shall be provided to the Department prior to the commencement of operation of Carty Generating Station and shall be updated according to the timelines provided in 40 CFR 112.  
[Final Order IV.G.2.1] [AMD1][AMD2]
- 5.10. Before beginning construction of the Carty Solar Farm, the certificate holder shall record in the deed records of Morrow County a document binding the certificate holder and its successors in interest, prohibiting them from pursuing a claim for relief or cause of action alleging injury from farming or forest practices as defined in ORS 30.930(2) and (4).

## **6 DESIGN, CONSTRUCTION AND OPERATIONS**

- 6.1 During construction, the certificate holder must have a full-time, on-site manager who is qualified in environmental compliance to ensure compliance with all site certificate conditions. The certificate holder must notify the Department of the name, telephone number, and e-mail address of this person prior to the start of construction and immediately upon any change in the contact information.  
[Final Order IV.B.2.2]
- 6.2 The certificate holder shall provide portable toilets for on-site sewage handling during construction and shall ensure that they are pumped and cleaned regularly by a licensed contractor who is qualified to pump and clean portable toilet facilities.  
[Final Order IV.N.2.3]
- 6.3 The certificate holder shall implement a waste management plan during construction that includes but is not limited to the following measures:
- a. Recycling steel and other metal scrap.
  - b. Recycling wood waste.

- c. Recycling packaging wastes such as paper and cardboard.
- d. Collecting non-recyclable waste for transport to a local landfill by a licensed waste hauler.
- e. Segregating all hazardous wastes such as used oil, oily rags and oil-absorbent materials, mercury-containing lights and lead-acid and nickel-cadmium batteries for disposal by a licensed firm specializing in the proper recycling or disposal of hazardous wastes.
- f. Confining concrete delivery truck rinse-out to a designated wash-out area and burying other concrete waste as part of backfilling.

[Final Order IV.N.2.1]

- 6.4 In advance of, and during, preparation of detailed design drawings and specifications for the 500-kV transmission line, the certificate holder shall consult with the Utility Safety and Reliability Section of the Oregon Public Utility Commission to ensure that the designs and specifications are consistent with applicable codes and standards.  
[Final Order V.D.2.3]
- 6.5 The certificate holder must design, construct and operate the transmission lines in accordance with the requirements of the National Electrical Safety Code (American National Standards Institute, Section C2, 1997 Edition, or its successor document).  
[Final Order IV.O.2.1] [Mandatory Condition OAR 345-027-0023(4)].[AMD2]
- 6.6 The certificate holder must design and construct the facility in accordance with requirements of the current Oregon Structural Specialty Code and the International Building Code in effect at the time of the start of construction for each unit.  
[Final Order IV.C.2.4] [AMD1]
- 6.7 The certificate holder shall design, engineer and construct the facility to avoid dangers to human safety presented by seismic hazards affecting the site that are expected to result from all maximum probable seismic events. "Seismic hazard" includes ground shaking, landslide, liquefaction, lateral spreading, tsunami inundation, fault displacement and subsidence.  
[Final Order IV.C.2.5] [Mandatory Condition OAR 345-027-0020(12)]
- 6.8 The certificate holder must design, engineer and construct the facility to avoid dangers to human safety presented by non-seismic hazards. As used in this condition, "non-seismic hazards" include settlement, landslides, flooding and erosion.  
[Final Order IV.C.2.6]
- 6.9 The certificate holder shall design and construct the facility using the minimum land area necessary for safe construction and operation. The certificate holder shall locate access roads and temporary construction laydown and staging areas to minimize disturbance of farming practices.  
[Final Order IV.E.4.1] [MCZO Section 3.010.D]
- 6.10 The certificate holder must notify the Department, the State Building Codes Division and the Department of Geology and Mineral Industries promptly if site investigations or trenching

reveal that conditions in the foundation rocks differ significantly from those described in the application for a site certificate or requests for amendment. After the Department receives the notice, the Council may require the certificate holder to consult with the DOGAMI and the Building Codes Division and to propose mitigation actions.

[Final Order IV.C.2.2] [Mandatory Condition OAR 345-027-0020(13)] [AMD1]

- 6.11 The certificate holder must notify the Department, the State Building Codes Division and the Department of Geology and Mineral Industries promptly if shear zones, artesian aquifers, deformations or clastic dikes are found at or in the vicinity of the site.

[Final Order IV.C.2.3] [Mandatory Condition OAR 345-027-0020(14)]

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

[Final Order IV.J.2.1]

- 6.13 To reduce the visual impact of the facility, the certificate holder shall paint the buildings and structures in low-reflectivity neutral colors to blend with the surrounding landscape.

[Final Order IV.J.2.2]

- 6.14 The certificate holder shall not use exterior nighttime lighting except:

- a. The minimum exhaust stack lighting required or recommended by the Federal Aviation Administration.
- b. Safety and security lighting at the Carty Generating Station, provided that such lighting is shielded or downward-directed to reduce offsite glare.
- c. Minimum lighting necessary for repairs or emergencies.
- d. As required during construction.

[Final Order IV.J.2.3] [AMD1]

- 6.17 During construction of the facility:

- i. The certificate holder shall implement measures to reduce traffic impacts, as follows:
  - a. The certificate holder shall reduce peak hour volumes during construction by staggering shift start times or implementing other measures that would significantly reduce the total number of construction worker vehicle trips through the westbound I-84/Tower Road ramp terminal; or
  - b. The certificate holder shall install temporary traffic controls during peak construction to prioritize westbound left-turning vehicles at the westbound Tower Road ramp terminal during the weekday a.m. peak hour.

[Final Order IV.M.2.9]

ii. For construction of Carty Solar Farm, ~~The~~ the certificate holder shall:

- a. Implement a final Construction Traffic Management Plan, as approved by the Department per Condition 6.26.
- b. Include the requirements of the Construction Traffic Management Plan in contract specifications for construction contractors, as applicable.
- c. Maintain a monthly log, to be submitted monthly to the Department for review and confirmation of compliance with the components of the Construction Traffic Management Plan.
- d. The Department, in consultation with the Morrow County Public Works Department, may require implementation of additional traffic management measures including a Traffic Impact Assessment per MCZO Section 3.010(N)(1) if any requirement of the Construction Traffic Management Plan is determined not adequately implemented, or if additional measures are deemed necessary based on actual passenger car equivalent trips per day during facility construction. Within 30-days of submittal of the monthly compliance report required under sub(c), the certificate holder shall obtain written confirmation from the Department on any additional construction traffic management measures required to be implemented.

[AMD1][AMD2]

- 6.18 Unless legally permissible, the certificate holder shall ensure that no equipment or machinery associated with the construction is parked or stored on any public road within Morrow or Gilliam County Counties. The certificate holder may temporarily park equipment off the road but within County rights-of-way with the approval of the County Roadmaster.

[Final Order IV.M.2.10] [AMD1][AMD2]

- 6.19 The certificate holder shall cooperate with the Morrow County Public Works Department and the Gilliam County Road Department to ensure that any unusual damage or wear to county roads that is caused by construction of the facility is repaired by the certificate holder. Upon completion of construction, the certificate holder shall restore public roads to pre-construction condition or better to the satisfaction of applicable county departments.

[Final Order IV.M.2.11] [AMD1][AMD2]

- 6.20 ~~[Deleted]If improvements are needed to the I-84/Tower Road interchange to safely accommodate turning movements by a WB-67 design vehicle, the certificate holder shall work with The Oregon Department of Transportation and Morrow County to identify needed improvements and shall construct or install needed improvements prior to commencement of construction of the Carty facility.~~

[Final Order IV.M.2.12] [AMD1]

- 6.21 Oversize and overweight deliveries shall be made by rail and barge when feasible, to limit impacts to the I-84/Tower Road interchange.

[Final Order IV.M.2.13]

- 6.22 The certificate holder shall construct all facility components in compliance with the following setback requirements. The transmission lines connecting the Carty Generating Station and the Grassland Switchyard are exempt from this condition.
- a. For portions of the facility located in the Morrow County General Industrial Zoning District:
    - i. The minimum setback between a structure and the right-of-way of an arterial street shall be 50 feet. The minimum setback of a structure from the right-of-way of a collector shall be 30 feet, and from all lower class streets the minimum setback shall be 20 feet.
    - ii. Any sewage disposal installations such as outhouses, septic tank and drainfield systems shall be set back from the high-water line or mark along all streams and lakes a minimum of 100 feet, measured at right angles to the high-water line or mark. All structures, buildings, or similar permanent fixtures shall be set back from the high-water line or mark along all streams or lakes a minimum of 100 feet measured at right angles to the high-water line or mark.
  - b. For portions of the facility located in the Morrow County Exclusive Farm Use Zoning District:
    - i. The front yard setback from the property line shall be a minimum of 100 feet if the property line is adjacent to an intensive agricultural use; otherwise, front yards shall be 20 feet for property fronting on a local minor collector or marginal access street right-of-way, 30 feet from a property line fronting on a major collector right-of-way, and 80 feet from an arterial right-of-way.
    - ii. Each side yard shall be a minimum of 20 feet except that for parcels or lots with side yards adjacent to an intensive agricultural use the adjacent side yard shall be a minimum of 100 feet.
    - iii. Rear yards shall be a minimum of 25 feet, except for parcels or lots with rear yards adjacent to an intensive agricultural use, where rear yards shall be a minimum of 100 feet.
    - iv. Any sewage disposal installations such as outhouses, septic tank and drainfield systems shall be set back from the high-water line or mark along all streams and lakes a minimum of 100 feet, measured at right angles to the high-water line or mark. All structures, buildings, or similar permanent fixtures shall be set back from the high-water line or mark along all streams or lakes a minimum of 100 feet measured at right angles to the high-water line or mark.

[Final Order IV.E.4.3] [MCZO Section 3.010(H)] [AMD1]

- 6.23 The certificate holder must limit signage to directional signs necessary for deliveries and general site circulation. No sign may be placed so as to interfere with visibility or effectiveness of any permanent traffic control device. No sign may be placed so as to impede the sight distance triangle at any access point or intersection as specified in Section 4.020 of the Morrow County Zoning Code. No sign shall cause glare, distraction or other

driving hazards within a street or road right-of-way.  
[Final Order IV.E.4.5] [MCZO Sections 4.020 and 4.070]

- 6.24 The certificate holder shall comply with Section 5, Public Responsibilities, of the Morrow County Solid Waste Management Ordinance. Any hauling of solid waste from the Carty Generating Station facility during construction, operation, or retirement shall be performed by a franchised solid waste hauler or otherwise comply with the Morrow County Solid Waste Management Ordinance.  
[Final Order IV.E.4.7] [Morrow County Waste Management Ordinance Section 5.000][AMD2]
- 6.25 Recycling by the certificate holder and certificate holder's contractors during construction, operation, and retirement of the Carty Generating Station facility shall be done in accordance with Oregon Department of Environmental Quality regulations and shall be reported as part of the Morrow County wasteshed.  
[Final Order IV.E.4.7] [AMD2]
- 6.26 The certificate holder is authorized to construct approximately 3 miles of 34.5 kV transmission line anywhere within the approved corridors, subject to the conditions of the site certificate. The approved corridors are approximately 160-feet in width and extend between 2.25 and 3 miles of three routes as described in RFA1 Exhibit B and as presented on Figure 1 to the site certificate of the First Amended Site Certificate for ~~EGS~~ Carty Generating Station.  
[Site Specific Condition OAR 345-025-0010(5)] [AMD1] [AMD2]
- 6.27 Prior to beginning construction of the Carty Solar Farm, the certificate holder shall:
- a. Confirm whether, based on anticipated construction activities, peak construction traffic is anticipated to exceed 400 passenger car equivalent trips per day. If more than 400 passenger car equivalent trips per day is anticipated, the certificate holder shall prepare and submit to the Department and Morrow County Planning Department a Traffic Impact Assessment per MCZO Section 3.010(N) Transportation Impacts for review and approval. If a TIA is required, the certificate holder shall submit documentation to the Department in accordance with OAR 345-027-0057.
  - b. Prepare and submit to the Department a Construction Traffic Management Plan for review and approval. The certificate holder shall demonstrate that the Construction Traffic Management Plan, at a minimum, includes:
    1. Traffic management measures or other recommendations to minimize traffic impacts on Tower Road, as applicable, based upon consultation with Morrow County Public Works Department and Morrow County Sheriff's Office.
    2. Staggering shift start times or other measures that would significantly reduce the total number of construction worker vehicle trips through the westbound I-84/Tower Road ramp terminal; or

3. Installation of temporary traffic controls during peak construction to prioritize westbound left-turning vehicles at the westbound Tower Road ramp terminal during the weekday a.m. peak hour.

[AMD1]

- 6.28 Prior to construction of the Carty Solar Farm, the certificate holder shall record in the real property records of Morrow County a Covenant Not to Sue with regard to generally accepted farming practices on adjacent farmland consistent with MCZO 3.010.K.3(i).  
[AMD1][AMD2]

## **7 PUBLIC HEALTH AND SAFETY**

- 7.1 The certificate holder shall take the following steps to reduce or manage human exposure to electromagnetic fields for any transmission lines constructed after June 29, 2012:

- (a) Constructing all aboveground transmission lines at least 200 feet from any residence or other occupied structure, measured from the centerline of the transmission line.
- (b) Providing to landowners a map of underground and overhead transmission lines on their property and advising landowners of possible health risks from electric and magnetic fields.
- (c) Designing and maintaining all transmission lines so that alternating current electric fields do not exceed 9 kV per meter at one meter above the ground surface in areas accessible to the public.
- (d) Designing and maintaining all transmission lines so that induced voltages during operation are as low as reasonably achievable

[Final Order V.D.2.1] [AMD2]

- 7.2 To protect the public from electrical hazards, the certificate holder must enclose the facility switchyard with appropriate fencing and locked gates.

[Final Order V.D.2.2]

- 7.3 If the Council finds, at any time during facility operation, that cooling tower emissions are likely to contribute significantly to ground-level fogging or icing along public roads and to cause a significant threat to public safety, the certificate holder shall cooperate with appropriate local public safety authorities regarding implementation of reasonable safety measures, such as posting warning signs on affected roads. Cooperation may include, but is not necessarily limited to, the reimbursement of expenses for posting warning signs and implementing other safety measures.

[Final Order V.D.2.4]

- 7.4 The certificate holder must comply with all emergency planning and notification requirements of Emergency Planning and Community Right-to-Know Act (EPCRA) Section 302.

[Final Order V.D.2.6]

- 7.5 The certificate holder must comply with all reporting requirements of the Emergency Planning and Community Right-to-Know Act (EPCRA) Section 304, including reporting of any chemical release in an amount equal to or greater than the EPCRA reportable quantity for that chemical.  
[Final Order V.D.2.7]
- 7.6 ~~[Deleted] The certificate holder must report emissions, transfer, and waste management data for hydrazine and sodium nitrite as required by Section 313 of the Emergency Planning and Community Right-to-know Act (EPCRA) and Section 6607 of the Pollution Prevention Act.~~  
[Final Order V.D.2.8][AMD1]
- 7.7 The certificate holder must comply with all reporting requirements of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), including reporting of any chemical release in an amount equal to or greater than the CERCLA reportable quantity for that chemical.  
[Final Order V.D.2.9]
- 7.8 The certificate holder shall notify the Department of Energy and Morrow County within 72 hours of any occurrence involving the facility if:
- a. There is an attempt by anyone to interfere with its safe operation;
  - b. A natural event such as an earthquake, flood, tsunami or tornado, or a human-caused event such as a fire or explosion affects or threatens to affect the public health and safety or the environment; or
  - c. There is any fatal injury at the facility.
- [Final Order V.D.2.10] [Mandatory Condition OAR 345-026-0170] [AMD1]
- 7.9 The certificate holder must develop and implement a program that provides reasonable assurance that all fences, gates, cattle guards, trailers, or other objects or structures of a permanent nature that could become inadvertently charged with electricity are grounded or bonded throughout the life of the line. A current copy of the electrical protection plan must be available at the O&M building and provided upon request by ODOE staff.  
[Final Order IV.O.2.2] [Mandatory Condition OAR 345-027-0023(4)]

## **8 ON-SITE SAFETY AND SECURITY**

- 8.1 During construction and operation of the facility, the certificate holder shall provide for on-site security and shall establish good communications between on-site security personnel and the Morrow County Sheriff's Office. During operation, the certificate holder shall ensure that appropriate law enforcement agency personnel have an up-to-date list of the names and telephone numbers of facility personnel available to respond on a 24-hour basis in case of an emergency on the facility site.  
[Final Order IV.M.2.1]
- 8.2 During construction, the certificate holder shall require that all on-site construction contractors develop and implement a site health and safety plan that informs workers and



others on-site about first aid techniques and what to do in case of an emergency. The plan shall also include important telephone numbers and the locations of on-site fire extinguishers and nearby hospitals. The certificate holder shall ensure that construction contractors have personnel on-site who are first aid and CPR certified.

[Final Order IV.M.2.2]

- 8.3 During operation, the certificate holder shall develop and implement a site health and safety plan that informs employees and others on-site about first aid techniques and what to do in case of an emergency. The plan shall also include important telephone numbers and the locations of on-site fire extinguishers and nearby hospitals.

[Final Order IV.M.2.3]

- 8.4 During construction, the certificate holder shall ensure that construction vehicles and equipment are operated on graveled areas to the extent possible and that open flames, such as cutting torches, are kept away from dry grass areas.

[Final Order IV.M.2.4]

- 8.5 During operation, the certificate holder shall ensure that all on-site employees receive annual fire prevention and response training by qualified instructors or members of the local fire districts. The certificate holder shall ensure that all employees are instructed to keep vehicles on roads and off dry grassland, except when off-road operation is required for emergency purposes.

[Final Order IV.M.2.5]

- 8.6 During construction and operation of the facility, the certificate holder shall ensure that all service vehicles are equipped with shovels and portable fire extinguishers of a 4500BC or equivalent rating.

[Final Order IV.M.2.6]

- 8.7 During construction and operation of the facility, the certificate holder shall develop and implement fire safety plans in consultation with the Boardman Rural Fire Protection District to minimize the risk of fire and to respond appropriately to any fires that occur on the facility site. In developing the fire safety plans, the certificate holder shall take into account the dry nature of the region and shall address risks on a seasonal basis. The certificate holder shall meet annually with local fire protection agency personnel to discuss emergency planning and shall invite local fire protection agency personnel to observe any emergency drill conducted at the facility.

[Final Order IV.M.2.7]

- 8.8 Upon the beginning of operation of the facility, the certificate holder shall provide a site plan to the Boardman Rural Fire Protection District. The certificate holder shall indicate the actual location of all facility structures on the site plan. The certificate holder shall provide an updated site plan if additional structures are later added to the facility. During operation, the certificate holder shall ensure that appropriate fire protection agency personnel have an up-to-date list of the names and telephone numbers of facility personnel available to respond on a 24-hour basis in case of an emergency on the facility site.

[Final Order IV.M.2.8]

## 9 PROTECTION OF SOIL

- 9.1 If the applicability requirements of the National Pollutant Discharge Elimination System (NPDES) Storm Water Discharge General Permit #1200-C are met, ~~the~~ the certificate holder must conduct all construction work in compliance with an Erosion and Sediment Control Plan (ESCP) satisfactory to the Oregon Department of Environmental Quality and as required under the NPDES Storm Water Discharge General Permit #1200-C. The certificate holder must include in the ESCP any procedures necessary to meet local erosion and sediment control requirements or storm water management requirements.  
[Final Order IV.D.2.1] [AMD2]
- 9.2 During construction, the certificate holder, to the extent practicable, must limit truck traffic to improved road surfaces to avoid soil compaction.  
[Final Order IV.D.2.2]
- 9.3 During construction, the certificate holder must implement best management practices to control any dust generated by construction activities, such as applying water to roads and disturbed soil areas.  
[Final Order IV.D.2.3]
- 9.4 If the applicability requirements of the NPDES Storm Water Discharge General Permit #1200-C are met ~~D~~during construction of the facility, the certificate holder must complete monitoring according to the NPDES Storm Water Discharge General Permit #1200-C issued to the certificate holder for construction of the unit to ensure that there are no significant potential adverse impacts to soils and: [AMD1] [AMD2]
- a. ~~[Deleted]During construction, monitor disturbed area erosion and sediment control measures at the active construction site on a weekly basis and every two weeks on inactive sites. Inspection of both active and inactive sites must occur at least daily during periods when 0.5 inches or more rain has fallen in a 24-hour period~~ [AMD1]
  - b. ~~[Deleted]. The certificate holder must remove trapped sediment when storage capacity has been reduced by 50 percent. Sediments will be placed in an upland area certified by a qualified wetlands specialist~~ [AMD1]
  - c. ~~[Deleted]Observe and record color and turbidity within 35 feet upstream and downstream of locations where surface waters from the construction site(s) enter a receiving stream. Observations shall note whether sheen and floating matter is present or absent. Any apparent color and turbidity of the discharge, as well as any observable difference in comparison with the receiving stream shall be described. If there are observable differences, or any sheen or floating matter is present, the certificate holder must take immediate steps to identify and rectify the cause of the run-off to the stream.~~[AMD1]

- d. ~~[Deleted]. If the erosion and sediment control measures are deemed ineffective, different strategies and/or measures shall be implemented, maintained and monitored.~~ [AMD1]
  - e. After completing construction in an area, the certificate holder must monitor the area until soils are stabilized and evaluate whether construction-related impacts to soils are being adequately addressed by the mitigation procedures described in the Erosion and Sediment Control Plan and the approved Revegetation and Noxious Weed Control Plan. As necessary, the certificate holder must implement follow-up restoration measures such as scarification and reseeded to address those remaining impacts.  
[Final Order IV.D.2.4] [AMD1]
- 9.5 During facility operation, the certificate holder shall routinely inspect and maintain all transmission line corridors, roads, pads and trenched areas and, as necessary, maintain or repair erosion and sediment control measures and control the introduction and spread of noxious weeds.  
[Final Order IV.D.2.5]
- 9.6 Upon completion of construction, the certificate holder must restore vegetation to the extent practicable and shall landscape all areas disturbed by construction in a manner compatible with the surroundings and proposed use and in compliance with the Revegetation and Noxious Weed Control Plan. Upon completion of construction, the certificate holder must remove all temporary structures not required for facility operation and dispose of all timber, brush, refuse and flammable or combustible material resulting from clearing of land and construction of the facility.  
[Final Order IV.D.2.7] [Mandatory Condition OAR 345-027-0020(11)]
- 9.7 During operation of the facility, the certificate holder shall restore areas that are temporarily disturbed during facility maintenance or repair activities using the same methods and monitoring procedures described in the Revegetation and Noxious Weed Control Plan.  
[Final Order IV.D.2.8]
- 9.8 ~~[Deleted] The certificate holder must dispose of all accumulated evaporation pond solids, when removed, in a landfill approved for such waste material. All residual solids deposited in evaporation ponds must be removed to an appropriate disposal facility upon closure of the facility. The certificate holder shall include protocols for solids removal and soil restoration at the location of the evaporation ponds in the retirement plan.~~  
[Final Order IV.D.2.9] [AMD1]
- 9.9 During operation, the certificate holder must minimize drift from the cooling towers through the use of high efficiency drift eliminators that allow no more than a 0.001% drift rate.  
[Final Order IV.D.2.10]

- 9.10 The certificate holder must handle hazardous materials used on the site in a manner that protects public health, safety and the environment and shall comply with all applicable local, state and federal environmental laws and regulations. During operation, the certificate holder may not store gasoline that is intended for fueling vehicles on the facility site.

[Final Order IV.D.2.11]

- 9.11 If a reportable release of hazardous substance occurs during construction or operation of the facility, the certificate holder must notify the Department within 72 hours and must clean up the spill or release and dispose of any contaminated soil or other materials according to applicable regulations. The certificate holder must make sure that spill kits containing items such as absorbent pads are located on equipment, near storage areas, and in the administrative or maintenance areas of the facility. The certificate holder must instruct employees about proper handling, storage and cleanup of hazardous materials.

[Final Order IV.D.2.12]

## 10 PROTECTION OF NATURAL RESOURCES

- 10.1 Prior to construction, the certificate holder shall:

- i. Consult with the Oregon Department of Fish and Wildlife and prepare a final Wildlife and Habitat Monitoring Mitigation Plan and submit the plan to the Department for review and approval. The certificate holder must conduct all wildlife and habitat monitoring as described in the approved Wildlife and Habitat Monitoring and Mitigation Plan, as amended from time to time.

[Final Order IV.H.2.1] [Mandatory Condition OAR 345-027-0020(6)]

- ii. Submit for review and approval by the Department, in consultation with the Oregon Department of Fish and Wildlife, a final Wildlife and Habitat Monitoring Mitigation Plan based upon the mitigation methodology and enhancement actions in the draft amended plan ~~provided as Attachment D of the Final Order on Amendment 1~~ provided in the Final Order on Amendment 2. The certificate holder must conduct all wildlife and habitat monitoring as described in the approved Wildlife and Habitat Monitoring and Mitigation Plan, as amended from time to time.

[OAR 345-025-0016][AMD1] [AMD2]

- 10.2 The certificate holder shall:

- a. Prior to construction, acquire the legal right to create, enhance, maintain and protect a habitat mitigation area as long as the facility is in operation and the site certificate is in effect by means of an outright purchase, conservation easement or similar conveyance and shall provide a copy of the documentation to the Department.
- b. Prior to construction of the Carty Solar Farm and its supporting facilities, the certificate holder shall provide a habitat assessment of the habitat mitigation area,

based on a protocol approved by the Department in consultation with ODFW, which includes methodology, habitat map, and available acres by habitat category and subtype in tabular format.

- c. During operations, the certificate holder shall improve and monitor the habitat quality within the habitat mitigation area, in accordance with the Wildlife and Habitat Monitoring and Mitigation Plan approved by the Department per Condition 10.1.

[Final Order IV.H.2.2] [AMD1]

- 10.3 The certificate holder shall consult with the Oregon Department of Fish and Wildlife prior to commencement of construction to determine the final acreage of habitat mitigation required. Mitigation shall be provided in accordance with this final acreage determination. [Final Order IV.H.2.3] [AMD1]

- 10.4 The certificate holder shall conduct noxious weed inventories within the Habitat Mitigation Area (HMA) to identify patches of weed infestation during year one, year three and year five after construction of Unit 1, and then continue once every 5 years for the life of the project, in years divisible by five. Weeds shall be controlled as needed to maintain and enhance habitat quality within the mitigation area, with the goal of working toward eradication of targeted noxious weeds or, if eradication is not practical, decreasing their abundance to minimize impacts to native plant communities. Weed management practices shall be consistent with the Revegetation and Noxious Weed Control Plan and shall include an integrated weed management approach, using an appropriate combination of prevention and control methods. The certificate holder shall obtain ODFW approval prior to the use of pesticides. If a substantial area of soil is left bare from weed control activities, the area shall be seeded using the appropriate methods as described in the Revegetation and Noxious Weed Control Plan. [Final Order IV.H.2.5] [AMD1][AMD2]

- 10.5 The certificate holder shall implement a fire control plan for wildfire suppression within the HMA ~~in accordance with the existing Boardman Wildfire Control Plan~~. A copy of the fire control plan shall be provided to the Department upon request. If vegetation in the HMA is damaged from fire or from fire suppression efforts (e.g., vehicular disturbance), the area shall be seeded as necessary with the appropriate seed mix using the appropriate methods for the site, as described in the *Revegetation and Noxious Weed Control Plan*. [Final Order IV.H.2.6][AMD2]

- 10.6 The certificate holder shall monitor and control access to the HMA and shall post signs for the life of the facility designating the area as “protected” and including natural resources information. Access to the proposed area shall be limited to Boardman Plant operational needs, conservation area monitoring, and noxious weed control efforts. Any fences within or bordering the HMA shall be modified to wildlife-friendly specifications. Livestock grazing shall not be permitted within the HMA. Periodic monitoring (at least annually) shall be conducted to evaluate effectiveness of access control measures and signage maintenance needs. [Final Order IV.H.2.7]

10.7 The certificate holder must:

- i. Implement measures to avoid or minimize temporary and permanent impacts to high quality native habitat and to retain habitat cover in the general landscape, where practicable.
  - a. The certificate holder shall not construct any facility components within areas of Category 1 habitat and shall avoid temporary disturbance of Category 1 habitat.
  - b. Before beginning construction, the certificate holder shall provide to the Department a map showing the final design locations of all components of the facility and the areas that would be disturbed during construction and identifying the survey areas for all plant and wildlife surveys conducted in 2010 or earlier as described in the *Final Order on the Application*. The certificate holder shall use a qualified professional biologist to conduct a pre-construction plant and wildlife investigation of all areas that would be disturbed during construction that lie outside of the previously surveyed areas. The certificate holder shall provide a written report of the investigation to the Department and to the Oregon Department of Fish and Wildlife. Based on consultation with the Department and ODFW, the certificate holder shall implement appropriate measures to avoid impacts to any Category 1, 2, or 3 habitat, to any State-listed threatened or endangered plant or wildlife species, and to any State Candidate plant species. If any Category 2 or 3 habitat is identified and will be impacted, the certificate holder shall work with the Department and ODFW to identify appropriate mitigation measures for such impacts.
  - c. Before beginning construction, the certificate holder's qualified professional biologist shall survey the previously-identified Category 1 Washington ground squirrel habitat to ensure that the sensitive use area is correctly marked with exclusion flagging and avoided during construction. The certificate holder shall maintain the exclusion markings until construction has been completed.
  - d. Before beginning construction, certificate holder's qualified professional biologist shall complete aerial raptor nest surveys within the raptor nest survey area as described in the *Final Order on the Application*. The purposes of the survey are to identify any sensitive raptor nests near construction areas and to provide baseline information on raptor nest use for analysis as described in the *Wildlife and Habitat Monitoring and Mitigation Plan* referenced in Condition 10.1. The certificate holder shall provide a written report on the raptor nest surveys to the Department and to ODFW.

[Final Order IV.H.2.9]

- ii. Implement measures to avoid or minimize temporary and permanent impacts to high quality native habitat and to retain habitat cover in the general landscape, where practicable.

- a. The certificate holder shall not construct any facility components within areas of Category 1 habitat and shall avoid temporary disturbance of Category 1 habitat.
- b. Before beginning construction, the certificate holder shall provide to the Department a map showing the final design locations of all components of the facility and the areas that would be disturbed during construction and identifying the survey areas for all plant and wildlife surveys conducted prior to construction. The certificate holder shall use a qualified professional biologist to conduct a pre-construction habitat assessment of all areas that would be disturbed during construction. The certificate holder shall provide a written report of the habitat assessment to the Department and to the Oregon Department of Fish and Wildlife. Based on consultation with the Department and ODFW, the certificate holder shall implement appropriate measures to avoid impacts to any Category 1 habitat, to any State-listed threatened or endangered plant or wildlife species, and to any State Candidate plant species.  
[AMD1]

10.8 During construction, the certificate holder shall avoid all construction activities within one mile of golden eagle nests, and 0.6 miles of ferruginous hawk nests, and 1,300 feet of other potentially active sensitive raptor species nest sites for the following species during the sensitive period, as provided in this condition:

<u>Species</u>	<u>Sensitive Period</u>	<u>Early Release Date</u>
Swainson's hawk	April 1 to August 15	May 31
Ferruginous hawk	March 15 to August 15	May 31
Bald Eagle	January 1 to August 15	May 31
Golden eagle	January 1 to July 15	May 31
Burrowing owl	April 1 to August 15	July 15
Long-billed curlew	March 8 to June 15	May 31

During all years in which construction occurs, the certificate holder shall use a protocol approved by the Oregon Department of Fish and Wildlife (ODFW) to determine whether there are any active nests of these species within 1,300 feet of any areas that would be disturbed during construction. Surveys shall be extended to one mile for golden eagle nests and 0.6 miles for ferruginous hawk nests. This construction buffer distance may be decreased with approval by ODFW and USFWS depending on the intensity of construction activity and whether there is an adequate physical barrier (i.e., vegetation, topography, etc.) between the nest site and the construction impacts or if consultation determines a lesser distance is feasible and appropriate. The certificate holder shall begin monitoring potential nest sites by the beginning of the sensitive period, as listed above, and shall continue monitoring until at least May 31 (July 15 for golden eagle nests) to determine whether any potentially-active nest sites become active during the sensitive period.

If any nest site is determined to be unoccupied by the early release date, then unrestricted construction activities may occur within 0.6 miles (one mile for golden eagle nests) of the nest site after that date. If a nest is occupied by any of these species after the beginning of

the sensitive period, the certificate holder will flag the boundaries of a 1,300 foot (or 0.6 miles for ferruginous hawk nests, or one mile for golden eagle nests) buffer area around the nest site and shall instruct construction personnel to avoid disturbance of the buffer area. During the sensitive period, the certificate holder shall not engage in high-impact construction activities (activities that involve blasting, grading or other major ground disturbance) within the buffer area. The certificate holder shall restrict construction traffic within the buffer, except on public roads, to vehicles essential to the limited construction activities allowed within the buffer. If a golden eagle nest is identified, construction and maintenance activities between February 1 and July 15 (courtship and nesting period) will be avoided within one mile of the active nest (or 0.5 miles if the active nest is not in line-of-sight of activities).

The certificate holder must use a qualified independent professional biologist to observe the active nest sites during the sensitive period for signs of disturbance and to notify the Department of any non-compliance with this condition. If the biologist observes nest site abandonment or other adverse impact to nesting activity, the certificate holder shall implement appropriate mitigation, in consultation with ODFW and subject to the approval of the Department, unless the adverse impact is clearly shown to have a cause other than construction activity.

The certificate holder may begin or resume construction activities within the buffer area before the ending day of the sensitive period with the approval of ODFW, after the young are fledged. The certificate holder shall use a protocol approved by ODFW to determine when the young are fledged (the young are independent of the core nest site).

[Final Order IV.H.2.10] [AMD1]

10.9 The certificate holder shall implement the following measures to avoid or mitigate impacts to sensitive wildlife habitat during construction:

- a. Preparing maps to show exclusion areas that are off-limits to construction personnel, such as nesting or denning areas for sensitive wildlife species.
- b. Avoiding unnecessary road construction, temporary disturbance, and vehicle use.
- c. Limiting construction work to approved and surveyed areas shown on facility constraints maps.
- d. Ensuring that all construction personnel are instructed to avoid driving cross-country or taking short-cuts within the site boundary or otherwise disturbing areas outside of the approved and surveyed construction areas.

[Final Order IV.H.2.11]

10.10 The certificate holder shall reduce the risk of injuries to avian species by designing and installing all aboveground transmission line support structures following the most current suggested practices for avian protection on power lines published by the Avian Power Line Interaction Committee.

[Final Order IV.H.2.12]



- 10.11 Sensitive raptor nest monitoring shall be conducted by qualified biologists in year one, year three, and year five after operations of Unit 1 have begun and then at least every five years after that for the life of the project in years divisible by five. Results of the monitoring shall be included in an annual sensitive raptor nest monitoring report provided to the Oregon Department of Fish and Wildlife, the U.S. Fish and Wildlife Service, and the Department. This report shall document the nest productivity of sensitive raptor species, including golden eagle (*Aquila chrysaetos*), occurring within one mile of the Carty Generating Station facility, the Ferruginous Hawk occurring within 0.6 miles, and other sensitive raptor species nests occurring within 1,300 feet of the facility site.

[Final Order IV.H.2.13] [AMD1][AMD2]

- 10.12 The certificate holder shall use a qualified environmental professional to provide environmental training during construction and operation. Environmental training includes information on the sensitive species present onsite, precautions to avoid injuring or destroying wildlife or sensitive wildlife habitat, exclusion areas, permit requirements, and other environmental issues. The certificate holder shall instruct construction and operations personnel to report any injured or dead wildlife detected while on the site to the appropriate onsite environmental manager.

[Final Order IV.H.2.14]

- 10.13 The certificate holder shall not place any structures in jurisdictional waters of Sixmile Canyon and shall avoid new impacts to Sixmile Canyon during construction by using the existing access road for vehicle crossing only during the dry season. Impacts to jurisdictional waters in Sixmile Canyon drainages shall be avoided.

[Final Order IV.H.2.15] [AMD1]

- 10.14 Prior to construction, the certificate holder shall conduct surveys for Washington ground squirrel (WGS) and Lawrence's milkvetch.
- i. The certificate holder shall determine the boundaries of Category 1 Washington ground squirrel (WGS) habitat based on the locations where the squirrels were found to be active in the most recent WGS surveys prior to the beginning of construction in habitat suitable for WGS foraging or burrow establishment ("suitable habitat"). The certificate holder shall use a qualified professional biologist who has experience in detection of WGS to conduct surveys within the site boundary using appropriate search protocols. Except as provided in (a), the biologist shall conduct surveys in the active squirrel season (February 1 to June 30) at least once every three years until the beginning of construction in suitable habitat. The biologist shall survey all areas of suitable habitat where permanent facility components would be located or where construction disturbance could occur. The certificate holder shall provide written reports of the surveys to the Department and to the Oregon Department of Fish and Wildlife (ODFW) and shall identify the boundaries of Category 1 WGS habitat. During each year in which construction will occur, the boundaries of Category 1 WGS habitat shall be marked by the biologist with high-visibility flagging or markers. The certificate holder shall not begin construction until the identified boundaries of Category 1 WGS habitat have been

approved by the Department. Category 1 WGS habitat includes the areas described in (b) and (c) below.

- a. The certificate holder may omit the WGS survey in any year if the certificate holder avoids all permanent and temporary disturbance within suitable habitat until a WGS survey has been completed in the following year and the boundaries of Category 1 habitat have been determined and approved based on that survey.
  - b. Category 1 WGS habitat includes the area within the perimeter of multiple active WGS burrows plus a 785-foot buffer, excluding areas of habitat types not suitable for WGS foraging or burrow establishment. If the multiple-burrow area was active in a prior survey year, and active burrows are still present, then Category 1 habitat includes the largest extent of the active burrow area ever recorded (in the current or any prior-year survey), plus a 785-foot buffer. If no active burrows are still present, then it is no longer Category 1 habitat for WGS.
  - c. Category 1 WGS habitat includes the area containing single active burrow detections plus a 785-foot buffer, excluding areas of habitat types not suitable for WGS foraging or burrow establishment. Category 1 habitat does not include single-burrow areas that were found active in a prior survey year but that are not active in the current survey year.
- ii. The certificate holder shall use a qualified professional biologist who has experience in detection of Lawrence's milkvetch to conduct plant surveys within the site boundary, using appropriate survey protocols, during the blooming season (May through August).
    - a. If the species is found to occur, the certificate holder must install protection flagging around the plant population and avoid any ground disturbance within this zone; and its location shall be presented on construction constraint maps showing restricted work areas.

[Final Order IV.I.2.1] [AMD1]

- 10.15 The certificate holder shall impose and enforce a construction and operation speed limit of 20 miles per hour throughout the facility site and, during the active squirrel season (February 1 to June 30), a speed limit of 10 miles per hour from one hour before sunset to one hour after sunrise on private roads near known Washington ground squirrel (WGS) colonies. The certificate holder shall ensure that all construction and operations personnel are instructed to watch out for and avoid WGS and other wildlife while driving through the facility site.

[Final Order IV.I.2.2]

- 10.16 The certificate holder shall use perch-preventing structures on Carty Generating Station components in areas identified as Category 1 habitat for Washington ground squirrels.

[Final Order IV.I.2.3]

- 10.17 The certificate holder shall provide environmental awareness training for all project personnel and construction contractors before such contractors or personnel enter the site to perform construction-related activities. The training program shall discuss Washington ground squirrel issues as well as other environmental issues related to the project, and

include handouts with identification information and reporting procedures. Additional training sessions shall be conducted as needed for personnel that start after the beginning of construction.

[Final Order IV.I.2.4]

- 10.18 In order to discourage Washington ground squirrels from moving into planned construction areas the certificate holder may disc or till a minimum of an 800-ft. buffer within the perimeter of the site boundary, or implement other approved measures, in closest proximity to squirrel activity areas. Proposed measures and areas where measures will be implemented shall be reviewed by ODFW and shall be informed by the most recent Washington ground squirrel survey data.

[Final Order IV.I.2.5] [AMD1]

- 10.19 If the certificate holder discs or tills areas, the certificate holder shall plant dryland wheat or another cover crop in tilled areas within the site boundary. Crops to be planted shall be selected by the certificate holder in coordination with ODFW.

[Final Order IV.I.2.6] [AMD1]

- 10.20 Should new Washington ground squirrel burrows become established within 785 feet of the site boundary, the certificate holder shall immediately report to ODFW. The certificate holder shall coordinate with ODFW to establish additional mitigation measures or to obtain an Incidental Take Permit, as appropriate.

[Final Order IV.I.2.8] [AMD1]

- 10.21 The certificate holder shall conduct post-construction surveys on known Washington ground squirrel colonies in the Carty Generating Station facility area, on land owned by the certificate holder, both within the HMA and in areas where known active burrows were recorded during preconstruction field surveys. The Washington ground squirrel surveys shall be conducted by qualified biologists in year one, year three, and year five after operations of Unit 1 have begun, and then at least every five years after that for the life of the project in years divisible by five. Surveyors shall record evidence of Washington ground squirrel activity, current land use, and evidence of conditions caused by the project that might increase erosion or result in a decline in vegetation quality and adversely affect a Washington ground squirrel colony.

[Final Order IV.I.2.9] [AMD1][AMD2]

- 10.22 The certificate holder shall implement a waste management plan during operation that includes but is not limited to the following measures:

- a. Training employees to minimize and recycle solid waste.
- b. Recycling paper products, metals, glass and plastics.
- c. Recycling used oil and hydraulic fluid.
- d. Collecting non-recyclable waste for transport to a local landfill by a licensed waste hauler.
- e. Segregating all hazardous wastes such as used oil, oily rags and oil-absorbent materials, mercury-containing lights and lead-acid and nickel-cadmium batteries for

disposal by a licensed firm specializing in the proper recycling or disposal of hazardous wastes.

[Final Order IV.N.2.2]

- 10.23 During construction and operation of the Carty Generating Station, the certificate holder shall obtain potable water from the existing well located approximately 750 feet northwest of the Boardman Plant or from a bottled water vendor. Water for construction and process water shall be obtained from Carty Reservoir. The certificate holder may use other sources of water for on-site uses subject to prior approval by the Department.

[Final Order V.C.2.1] [AMD1]

- 10.24 During operation, the certificate holder shall discharge sanitary wastewater generated at the facility to the Boardman Coal Plant and Carty Generating Station sanitary waste facility (sewage lagoons) or the Carty septic system in compliance with DEQ permit requirements.

[Final Order IV.N.2.4] [AMD2]

- 10.25 Before beginning construction of Unit 1, the certificate holder shall receive approval of the wetlands delineation report by the Department of State Lands and provide an approval letter to the Department.

[Final Order V.B.2.1] [AMD2]

- 10.26 The certificate holder shall avoid impacts to waters of the state in the following manner:

(a) The certificate holder shall avoid any disturbance to delineated wetlands.

(b) The certificate holder shall construct stream crossings for transmission lines substantially as described in the *Final Order on the Application*. In particular, the certificate holder shall not remove material from waters of the State or add new fill material to waters of the State such that the total volume of removal and fill exceeds 50 cubic yards for the project as a whole.

(c) The certificate holder shall construct support structures for aboveground lines outside of delineated stream channels and shall avoid in-channel impacts.

[Final Order V.B.2.2]

- 10.27 Before beginning construction, the certificate holder shall provide to the Department a map showing the final design locations of all components of the facility and the areas that would be disturbed during construction and showing the wetlands and stream channels delineated through field surveys conducted prior to construction. For areas to be disturbed during construction that lie outside of the previously-surveyed areas, the certificate holder shall hire qualified personnel to conduct a pre-construction investigation to determine whether any jurisdictional waters of the State exist in those locations. The certificate holder shall provide a written report on the pre-construction investigation to the Department and the Department of State Lands for approval before beginning construction. The certificate holder shall ensure that construction and operation of the facility will not impact any jurisdictional water identified in the pre-construction investigation in a manner that would require a Removal-Fill Permit.

[Final Order V.B.2.3] [AMD1]

- 10.28 Before beginning operation of the facility, the certificate holder shall demonstrate that the Oregon Department of Environmental Quality has issued to the certificate holder:
- i. A Water Pollution Control Facilities Permit substantially in the form of Exhibit 4 of the *Final Order on the Application*, allowing for wastewater discharge from the Carty Generating Station.  
[Final Order V.E.2.1]
  - ii. A modified Water Pollution Control Facilities Permit with the following additional condition, allowing discharge of solar panel washwater:
    - a. Solar panel wash water is permitted to be discharged through evaporation or infiltration into the ground at the point of application. The use of chemicals, soaps, detergents and heated water is prohibited. Pressure washing is allowed, so long as it does not remove paint or other finishes. Soil erosion and runoff from the Carty Solar Farm is prohibited. Soil erosion must be repaired within 30 days of occurrence.  
[AMD1]
- 10.29 The certificate holder shall comply with state laws and rules applicable to Water Pollution Control Facilities Permits that are adopted in the future to the extent that such compliance is required under the respective statutes and rules.  
[Final Order V.E.2.2]
- 10.30 The certificate holder may not dispose of wastewater into the Boardman settling ponds, vehicle wash water pond or coal yard ponds unless the site certificate and the WPCF are amended to permit such use.  
[Final Order V.E.2.3]
- 10.31 The site certificate holder must meet the compliance dates set out in the WPCF unless alternative compliance dates have been approved in advance in writing by DEQ. Either prior to or not later than 14 calendar days following any lapsed compliance date, the site certificate holder must submit a notice of noncompliance with the established schedule to the Department of Energy and DEQ. Any report of noncompliance must include the cause of noncompliance.  
[Final Order V.E.2.4]
- 10.32 Prior to constructing or modifying wastewater management treatment and disposal facilities, detailed plans must be submitted to and approved by the Department of Environmental Quality.  
[Final Order V.E.2.5]
- 10.34 ~~[Deleted] Prior to discharge of wastewater treatment system wastewater to lined evaporation ponds for the Carty Generating Station, the certificate holder shall submit a wastewater characterization to the Department of Environmental Quality for review and approval.~~  
[Final Order V.E.2. [AMD1]]

10.35 ~~[Deleted] Unless otherwise approved in writing by the Department of Environmental Quality, the site certificate holder is permitted to manage and dispose only of the following wastes from operation of the Carty Generating Station in lined ponds construction in accordance with the plans that are approved by the Department of Environmental Quality:~~

- ~~a. Water treatment wastewater~~
- ~~b. Facility sumps and drains wastewater~~
- ~~c. Laboratory and sampling wastewater~~
- ~~d. Evaporative cooling wastewater~~
- ~~e. Equipment cleaning wastewater~~
- ~~f. Storm water~~

[Final Order V.E.2.7] [AMD1]

10.36 Prior to discharge of Carty Generating Station sewage to the lagoons, the certificate holder must:

- a. Submit a work plan to remove vegetation from the Clay-lined cells and either leak test the cells or recondition them; and
- b. Submit a long-term plan to ensure the integrity of the clay lined cells. The plan may include evaluating system capacity requirements and modifying system capacity accordingly prior to discharge of Carty Generating Station sewage to lagoons.

[Final Order V.E.2.8]

10.37 The certificate holder must prepare and implement a Hazardous Materials Management and Monitoring plan approved by the Department. The plan(s) must address the handling of potentially hazardous substances (as defined by ORS 465.200) during construction and operation of the facility, measures to prevent on- and off-site contamination and documentation of plan implementation. Separate plans for the construction and operation phases are acceptable. The certificate holder must use hazardous materials in a manner that protects public health, safety and the environment and must comply with all applicable local, state and federal environmental laws and regulations.

The Hazardous Materials Management and Monitoring Plan shall contain the same information required for a Spill Prevention, Control and Countermeasure Plan (40 CFR 112). Whereas the SPCC Plan addresses spill prevention for oil products, the materials management and monitoring plan shall address hazardous substances. The Plan shall include operating procedures to prevent hazardous substances releases, control measures to contain hazardous substance releases, countermeasures to contain, cleanup, and mitigate hazardous substance releases, and procedures for required inspections and testing. This Plan must be submitted to the Department for review and approval prior to respective construction or operation phase of the Carty Generating Station Facility.

[Final Order IV.G.2.2] [AMD1][AMD2]

- 10.38 If any inspection performed in accordance with the Hazardous Materials Management and Monitoring Plan identifies improper handling or storage of hazardous substances (as defined by ORS 465.200) or improper record keeping procedures, the certificate holder must correct such deficiencies promptly and must report the corrective actions to the Department. If the certificate holder has not corrected such deficiencies within six months after the date of the inspection report, the certificate holder shall submit to the Council an independently prepared estimate of cost of correction. Upon approval of the estimate by the Council, the certificate holder shall increase the amount of the bond or letter of credit required under Condition IV.G.2.9 by the approved amount of the estimate. In no event, however, shall the certificate holder be relieved of its obligation to exercise all due diligence in correcting deficiencies identified in the course of a site inspection.  
[Final Order IV.G.2.3]
- 10.39 The certificate holder shall report any release (as defined by ORS 465.200) of hazardous substances to the Department within 72 hours after the discovery of such release, in addition to any other reporting requirements under applicable law. If the certificate holder has not remedied a release consistent with applicable Oregon Department of Environmental Quality standards within six months after the date of the release, the certificate holder shall submit to the Council an independently prepared estimate of the cost to complete necessary remediation. Upon approval of the estimate by the Council, the certificate holder shall increase the amount of its bond or letter of credit by the approved amount of the estimate. In no event, however, shall the certificate holder be relieved of its obligation to exercise all due diligence in remediating a release of hazardous substances.  
[Final Order IV.G.2.4] [AMD1]

## **11 PROTECTION OF HISTORIC, CULTURAL AND ARCHAEOLOGICAL RESOURCES**

- 11.1 ~~[Deleted] Before beginning construction, the certificate holder shall label Oregon State Historic Preservation Office (SHPO) archaeological resource site 35MW19 and a 100-foot buffer around site 35MW19 on construction maps and drawings as a "no entry" area. Site 35MW19 and its 100-foot buffer shall be marked with temporary fencing or stakes with rope and/or flagging to prevent inadvertent entry].~~  
[Final Order IV.K.2.1] [AMD1]
- 11.2 Before beginning construction, the certificate holder shall provide to the Department a map showing the final design locations of all components of the facility, the areas that would be temporarily disturbed during construction, the areas that were surveyed in 2009 as described in the Draft Proposed Order or that have been subsequently surveyed.  
[Final Order IV.K.2.2] [AMD1]
- 11.3 The certificate holder shall use qualified personnel to conduct field investigation of all areas to be disturbed during construction that lie outside the previously-surveyed areas. The certificate holder shall provide a written report of the field investigation to the Department and to the Oregon State Historic Preservation Office (SHPO). If any potentially significant historic, cultural, or archaeological resource sites are found during the field investigation, the certificate holder shall instruct all construction personnel to avoid the identified sites

and shall implement appropriate measures to protect the sites, including the measures described in Condition 11.5.

[Final Order IV.K.2.3]

- 11.4 The certificate holder shall ensure that a qualified archaeologist, as defined in OAR 736-051-0070, develops a training program for cultural resources. The program will instruct construction personnel in the identification of cultural materials and avoidance of accidental damage to identified resource sites. Records of such training shall be maintained at the administration/control building and made available to authorized representatives of the Department upon request.

[Final Order IV.K.2.4] [AMD1]

- 11.5 The certificate holder shall ensure that construction personnel cease all ground-disturbing activities in the immediate area if any archaeological or cultural resources are found during construction of the facility until a qualified archeologist can evaluate the significance of the find. The certificate holder shall notify the Department and the SHPO of the find. If the SHPO determines that the resource is significant, the certificate holder shall make recommendations to the Council for mitigation, including avoidance, field documentation and data recovery, in consultation with the Department, SHPO, interested tribes and other appropriate parties. The certificate holder shall not restart work in the affected area until the certificate holder has demonstrated to the Department and the SHPO that it has complied with archaeological resource protection regulations.

[Final Order IV.K.2.5]

- 11.6 The certificate holder shall:

i. Prepare and implement an Archaeological Monitoring Plan for construction activities to address and mitigate impacts from exposure of unanticipated or previously unidentified cultural resources that may be exposed during construction of the facility. A current copy of the plan must be maintained at the administration/control building and made available to authorized representatives of the Department upon request. The Archaeological Monitoring Plan, as proposed by the certificate holder, shall include the following requirements:

- a. ~~[Deleted] The certificate holder will be responsible for providing a qualified archaeological monitor for any ground-disturbing project construction activity that occurs within the area between the shovel tests excavated in 2009 and the delineated 100-foot buffer around 35MW19. No ground disturbance is permitting within the site boundaries or the 100-foot buffer around the archaeological site~~ [AMD1].
- b. A qualified archaeological monitor is a person who meets the “qualified archaeologist” standards defined by ORS 390.235(6)(b) or who is supervised by a “qualified archaeologist.” If the latter applies, the supervising qualified archaeologist must vouch for the work of the archaeological monitor and author or co-author the archaeological monitoring report provided at the end of construction monitoring.
- c. The archaeological monitor will keep a daily log of construction and monitoring activities. If intact archaeological materials are encountered during the monitoring,



the archaeological monitor will initiate procedures for inadvertent discovery of archaeological resources, as specified in ORS 358.920.

- d. Artifacts will be examined and documented in the field and will not be collected unless authorized under the provisions of a SHPO permit, if one is obtained in the inadvertent discovery of archaeological resources process.
- e. If human remains are identified during the course of construction monitoring, the monitor will initiate the procedures for Inadvertent Discovery of Human Remains, as specified in ORS 97.740-97.760.
- f. The certificate holder is responsible for providing an archaeological monitoring report to the Department and SHPO after construction work is completed. The report must detail the activities of the archaeological monitor and any inadvertent discoveries encountered, along with actions taken to address them.

[Final Order IV.K.2.6]

- ii. At least 45-days prior to construction of the Carty Solar Farm, provide to the Department for review and approval, in consultation with SHPO and the Confederated Tribes of the Umatilla Indian Reservation (CTUIR), an amended Archaeological Monitoring Plan for construction activities to address and mitigate impacts from exposure of unanticipated or previously unidentified cultural resources that may be exposed during construction of the Carty Solar Farm. The amended Archaeological Monitoring Plan shall include the following requirements:
  - a. The certificate holder shall coordinate with CTUIR prior to and during ground disturbing activities to determine if a tribal monitor should be onsite.
  - b. A qualified archeologist, as defined in 11.6(i)(b) of this condition, shall be mobilized to the site if unanticipated resources are discovered; in this event, Condition 11.6.ii(c) through (f) would then be applicable.
  - c. The archeological monitor will keep a daily log of construction and monitoring activities. If intact archaeological materials are encountered during the monitoring, the monitor will initiate procedures for inadvertent discovery of archaeological resources, as specified in ORS 358.920.
  - d. Artifacts will be examined and documented in the field and will not be collected unless authorized under the provisions of a SHPO permit, if one is obtained in the inadvertent discovery of archaeological resources process.
  - e. If human remains are identified during the course of construction monitoring, the monitor will initiate the procedures for Inadvertent Discovery of Human Remains, as specified in ORS 97.740-97.760.
  - f. The certificate holder is responsible for providing an archaeological monitoring report to the Department and SHPO after construction work is completed. The

report must detail the activities of the monitor and any inadvertent discoveries encountered, along with actions taken to address them.

[AMD1]

## **12 CARBON DIOXIDE EMISSIONS**

- 12.1 The net carbon dioxide emissions rate for the base load gas plant must not exceed 0.675 pounds of carbon dioxide per kilowatt-hour of net electric power output, with carbon dioxide emissions and net electric power output measured on a new and clean basis, as defined in OAR 345-001-0010.  
[Final Order IV.P.2.1]
- 12.2 The net carbon dioxide emissions rate for incremental emissions for the facility operating with power augmentation must not exceed 0.675 pounds of carbon dioxide per kilowatt-hour of net electric power output, with carbon dioxide emissions and net electric power output measured on a new and clean basis at the site during the times of year when the facility is intended to operate with power augmentation, subject to modification under Condition 12.12.  
[Final Order IV.P.2.2]
- 12.3 For the purposes of the site certificate, “monetary path payment requirement” means the amount of offset funds determined pursuant to OAR 345-024-0550, -0560, -0590 and -0600 and the amount of the selection and contracting funds that the certificate holder must disperse to The Climate Trust, as the qualified organization, pursuant to OAR 345-024-0710 and the site certificate. The certificate holder shall calculate the monetary path payment requirement using an offset fund rate of \$1.27 per ton of carbon dioxide in 2011 dollars.
- a. The certificate holder shall calculate 2011 dollars using the Index described in Condition 15.1.b.
  - b. The certificate holder shall increase the amount of the letter of credit described in Condition 12.9 by the percentage increase in the Index. The certificate holder shall index the funds from the date of the Council’s approval of the site certificate to the date of disbursement of funds to The Climate Trust.
- [Final Order IV.P.2.3]
- 12.4 Before beginning construction of the facility, the certificate holder shall submit to the Department information identifying its final selection of a gas turbine vendor, heat recovery steam generator vendor along with the following information, as appropriate:
- a. For the base load gas plant, the certificate holder shall submit written design information, based on its contracts with vendors, sufficient to verify the plant’s designed new and clean heat rate (higher heating value) and its net power output at the average annual site condition. The certificate holder shall submit an affidavit certifying the heat rate and capacity.
  - b. For the base load gas plant designed with power augmentation, the certificate holder shall submit written design information, based on its contracts with vendors,

sufficient to verify the facility's designed new and clean heat rate (higher heating value) and its net power output at the site during the times of year when is facility is intended to operate with power augmentation. The certificate holder shall submit an affidavit certifying the heat rate and capacity.

[Final Order IV.P.2.4] [AMD1]

- 12.5 Before beginning construction of the facility, the certificate holder shall specify to the Department the annual average hours and the times that it expects to operate with power augmentation.

[Final Order IV.P.2.5]

- 12.6 To calculate the initial monetary path payment requirement, the certificate holder shall use the contracted design parameters for capacities and heat rates submitted under Condition 12.4 and the annual average hours and times of operation with power augmentation specified under Condition 12.5.

[Final Order IV.P.2.6]

- 12.7 Before beginning construction of the facility, the certificate holder shall enter into a Memorandum of Understanding (MOU) with The Climate Trust that establishes the disbursement mechanism to transfer selection and contracting funds and offset funds to The Climate Trust.

- a. The MOU must be substantially in the form of Exhibit 3 to the *Final Order on the Application*. At the request of the certificate holder, the Council may approve a different form of a letter of credit and concurrent MOU without an amendment of the site certificate.
- b. Either the certificate holder or The Climate Trust may submit to the Council for the Council's resolution any dispute between the certificate holder and The Climate Trust concerning the terms of the letter of credit, the MOU or any other issues related to the monetary path payment requirement. The Council's decision shall be binding on all parties.

[Final Order IV.P.2.7] [AMD1]

- 12.8 The certificate holder shall submit all monetary path payment requirement calculations to the Department for verification in a timely manner before submitting a letter of credit for Council approval, before entering into an MOU with The Climate Trust as required by Condition 12.7, and before making disbursements to The Climate Trust.

[Final Order IV.P.2.8] [AMD1]

- 12.9 Before beginning construction of the facility, the certificate holder shall submit to The Climate Trust a letter of credit in the amount of the offset funds of the monetary path payment requirement as determined under Condition 12.3.

- a. The certificate holder shall use a form of letter of credit that is substantially in the form of Appendix B to the MOU described in Condition 12.7. At the request of the certificate holder, the Council may approve a different form of a letter of credit without an amendment of the site certificate.

- b. The certificate holder shall use an issuer of the letter of credit approved by the Council.
- c. The certificate holder shall maintain the letter of credit in effect until the certificate holder has disbursed the full amount of the offset funds to The Climate Trust. The certificate holder may reduce the amount of the letter of credit commensurate with payments it makes to The Climate Trust. The letter of credit must not be subject to revocation before disbursement of the full amount of the offset funds.

[Final Order IV.P.2.9] [AMD1]

12.10 For any transfer of the site certificate approved under OAR 345-027-0100:

- a. If The Climate Trust has not yet fully withdrawn the amount of the letter of credit of the current certificate holder at the time of the transfer, the new certificate holder shall submit to The Climate Trust a pro-rated letter of credit, subject to the requirements of Condition 12.9. The new certificate holder shall submit to Council for the Council's approval the identity of the issuer of the letter of credit. The Council may approve a new letter of credit without a site certificate amendment.
- b. The new certificate holder shall enter into an MOU with The Climate Trust as described in Condition 12.7 unless the new certificate holder demonstrates to the satisfaction of the Department that there has been a valid assignment of the current certificate holder's MOU to the new certificate holder. The Council may approve a new MOU without a site certificate amendment.
- c. For resolution of any dispute between the new certificate holder and The Climate Trust concerning the disbursement mechanism for monetary path payments or any other issues related to the monetary path payment requirement, either party may submit the dispute to the Council as provided in Condition 12.7.b.

[Final Order IV.P.2.10]

12.11 The certificate holder shall disburse to The Climate Trust offset funds and selection and contracting funds when requested by The Climate Trust in accordance with Conditions 12.13 and 12.14 and the following requirements:

- a. The certificate holder shall disburse selection and contracting funds to The Climate Trust before beginning construction and as appropriate when additional offset funds are required under Conditions 12.13 and 12.14.
- b. Upon notice pursuant to subsection (c), The Climate Trust may request from the issuer of the letter of credit the full amount of all offset funds available or it may request partial payment of offset funds at its sole discretion. Notwithstanding the specific amount of any contract to implement an offset project, The Climate Trust may request up to the full amount of offset funds the certificate holder is required to provide to meet the monetary path payment requirement.
- c. The Climate Trust may request disbursement of offset funds pursuant to paragraph (b) by providing notice to the issuer of the letter of credit that The Climate Trust has executed a letter of intent to acquire an offset project. The certificate holder shall

require that the issuer of the letter of credit disburse offset funds to The Climate Trust within three business days of a request by The Climate Trust for the offset funds in accordance with the terms of the letter of credit.

[Final Order IV.P.2.11]

- 12.12 Within the first 12 months of commercial operation of the facility, the certificate holder shall conduct a 100-hour test at full power without power augmentation (Year One Test-1) and a test at full power with power augmentation (Year One Test-2). Tests performed for purposes of the certificate holder's commercial acceptance of the facility may suffice to satisfy this condition in lieu of testing after beginning commercial operation.
- a. The certificate holder shall conduct the Year One Test-1 to determine the actual heat rate (Year One Heat Rate-1) and the net electric power output (Year One Capacity-1) on a new and clean basis, without degradation, with the results adjusted for the average annual site condition for temperature, barometric pressure and relative humidity. The certificate holder shall calculate carbon dioxide emissions using a rate of 117 pounds of carbon dioxide per million Btu of natural gas fuel.
  - b. The certificate holder shall conduct the Year One Test-2 to determine the actual heat rate (Year One Heat Rate-2) and net electric power output (Year One Capacity-2) for the facility operating with power augmentation, without degradation, with the results adjusted for the site condition for temperature, barometric pressure and relative humidity at the site during the times of year when the power augmentation is intended to operate. The certificate holder shall calculate carbon dioxide emissions using a rate of 117 pounds of carbon dioxide per million Btu of natural gas fuel.
  - c. The certificate holder shall notify the Department at least 60 days before conducting the tests required in subsections (a) and (b) unless the certificate holder and the Department have mutually agreed that less notice will suffice.
  - d. Before conducting the tests required in subsections (a) and (b), the certificate holder shall, in a timely manner, provide to the Department for its approval a copy of the protocol for conducting the tests. The Department may approve modified parameters for testing power augmentation on a new and clean basis and pursuant to OAR 345-024-0590(1) without a site certificate amendment. The certificate holder shall not conduct the tests until the Department has approved the testing protocols.
  - e. Within two months after completing the Year One Tests, the certificate holder shall provide to the Council reports of the results of the Year One Tests.

[Final Order IV.P.2.12]

- 12.13 Based on the data from the Year One Tests described in Condition 12.12, the certificate holder shall calculate an adjusted monetary path payment. The certificate holder shall submit its calculations to the Department for verification. If the adjusted amount exceeds the amount of the letter of credit provided according to Condition 12.9 before beginning

construction, the certificate holder shall fully disburse the excess amount directly to The Climate Trust within 30 days of the Department's verification of the calculations.

- a. The certificate holder shall include the appropriate calculations of the adjusted monetary path payment with its reports of the results of the Year One Tests required under Condition 12.12.
- b. For calculating the adjusted monetary path payment, the certificate holder shall use an offset fund rate of \$1.27 per ton of carbon dioxide (in 2011 dollars) and shall calculate contracting and selecting funds based on 10 percent of the first \$500,000 in offset funds and 4.286 percent of any offset funds in excess of \$500,000 (in 2011 dollars).
- c. In no case shall the certificate holder diminish the value of the letter of credit it provided before beginning construction or receive a refund from The Climate Trust based on the calculations made using the Year One Capacities and the Year One Heat Rates.

[Final Order IV.P.2.13]

12.14 The certificate holder shall use the Year One Capacity-2 and Year One Heat Rate-2 that it reports for the facility, as described in Condition 12.12.b, to calculate whether it owes supplemental monetary path payments due to increased hours that it uses power augmentation.

- a. Each five years after beginning commercial operation of the facility (five-year reporting period), the certificate holder shall report to the Department the annual average hours the facility operated with power augmentation during that five-year reporting period, as required under OAR 345-024-0590(6). The certificate holder shall submit five-year reports to the Department within 30 days after the anniversary date of beginning commercial operation of the facility.
- b. If the Department determines that the facility exceeded the projected net total carbon dioxide emissions calculated under Conditions 12.4, 12.5 and 12.12, prorated for five years, during any five-year reporting period described in subsection (a), the certificate holder shall offset excess emissions for the specific reporting period according to paragraph (i) and shall offset the estimated future excess emissions according to paragraph (ii), as follows:
  - i. In determining whether there have been excess carbon dioxide emissions that the certificate holder must offset for a five-year reporting period, the Department shall apply OAR 345-024-0600(4)(a). The certificate holder shall pay for the excess emissions at \$1.27 per ton of carbon dioxide emissions (in 2011 dollars). The Department shall notify the certificate holder and The Climate Trust of the amount of supplemental payment required to offset excess emissions.
  - ii. The Department shall calculate estimated future excess emissions for the remaining period of the deemed 30-year life of the facility using the parameters specified in OAR 345-024-0600(4)(b). The certificate holder shall

pay for the estimated excess emissions at \$1.27 per ton of carbon dioxide (in 2011 dollars). The Department shall notify the certificate holder of the amount of supplemental payment required to offset future excess emissions.

- iii. The certificate holder shall offset excess emissions identified in paragraphs (i) and (ii) using the monetary path as described in OAR 345-024-0710. The certificate holder shall pay selection and contracting funds of 10 percent of the first \$500,000 in offset funds and 4.286 percent of any offset funds in excess of \$500,000 (in 2010 dollars).
- c. The certificate holder shall disburse the supplemental selection and contracting funds and supplemental offset funds to The Climate Trust within 30 days after notification by the Department of the amount that the certificate holder owes.

[Final Order IV.P.2.14]

- 12.15 The certificate holder shall use only pipeline quality natural gas or shall use synthetic gas with a carbon content per million Btu no greater than pipeline-quality natural gas to fuel the combustion turbines and the power augmentation.

[Final Order IV.P.2.15] [AMD1]

- 12.16 After the certificate holder has complied with the conditions relating to the carbon dioxide standard before beginning construction, incremental increases in capacity and heat rate that otherwise fall within the limits specified in OAR 345-027-0050(2) do not require an amendment of the site certificate if the certificate holder complies substantially with Conditions 12.1 through 12.15, except as modified below, and if:

- a. The Department or the Council determines, as described in OAR 345-027-0050(5), that the proposed change in the facility does not otherwise require an amendment; and
- b. The certificate holder complies with the appropriate carbon dioxide emissions standard and monetary offset rate in effect at the time the Department or the Council makes its determination under this condition.

[Final Order IV.P.2.16]

- 12.17 ~~[Deleted]If the certificate holder begins construction of the first generator block but not the second block, the certificate holder shall comply with Conditions 12.1 through 12.15 for the first block. If the certificate holder later begins construction of the second generator block, the certificate holder shall comply with Conditions 12.1 through 12.15 for the second block.~~

[Final Order IV.P.2.17] [AMD1]

## **13 NOISE CONTROL AND NOISE COMPLAINT RESPONSE**

- 13.1 To reduce construction noise impacts at nearby residences, the certificate holder shall:
- a. Confine the noisiest operation of heavy construction equipment to the daylight hours.

- b. Require contractors to install and maintain exhaust mufflers on all combustion engine-powered equipment; and
- c. Establish a complaint response system at the construction manager's office to address noise complaints. Records of noise complaints during construction must be made available to authorized representatives of the Department of Energy upon request.

[Final Order V.A.2.1]

- 13.2 During operation, the certificate holder shall maintain a complaint response system to address noise complaints. The certificate holder shall notify the Department within 15 days of receiving a complaint about noise from the facility. The notification should include the date the complaint was received, the nature of the complaint, the complainant's contact information, the location of the affected property, and any actions taken, or planned to be taken, by the certificate holder to address the complaint.

[Final Order V.A.2.2]

- 13.3 Upon written notification from the Department, the certificate holder will monitor and record the actual statistical noise levels during operations to verify that the certificate holder is operating the facility in compliance with the noise control regulations. The monitoring plan must be reviewed and approved by the Department prior to implementation. The cost of such monitoring, if required, will be borne by the certificate holder.

[Final Order V.A.2.3]

## **14 MONITORING AND REPORTING REQUIREMENTS - GENERAL**

- 14.1 The following general monitoring conditions apply:

- a. The certificate holder shall consult with affected state agencies, local governments and tribes and shall develop specific monitoring programs for impacts to resources protected by the standards of divisions 22 and 24 of OAR Chapter 345 and resources addressed by applicable statutes, administrative rules and local ordinances. The certificate holder must submit the monitoring programs to the Department of Energy and receive Department approval before beginning construction or, as appropriate, operation of the facility.
- b. The certificate holder shall implement the approved monitoring programs described in OAR 345-027-0028(1) and monitoring programs required by permitting agencies and local governments.
- c. For each monitoring program described in OAR 345-027-0028(1) and (2), the certificate holder shall have quality assurance measures approved by the Department before beginning construction or, as appropriate, before beginning commercial operation.
- d. If the certificate holder becomes aware of a significant environmental change or impact attributable to the facility, the certificate holder shall, as soon as possible,



submit a written report to the Department describing the impact on the facility and any affected site certificate conditions.

[Final Order VI.2] [Mandatory Condition OAR 345-027-0028]

14.2 The certificate holder shall report according to the following requirements:

- a. General reporting obligation for energy facilities under construction or operating:
  - i. Within six months after beginning construction, and every six months thereafter during construction of the energy facility and related or supporting facilities, the certificate holder shall submit a semiannual construction progress report to the Department of Energy as described in OAR 345-026-0080(1)(a). [AMD1]
  - ii. By April 30 of each year after beginning operation, the certificate holder shall submit an annual report to the Department addressing the subjects listed in OAR 345-026-0080 (1)(b). The Council Secretary and the certificate holder may, by mutual agreement, change the reporting date. [Amendment No. 1]
  - iii. To the extent that information required by OAR 345-026-0080 is contained in reports the certificate holder submits to other state, federal or local agencies, the certificate holder may submit excerpts from such other reports to satisfy this rule. The Council reserves the right to request full copies of such excerpted reports.

[Final Order VI.4] [Mandatory Condition OAR 345-026-0080] [AMD1]

14.3 The certificate holder and the Department of Energy shall exchange copies of all correspondence or summaries of correspondence related to compliance with statutes, rules and local ordinances on which the Council determined compliance, except for material withheld from public disclosure under state or federal law or under Council rules. The certificate holder may submit abstracts of reports in place of full reports; however, the certificate holder shall provide full copies of abstracted reports and any summarized correspondence at the request of the Department.

[Final Order VI.5] [Mandatory Condition OAR 345-026-0105]

## **15 RETIREMENT AND FINANCIAL ASSURANCE**

15.1 Before beginning construction, the certificate holder shall submit to the State of Oregon through the Council a bond or letter of credit naming the State of Oregon, acting by and through the Council, as beneficiary or payee. The initial bond or letter of credit amount for Block 1 is \$7.884 million (in 3rd Quarter 2011 dollars), to be adjusted to the date of issuance, and adjusted on an annual basis thereafter, as described in sub-paragraph (a) of this condition. The initial bond or letter of credit amount for the Carty Solar Farm and its supporting facilities is \$2.7 million (in 3rd Quarter 2016 dollars) to be adjusted to the date of issuance, and adjusted on an annual basis thereafter, as described in sub-paragraph (a) of this condition.

- a. The certificate holder may adjust the amount of the bond or letter of credit based on the final design configuration of the facility and turbine types selected. Any revision to the restoration costs should be adjusted to the date of issuance as described in (b), and is subject to review and approval by the Department.
- b. The certificate holder shall adjust the amount of the bond or letter of credit, using the following calculation and subject to approval by the Department.
  - i. Adjust the amount of the bond or letter of credit amount for Unit 1 (expressed in 3<sup>rd</sup> Quarter 2011 dollars) and Carty Solar Farm (expressed in 3<sup>rd</sup> Quarter 2016 dollars) to present value, using the U.S. Gross Domestic Product Implicit Price Deflator, Chain-Weight, as published in the Oregon Department of Administrative Services' "Oregon Economic and Revenue Forecast" or by any successor agency (the "Index") and using the index value and the quarterly index value applicable for Unit 1 and Carty Solar Farm for the date of issuance of the new bond or letter of credit. If at any time the Index is no longer published, the Council shall select a comparable calculation to adjust the bond or letter of credit to present value.
  - ii. Round the resulting total to the nearest \$1,000 to determine the financial assurance amount.
- c. The certificate holder shall use a form of bond or letter of credit approved by the Council.
- d. The certificate holder shall use an issuer of the bond or letter of credit approved by the Council.
- e. The certificate holder shall describe the status of the bond or letter of credit in the annual report submitted to the Council under Condition VI.4.
- f. The bond or letter of credit shall not be subject to revocation or reduction before retirement of the facility site.
- g. The certificate holder shall provide a revised letter of credit to include Carty Generating Station and all related or supporting facilities within 60 days of execution of the Site Certificate on Amendment No. 2.

[Final Order IV.G.2.9] [Mandatory Condition OAR 345-025-0006(8)] [AMD1][AMD2]

- 15.2 If the certificate holder elects to use a bond to meet the requirements of Condition 15.1, the certificate holder shall ensure that the surety is obligated to comply with the requirements of applicable statutes, Council rules and this site certificate when the surety exercises any legal or contractual right it may have to assume construction, operation or retirement of the energy facility. The certificate holder shall also ensure that the surety is obligated to notify the Council that it is exercising such rights and to obtain any Council approvals required by applicable statutes, Council rules and this site certificate before the surety commences any activity to complete construction, operate or retire the energy facility.

[Final Order IV.G.2.10]

- 15.3 The certificate holder shall prevent the development of any conditions on the site that would preclude restoration of the site to a useful, non-hazardous condition to the extent that prevention of such site conditions is within the control of the certificate holder.  
[Final Order IV.G.2.5] [Mandatory Condition OAR 345-025-0006(7)]
- 15.4 The certificate holder must retire the facility in accordance with a retirement plan approved by the Council if the certificate holder permanently ceases construction or operation of the facility. The retirement plan must describe the activities necessary to restore the site to a useful, non-hazardous condition, as described in OAR 345-027-0110(5). After Council approval of the plan, the certificate holder must obtain the necessary authorization from the appropriate regulatory agencies to proceed with restoration of the site.  
[Final Order IV.G.2.6] [Mandatory Condition OAR 345-025-0006(9)]
- 15.5 The certificate holder is obligated to retire the facility upon permanent cessation of construction or operation. If the Council finds that the certificate holder has permanently ceased construction or operation of the facility without retiring the facility according to a final retirement plan approved by the Council, as described in OAR 345-027-0110, the Council shall notify the certificate holder and request that the certificate holder submit a proposed final retirement plan to the Department within a reasonable time not to exceed 90 days. If the certificate holder does not submit a proposed final retirement plan by the specified date, the Council may direct the Department to prepare a proposed final retirement plan for the Council's approval.  
[Final Order IV.G.2.7] [Mandatory Condition OAR 345-025-0006(16)]
- 15.6 Upon the Council's approval of a final retirement plan prepared per Condition 15.5, the Council may draw on the bond or letter of credit submitted per the requirements of Condition 15.1 to restore the site to a useful, non-hazardous condition according to the final retirement plan, in addition to any penalties the Council may impose under OAR Chapter 345, Division 29. If the amount of the bond or letter of credit is insufficient to pay the actual cost of retirement, the certificate holder shall pay any additional cost necessary to restore the site to a useful, non-hazardous condition. After completion of site restoration, the Council shall issue an order to terminate the site certificate if the Council finds that the facility has been retired according to the approved final retirement plan.  
[Final Order IV.G.2.8] [Mandatory Condition OAR 345-027-0020(16)]
- 15.7 Following receipt of the site certificate or an amended site certificate, the certificate holder shall implement a plan that verifies compliance with all site certificate terms and conditions and applicable statutes and rules. As a part of the compliance plan, to verify compliance with the requirement to begin construction by the date specified in the site certificate, the certificate holder shall report promptly to the Department of Energy when construction begins. Construction is defined in OAR 345-001-0010. In reporting the beginning of construction, the certificate holder shall describe all work on the site performed before beginning construction, including work performed before the Council issued the site certificate, and shall state 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. The certificate holder shall document the compliance plan and maintain it for inspection by the Department or the

Council.

[Final Order VI.3] [Mandatory Condition OAR 345-026-0048]

### **Successors and Assigns**

To transfer this site certificate or any portion thereof or to assign or dispose of it in any other manner, directly or indirectly, the certificate holder shall comply with OAR 345-027-0100.

### **Severability and Construction**

If any provision of this agreement and certificate is declared by a court to be illegal or in conflict with any law, the validity of the remaining terms and conditions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the agreement and certificate did not contain the particular provision held to be invalid.

### **Governing Law and Forum**

This site certificate shall be governed by the laws of the State of Oregon. Any litigation or arbitration arising out of this agreement shall be conducted in an appropriate forum in Oregon.

### **Execution**

This site certificate may be executed in counterparts and will become effective upon signature by the Chair of the Energy Facility Siting Council and the authorized representative of the certificate holder.

**IN WITNESS THEREOF**, this site certificate has been executed by the State of Oregon, acting by and through its Energy Facility Siting Council, and by Portland General Electric Company.

**ENERGY FACILITY SITING COUNCIL**

**PORTLAND GENERAL ELECTRIC  
COMPANY**

By: \_\_\_\_\_

By: \_\_\_\_\_

Hanley Jenkins II, Chair  
Oregon Energy Facility Siting Council

Print: \_\_\_\_\_

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

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

## Attachment 2

Water Pollution Control Facility Permit

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## Attachment 3

### Revegetation and Noxious Weed Control Plan

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## Carty Generating Station: Draft Amended Revegetation and Noxious Weed Control Plan<sup>1</sup>

July 2, 2014<sup>2</sup>, December 14, 2018<sup>3</sup>, February 17, 2020<sup>4</sup>

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### 1 INTRODUCTION

Portland General Electric (PGE or certificate holder) received a site certificate from the Energy Facility Siting Council (Council) in June 2012 authorizing the construction and operation of a 900 megawatt (MW) combined-cycle natural gas-fueled energy generating facility in Boardman, Oregon in Morrow County (Carty Generating Station). The Council's 2012 approval authorized construction and operation of two 450-MW combined-cycle natural gas-fueled turbine generators (Unit 1 and Unit 2). PGE commenced Unit 1 construction on January 9, 2014; PGE completed Unit 1 construction on December 26, 2016; Unit 1 began operation on July 29, 2016. The construction commencement deadline for Unit 2 expired in June 2017 and therefore the certificate holder no longer has the authority to construct or operate Unit 2.

The Council issued the First Amended site certificate on **DATE** December 14, 2018, authorizing a site boundary change and the construction and operation of a 50 MW photovoltaic solar unit, five 34.5 kilovolt (kV) interconnecting transmission line routing options, and temporary construction and laydown areas (Carty Solar Farm). The construction commencement and completion deadlines for the components authorized in the First Amended site certificate ~~is~~ are February 4, 2022, and February 4, 2025, respectively **DATES**. The Council issued the Second Amended site certificate on **DATE** authorizing a boundary change; construction and operation of a new septic system, backup water pipeline, office/warehouse building, and security guard station; and incorporation of existing facilities that had been permitted under the Boardman Coal Plant site certificate including Carty Reservoir, existing transmission infrastructure, and interconnecting water pipelines. The construction commencement and completion deadlines for the components authorized in the Second Amended site certificate is **DATES**.

The site certificate for the facility requires restoration of disturbed areas to satisfy the requirements of the Fish and Wildlife Habitat standard (OAR 345-022-0060), which aligns with the mitigation goals and policies within the ODFW Fish and Wildlife Habitat Mitigation Policy (OAR 635 Division 415). In order to meet the 'no net loss of habitat quality' goal of the mitigation policy, the certificate holder shall revegetate disturbed areas according to a set of agreed-upon success criteria that return the site to pre-disturbance condition. In addition, the certificate holder shall mitigate for permanent habitat impacts and temporal habitat loss in temporary disturbance areas by creating, enhancing, and monitoring a habitat mitigation area as detailed in the Wildlife Habitat Monitoring and Mitigation Plan (WHMMP). See the

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<sup>1</sup> This Plan is incorporated by reference in the Site Certificate for the Carty Generating Station and must be understood in that context. It is not a "stand-alone" document. This Plan does not contain all revegetation and weed control measures required of the certificate holder.

<sup>2</sup> A draft version of this Plan was included as Exhibit 1 to the Energy Facility Siting Council's Final Order on the Carty Generating Station Application for Site Certificate (June 29, 2012). In accordance with Site Certificate Condition 5.5 the certificate holder consulted with the Morrow County Weed Control Supervisor and obtained Oregon Department of Energy (ODOE) approval of the Plan prior to the start of construction (December 2013). As allowed by Section IX of the Plan, ODOE reviewed and approved the amended Plan on July 7, 2014.

<sup>3</sup> Minor Plan updates were made to reference additional facilities within Morrow County included in the First Amended Site Certificate, and the updated Plan was reviewed and approved by the Morrow County Weed Control Supervisor in December 2017 (see Section 7, References). Subsequent edits were made in February 2017 to remove references to the unbuilt transmission line between Grassland Switchyard and Slatt substation and remove references to Gilliam County. Finally, revisions to the agency consultation procedures, revegetation monitoring protocol, and success criteria were made in consultation with ODOE and ODFW in June 2018.

<sup>4</sup> Minor Plan updates were made to reference additional facilities within Morrow and Gilliam Counties included in the Second Amended site certificate.

Carty Generating Station  
Revegetation and Noxious Weed Control Plan

WHMMP for more detail on mitigation measures and mitigation acreages by disturbance type and habitat category.

This Amended Revegetation and Noxious Weed Control Plan (Amended Plan) outlines the goals, methods, and success criteria that will be used for revegetation of areas temporarily disturbed during construction of the Carty Generating Station, including: the already-constructed Carty Unit 1; Grassland Switchyard; the transmission line segment connecting Unit 1 to the switchyard; laydown and parking lot areas; water pipeline area; sewer line area; and, areas temporarily disturbed during construction of additional components approved under the First and Second Amended Site Certificate.

This Amended Plan has been developed in consultation with the Oregon Department of Energy (ODOE), Oregon Department of Fish and Wildlife (ODFW), ~~and the Morrow County Weed Control Supervisor, and the Gilliam County Weed Officer,~~ and utilizes restoration, revegetation, and weed control methods developed by other energy projects in this region of Oregon that were approved by Oregon Energy Facility Siting Council (2007). The objective of this Amended Plan is to minimize and mitigate potential impacts to the site, help bolster the native plant community, and provide clear guidelines for the revegetation and weed control of all areas disturbed by facility-related activities that are not occupied by permanent structures or facilities.

It is estimated that temporary impacts will occur on up to ~~463~~ 164.2 acres within the amended site boundary (Table 1). In general, the intensity of construction impacts on vegetation and habitat in temporary disturbance areas will be low and will often be limited to the flattening of vegetation by rubber-tired vehicles. Such low impact areas will not require the revegetation or soil management measures (such as topsoil salvage) described below, but may require noxious weed prevention best management practices (BMPs) as appropriate (such as washing vehicles arriving from outside Morrow County or Gilliam County). In some instances, however, the intensity of impacts in temporary disturbance areas will be higher and will involve the removal of topsoil and vegetation through grading, excavation, or drilling activities.

The certificate holder will implement revegetation and weed control measures in all temporary construction disturbance areas where soil is disturbed. Such soil disturbance sites will require active measures to restore vegetation cover in a timely manner, control erosion, and prevent the establishment and spread of noxious weeds (plant species listed as noxious under the Oregon Department of Agriculture [ODA] Noxious Weed Control Program, and the Morrow County and Gilliam County weed lists).

**Table 1. Estimated acreage of areas temporarily disturbed during Carty Generating Station Construction**

Habitat Type by Project Area	Temporary Impact Areas to be Revegetated (acres)
Unit 1 and Supporting Facilities	55.4
Carty Solar Farm and Supporting Facilities	107.43
<u>New septic system, water pipeline, office/warehouse building, security guard station, and associated plumbing and communication lines.</u>	<u>1.3</u>

## 2 GOALS AND OBJECTIVES

The overall goal of this Amended Plan is to return the facility site to pre-construction (or better) conditions. The Amended Plan has the following objectives:

- Promote recovery of disturbed areas;

- Re-establish native plant communities;
- Control the introduction and spread of undesirable plants;
- Protect the site from erosion; and
- Support existing wildlife habitat.

These objectives will be achieved by a combination of techniques, including, but not limited to, the following:

- Installing and maintaining appropriate erosion control BMPs and construction limit staking per the Oregon Department of Environmental Quality (ODEQ) 1200-C permit;
- Revegetating disturbed areas with native grasses<sup>5</sup> (See Table 2 in Section 5 for species list);
- Controlling weed germination and growth for the life of the facility including facility pre-construction, construction and operation; and
- Establishing a regular monitoring program prior to and after construction to ensure the continued successful development of restored areas, and to quickly identify new populations of weeds.

### 3 SITE DESCRIPTION

The facility site is located in Morrow and Gilliam Counties, Oregon, approximately 13 miles southwest of the town of Boardman. The Carty Generating Station facility area is situated approximately 7–10 miles south of the Columbia River within the Columbia Plateau physiographic region. The facility includes two transmission lines: one 500 kV line that extends west from the Grassland Switchyard 17 miles to the Slatt Substation and one 230 kV line that extends northwest to the Dalreed Substation. There is no proposed disturbance associated with the existing transmission lines. All proposed new areas of disturbance are within Morrow County. The facility is located on an upland plateau at an elevation of approximately 650 feet above sea level.

#### *Habitat Types and Subtypes within Facility Site*

The facility area is composed primarily of shrub-steppe and grassland habitat subtypes or agricultural cropland. The agricultural lands are typically used for rotating crop production, including potatoes, onions, and corn. The Shrub-steppe habitat subtype located toward the eastern end of the facility, including areas near Unit 1, is rangeland that is no longer being grazed. There are some riparian and wetlands habitats present within the amended site boundary; however, all facility components - including transmission line towers – have been sited to avoid impacts on these habitats. Soil types in the area consist primarily of sandy loam, silt loam, and very stony loam.

Much of the native Shrub-steppe vegetation within the site boundary has been modified by livestock grazing and past wildfires. Functional mature shrub-steppe habitat is patchy and is dominated by big sagebrush (*Artemisia tridentata*), broom snakeweed (*Gutierrezia sarothrae*), bluebunch wheatgrass (*Pseudoroegneria spicata*), cheatgrass (*Bromus tectorum*), gray rabbitbrush (*Ericameria nauseosus*), needle-and-thread grass (*Hesperostipa comata*), and Sandberg's bluegrass (*Poa secunda*). Grasslands consist of cheatgrass, crested wheatgrass (*Agropyron cristatum*), bluebunch wheatgrass, needle-and-threadgrass, Sandberg's bluegrass, redstem filaree (*Erodium cicutarium*), and mouse-ear chickweed (*Cerastium* sp.).

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<sup>5</sup> The Plan approved in the Council's Final Order included forbs and sagebrush as part of the seed mix, but forbs and shrubs were removed from the initial seed mix after consultation with local weed control staff. Sites may require seeding or planting of native shrubs if monitoring indicates that success criteria for shrub cover are not being met.

### *Weed Types within Facility Site*

The ODA has identified noxious weeds occurring in Morrow and Gilliam Counties. ODA has designated two categories of noxious weeds, “A” list species and “B” list species. Weeds designated on the “A” list are species of known economic importance which occur in the state in small enough infestations to make eradication or containment possible or are rare species not known to occur in the state but which have a presence in neighboring states, making future occurrence seem possible. Weeds on the “B” list are weeds of economic importance which are regionally abundant but may have limited distribution in some areas. Listed species identified during ~~recent~~ site surveys (2010–2017) within the amended site boundary area have not included any ODA “A” list species, but have included the ODA “B” list species diffuse knapweed (*Centaurea diffusa*), yellow star-thistle (*Centaurea solstitialis*), Canada thistle (*Cirsium arvense*), and bull thistle (*Cirsium vulgare*), perennial pepperweed (*Lepidium latifolium*), Scotch thistle (*Onopordum acanthium*), and alkali swainsonpea (*Sphaerophysa salsula*). The Morrow County weed list classifies yellow star-thistle as an “A” list species at the county level. Rush skeletonweed (*Chondrilla juncea*) is another county “A” list species that is present in the area and has high potential to occur on the site. Morrow County considers both yellow starthistle and rush skeletonweed as high priority for treatment. Gilliam County follows ODA regulations and does not have a separate weed list.

## **4 PRE-CONSTRUCTION AGENCY CONSULTATION**

This section of the Amended Plan was incorporated on ~~DATE~~ December 14, 2018, and does not apply to activities already completed, including construction of Unit 1 and its associated components. Therefore, this section applies to components approved in the First and Second Amended site certificate and any subsequent site certificate amendments.

Prior to construction, the certificate holder shall consult with ODFW, ODOE, and Morrow and/or Gilliam County Weed Control Authority Weed Departments to discuss: habitat category and habitat subtype conditions; monitoring site locations and conditions; reference site (as needed, see Section 6) locations and conditions; revegetation methods; erosion and sediment control measures; weed inventory and control methods; monitoring methods; and implementation schedule.

Prior to facility construction, the certificate holder shall identify monitoring sites and reference sites (as needed) in consultation with ODFW and ODOE. If reference sites are needed, they should closely resemble the pre-disturbance characteristics of the revegetation area monitoring sites as indicated by site conditions, including vegetation density and relative proportions of desirable vegetation and species diversity (see discussions of monitoring protocol and success criteria in Section 6). The certificate holder shall consider land use patterns, soil type, local terrain and noxious weed densities in selecting monitoring and reference sites. See Section 6 for a more detailed discussion of monitoring site selection and protocol.

Once monitoring and reference sites are selected by the certificate holder and approved by ODOE and ODFW, the monitoring and reference sites shall remain in the same location unless approval for use of a differing reference site is obtained from ODOE and ODFW.

## **5 REVEGETATION AND WEED CONTROL METHODS**

Soil preservation and preparation techniques that are essential to a successful revegetation program, including topsoil segregation, erosion control, and noxious weed control, will begin prior to, or at the start of, construction. Other restoration and revegetation measures will be initiated immediately after construction and other disturbances to project areas are completed. Re-seeding activities may need to be delayed, depending on the season or on weather condition, but will always occur as soon as appropriate after construction.

The certificate holder will employ the following general restoration and revegetation steps to meet short- and long-term goals:

- Re-seed construction soil disturbance areas to restore vegetation;
- Prior to construction, pre-treat state-designated noxious weeds, as appropriate and practical, in temporary soil disturbance areas, with an emphasis on treatment of roadsides that will be used frequently throughout project construction;
- Prevent introduction of seeds and minimize dispersal of state-designated noxious weeds by following appropriate and standard methods of abatement, including BMPs for washing project-related vehicles and equipment, especially for vehicles newly arriving at the project site. Implement documentation procedure for ensuring that applicable vehicles are washed before use on site;
- Use proper soil management techniques, including stripping, stockpiling, and reapplying topsoil (generally defined as the upper 6 to 12 inches of soil where biological activity is concentrated) to establish surface conditions that will enhance development of diverse, stable, and self-generating plant communities. Topsoil management will apply to all areas of the project where excavation, grading, or other construction activities could result in mixing of soil layers;
- Establish stable surface and drainage conditions and use standard erosion control devices and techniques to minimize soil erosion and sedimentation, including the installation of silt fencing, straw bales, mulch, straw wattle, erosion control fabric, and slope breakers, as appropriate.
- If the applicability requirements of the NPDES Stormwater discharge permit #1200-c are met, maintain compliance with the Erosion and Sediment Control Plan (ESCP) requirements of the National Pollution Discharge Elimination System (NPDES) 1200-C permit. Maintain the ESCP drawings onsite during construction.
- Use certified weed-free straw bales, straw mulch, hydromulch, and/or other appropriate weed-free mulch materials for soil erosion and sediment control measures;
- Prevent introduction of seeds from plants that are listed by Oregon or on the U.S. Department of Agriculture federal list (PLANTS website) as noxious or invasive weeds;
- Establish terrain compatible with the surrounding landscape (recontouring) that emphasizes restoration of existing drainage and landform patterns, to the extent practical; and
- Minimize construction impacts in the project area by, where practical and safe, limiting grading and clearing to avoid impacts to native vegetation and wildlife habitat.

## **5.1 Revegetation of Shrub-Steppe and Grassland**

Shrub-steppe and Grassland habitat subtypes are the primary non-agricultural vegetation type present in the facility area. Much of these habitat subtypes are considered marginal in quality due the presence of invasive weeds and past fires.

### Seed Mix

The certificate holder will use a seed mixture consisting of native grass species known to provide erosion control and wildlife forage benefits. Seed mixture selection was based on consultation with ODFW (2010b), online guidance provided by ODFW for the restoration of burned areas in northeastern Oregon (ODFW 2010a), and consultation with County weed control staff (2013). The current seed mix (Table 2) may be altered at the request of landowners, ODOE, and ODFW.

Plant materials (seed and nursery stock) used in revegetation must be adapted to the conditions of the site in order to have the best chance of germinating and long-term survival. All plant materials shall meet the following requirements, pending approval by ODFW and the Morrow and Gilliam County Weed Departments:

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- Seed and nursery stock shall be “source identified.” The original source for the plant material should be Columbia Plateau Ecoregion (north-central Oregon State). The seed should be a locally adapted biotype, adapted to conditions similar to the project site.
- Seed shall be certified “weed free”, indicating there are no noxious weeds in the seed.
- Seed application rates shall be based on pure live seed per pound, which is passed upon purity and germination testing.
- Seed shall be tested within 120 days of application for purity, germination, and noxious weed content. Inert matter should not exceed 10%. A tetrazolium test may be performed on forb species, which are limited in availability in order to assess viability of the seed before it is used.

**Table 2. Seed Mix for Temporarily Disturbed Project Areas in Shrub-Steppe and Grassland Habitat Types (Habitat Category 2, 3 and 4)**

Common Name	Scientific Name	PLS lbs/Acre <sup>1,2</sup>	Description/ Purpose
Secar bluebunch wheatgrass	<i>Pseudoregneria spicata</i>	7	(N) (EC) (F)
Sherman big bluegrass	<i>Poa ampla</i>	2	(N) (F)
Great Basin wildrye *	<i>Elymus cinereus</i>	1.5	(N) (EC) (F)
Needle and thread grass*	<i>Hesperostipa comata</i>	1.5	(N) (EC) (F)
Sandberg bluegrass*	<i>Poa secunda</i>	1.5	(N) (EC) (F)

(N) = Native, (EC) = Erosion Control, (F) = Forage

\* Optional species depending on site and availability

<sup>1</sup> PLS= pure live seed

<sup>2</sup> Final lbs/acre may change at the request of the landowner or ODFW

Areas of temporary disturbance will be graded to be consistent with existing topography and drainage patterns as soon as possible after the final construction ground disturbance and, if necessary, areas compacted by construction activities shall be ripped to a depth of 12” where feasible and roughened to provide maximum seed-soil contact. Re-seeding may not be necessary or appropriate in some areas, including places where vegetation has been flattened but not crushed and those where little or no vegetation was present prior to construction. Areas will be evaluated to determine whether re-seeding or other revegetation techniques are required to return the area to preconstruction vegetation conditions (as further described in Section 6, *Monitoring Program*, of the Amended Plan).

## 5.2 Seed Planting Methods and Schedule

Re-seeding of temporary disturbance areas will be conducted during the appropriate season and as weather conditions allow. The recommended seed mixture (Table 2) will be applied at an approximate rate of at least 8 to 12 pounds/acre and will be dependent on the method of seeding used. Seeds will be applied using either manual or mechanical methods, depending on factors such as the size of the area to be re-seeded and risk for further disturbance due to the use of planting equipment (e.g., tractor or all-terrain vehicle). Straw mulch, hydromulch, and/or other appropriate weed-free mulch material may be applied as needed immediately after seeding. The certificate holder anticipates using the restoration and re-seeding guidelines provided in this Amended Plan; however, the methods and timing could be altered at the request of landowners, ODOE, or ODFW.

Disturbed areas will be re-seeded as soon as possible after final construction disturbance in each area. Crews will attempt to conduct all re-seeding during the period from February through early April for construction disturbances that occurred during the winter and early spring. For areas where construction is completed outside of the winter or spring periods, re-seeding will be delayed until the months of October or November. If final construction and soil restoration is not completed at a time that allows immediate re-seeding during one of the two periods listed above (winter/spring or fall), the areas will be mulched or otherwise treated to minimize erosion, if necessary, until seeding can be conducted.

The certificate holder may employ broadcast seeding, drill seeding, and/or hydroseeding to apply the seed as appropriate and feasible; the choice of method will depend on slope and other site conditions. For example, drill seeding and broadcast seeding could be used as appropriate on areas with a slope of less than 3:1, and hydroseeding should be used on areas with a slope of greater than 3:1. Seeding rates (pounds of pure live seed per acre) must be adjusted according to the seeding method used. For hydroseeding, green- dyed, wood-fiber mulch shall be added to the slurry mixture at a rate of 1,000 pounds per acre. In addition to serving as a carrying agent for the seed, the biodegradable green mulch serves as a tracer for visually checking distribution to ensure complete and uniform coverage of the disturbed areas.

### **5.3 Weed Control Strategies**

Weed control will be a priority for the life of the facility including pre-construction, construction and on-going operation and should begin early to prevent infestations and development of substantial weed seed reservoirs in the soil. Emphasis will be placed on avoiding infestations and controlling populations of state-listed and county-listed noxious weeds known to occur on the site.

The certificate holder shall conduct long-term weed surveys following the initial five years (or more) of annual surveys required to document revegetation success criteria under this amended plan. Once revegetation success has been documented, long term surveys of the revegetation areas will be conducted and reported consistent with the schedule for noxious weed monitoring of the Habitat Mitigation Area as described in the WHMMP. Comprehensive surveys will occur every five years (in years divisible by five) for the life of the facility. Weed control and monitoring activities will be conducted more frequently (at least every two years), in areas prioritized based on the results of the comprehensive surveys, and reported to ODOE and ODFW as part of WHMMP reporting. Weeds will be controlled as needed to maintain and enhance habitat quality within the revegetation areas, with the goal of working toward eradication of targeted noxious weeds or, if eradication is not practical, decreasing their abundance to minimize impacts on native plant communities.

## **6 MONITORING PROGRAM**

The certificate holder will monitor the revegetated areas according to the protocol and schedule described below. For revegetation of minor acreage associated with Amendment 2 site improvements, the certificate holder will use pre-construction consultation with ODFW, ODOE, and the Morrow and/or Gilliam County Weed Departments to determine the appropriate mix of monitoring methods, schedule, and success criteria appropriate to the scale and location of small revegetation areas. The purpose of monitoring is to evaluate long-term soil stability, vegetation composition and cover, and occurrence of noxious and invasive weeds within areas disturbed during construction. In order to properly assess the progress of vegetation establishment, the certificate holder shall maintain a record of revegetation work. In the record, the certificate holder shall include the date that construction activity was completed in the area to be restored, a description of the affected area (location, acres affected and pre-disturbances condition) and supporting figures representing the revegetated area, the date that revegetation work began and a description of the work done within the affected area. The certificate holder shall update the revegetation records as revegetation work occurs.

The certificate holder shall use experienced and properly trained personnel (“investigators”) to conduct the monitoring required under this Amended Plan. The professional qualifications of the investigators are subject to approval by ODOE; the qualifications of the investigators shall be provided to ODOE

prior to pre-construction monitoring (see Section 6) and ODOE shall be notified if changes in investigator occur.

It should be noted that post-construction annual monitoring for Unit 1 and its associated components commenced in 2017 and will continue through 2021, or until ODOE, in consultation with ODFW, concludes that success criteria have been met, or that a less frequent revegetation monitoring schedule may be implemented.

Post-construction annual monitoring for the new components approved in the Second Amended site certificate and the Carty Solar Farm and its associated facilities may be conducted in coordination with monitoring for Unit 1 and its associated components, if the timing aligns; however, revegetation records and reporting should be maintained and submitted to ODOE separately (either as separate reports or clearly delineated sections of the same report) since the impacts, revegetation status, and activities may differ for the previously approved operating facility components compared to the facility components approved in the First and Second Amended site certificates.

### **6.1 Pre-Construction Vegetation and Weed Survey**

Revegetation success shall be measured at approved, fixed-point monitoring sites within the disturbed area and compared to pre-disturbance habitat conditions as documented by pre-disturbance vegetation monitoring at the same site. If pre-disturbance monitoring data is not available for a particular site, revegetation monitoring data will be compared to a reference site approved by ODFW. Pre-disturbance monitoring will be conducted using the same protocol described below for post-construction monitoring, which will allow comparison of revegetated condition to pre-disturbance condition. The pre-disturbance vegetation and weed survey plan shall be submitted for review and approval by ODOE, in consultation with ODFW, as part of the agency consultation described in Section 4 of this plan.

### **6.2 Monitoring Procedures**

Annual post-construction vegetation and weed surveys will be conducted for a period of at least five years to monitor revegetation success and invasive species control needs at construction disturbance areas. A representative sample (at least 50%) of all disturbance sites will be monitored for revegetation success. As described above in Section 4, *Pre-Construction Agency Consultation*, monitoring sites and reference sites (as needed) shall be identified by the certificate holder and approved by ODOE, in consultation with ODFW, prior to construction. Reference sites (as needed) should be identified that closely resemble the pre-disturbance characteristics of the revegetation area monitoring site as indicated by site conditions, including vegetation density, relative proportion of desirable vegetation and species diversity of desirable vegetation.

Revegetation monitoring will begin in the first year following initial revegetation of temporary disturbance areas and continue annually for five years or until monitored sites are successfully revegetated according to the success criteria described below. All soil disturbance sites will be visited at least once within the first year following revegetation, and annual surveys will be conducted for five years, or until ODOE, in consultation with ODFW, determines the success criteria to be achieved.

To select quantitative monitoring sites, the certificate holder will divide the total disturbance area into multiple monitoring sites, each of which is predominately of one habitat type (grassland or shrub steppe) and no larger than five acres. After dividing the area into such sites, a subset of sites (comprising at least 50% of each habitat type's total temporary disturbance acreage) will be randomly selected to be quantitative monitoring sites. Pre-disturbance vegetation data will be collected at each quantitative monitoring site using a systematic sampling method that can be repeated for post-construction monitoring. For example, a minimum of one, randomly-located 100-meter long by 5-meter wide belt transect could be used for documenting shrub and bunchgrass density, within which a point-intercept method or sampling quadrats could be used for collection of percent cover data. All sites not selected for quantitative monitoring would be qualitatively monitored using photo points and visual surveys.



During revegetation surveys, a qualified biologist shall inspect all areas of revegetation, including each revegetation area monitoring site, to assess revegetation success based on the success criteria and to recommend remedial actions, if needed. The qualified biologist will collect the following information within the general revegetation area, revegetation monitoring sites, and within the reference sites (if needed), as appropriate:

Quantitative monitoring will include a systematic monitoring protocol conducted at each monitoring site.). The following data will be collected at quantitative monitoring sites (both pre-disturbance and post-construction) and reference sites (if needed, just once):

- The habitat type of the area to be disturbed;
- Photo(s) representing the habitat (from documented location and direction so they are repeatable for post-disturbance revegetation monitoring);
- Density and percent cover of vegetation by plant species (determined through a quantitative sampling design such as randomly-located quadrats, belt transects, or other monitoring design approved by ODFW);
- Percent cover bare ground within the same sampling plots, and also estimated for the entire monitoring site, noting any large areas (>100ft<sup>2</sup>) of bare ground and estimated area;
- Percent cover of “other” ground cover by category (i.e., rock, gravel, hydro-mulch, vegetation litter, etc.)
- Percent cover estimate and species list of noxious weeds on the entire monitoring site in addition to sampling plot data;
- Vegetation structural stage, slope, soil type;

The following qualitative monitoring data will be collected both pre-disturbance and post-construction at all disturbance sites that are not quantitatively monitored:

- Photo(s) representing the habitat (from documented location and direction so they are repeatable for post-disturbance revegetation monitoring);
- List of noxious weed species present and estimated percent cover
- Note any erosion issues that need remedial action or any large areas of bare soil (>100ft<sup>2</sup>) that may require additional seeding.

### **6.3 Remedial Action and Maintenance**

Following each of the surveys described above, the site certificate holder will consult with ODOE and ODFW to determine need for remedial measures to address remaining soil impacts and revegetation requirements not achieved through initial plantings. The nature of the remedial actions will depend on the problems that arise. ODOE may require reseeding or other remedial measures in those areas that do not meet the success criteria.

Common remediation measures will include:

- Reseeding of select areas where significant areas of bare soil remain after establishment of initial seeding;
- Determining the cause of low plant survival and implementation of actions appropriate to the cause of mortality (this may include selection of an alternate species better adapted to conditions at the site);
- Control of noxious weed/invasive plant species by qualified personnel using appropriate methods for the target species (e.g., herbicides applied according to label requirements if herbicides required);

- Repair of erosion control structures; and
- Soil decompaction.

The certificate holder will make every attempt to implement the recommended remedial actions as soon as possible, considering the season, weather conditions, and other site-dependent constraints.

The certificate holder will document revegetation progress and remedial actions in an annual Revegetation and Noxious Weed Control Monitoring Report to ODFW and ODOE (see section 5.4 below).

If a wildlife habitat area is damaged by fire during the first five years following initial seeding, the certificate holder shall work with the landowner to restore the damaged area. The certificate holder shall continue to report on revegetation progress during the remainder of the five-year period. The certificate holder shall report to ODOE the damage caused by fire and the cause of the fire, if known.

If an area is not trending toward meeting the success criteria at Year 5, the certificate holder may propose and ODOE may require remedial action and additional monitoring based on an evaluation of site capability. As an alternative, the certificate holder or ODOE, in consultation with ODFW, may conclude that revegetation of the area was unsuccessful and propose appropriate mitigation for the permanent loss of habitat quality and quantity. The certificate holder shall implement a remedial action plan, subject to the approval of ODOE in consultation with ODFW.

#### **6.4 Revegetation Success Criteria**

Revegetation will generally be considered successful when the revegetated areas support non-noxious plant communities that are similar in vegetation percent cover and erosion potential comparable to pre-disturbance condition or surrounding undisturbed areas. While the certificate holder shall evaluate whether all previously-disturbed wildlife habitat areas are trending towards revegetation success, the success criteria are evaluated based on the revegetation success of the approved revegetated monitoring sites compared to either pre-disturbance condition or reference sites, as appropriate. A wildlife habitat area is successfully revegetated when the habitat quality is equal to, or better than, the habitat quality of the pre-construction condition of the monitoring site itself or of an appropriate reference site selected in consultation with ODFW.

When the site certificate holder determines that an area of the project has been successfully restored by satisfying all success criteria, this will be stated in the annual revegetation report. If ODFW and ODOE concur, the site certificate holder will conclude that it has no further obligation to perform revegetation activities in that area of the facility. Reseeding or replanting efforts will occur, in consultation with ODFW, in any area where monitoring identifies a restoration failure.

The following criteria will be used to determine success of revegetation efforts related to construction of facilities authorized under Amendment 1:

1. Native Shrubs: The average density of the shrub component should be at least 50 % of the pre-disturbance or reference site density within 5 years. At least 15 % of the shrub density should be the dominant species found during pre-disturbance monitoring or on the reference site. The diversity of shrub species within the revegetated areas should at least equal the shrub species diversity measured during pre-disturbance monitoring or on the reference site.
2. Native Grasses: Revegetated sites should maintain grass species diversity and density that is at least 85% similar to pre-disturbance or reference sites diversity and density. Native bunchgrasses should be given preference. Native grasses are to be planted at rates sufficient to achieve abundance and diversity characteristics of the grass component compared to pre-disturbance or reference site conditions.
3. Non-Native Weeds: Every attempt should be made to prevent and control all species listed on county, state, and federal noxious weed lists. Revegetation sites should not contain a higher

percentage of non-native weed cover than the pre-disturbance or reference site condition. All state and federal laws pertaining to noxious weeds must be followed. Highly competitive invasive species such as cheatgrass and other weedy brome grasses are prohibited in seed mixtures and should be actively controlled if any are found in the reclaimed areas.

The following success criteria from the original plan apply to temporary disturbance areas associated with Unit 1 construction. For those areas, PGE may either continue to use the criteria below, or follow the newer success criteria above using a reference site (approved by ODFW) for comparison.

1. The vegetation percent cover by native species and desirable non-native species (both seeded and naturally recruited) is 40 percent or more, or not significantly less than the percent vegetation cover of surrounding undisturbed areas.
2. Noxious weeds are absent or constitute only a small percentage (<5%) of vegetation otherwise dominated by native or desirable non-native species.
3. The percentage of bare soil (excluding rocky areas) in the sample plot is not significantly greater than the percentage of bare soil in surrounding undisturbed areas.

When ODOE, in consultation with ODFW, finds that the conditions of the wildlife habitat area revegetation monitoring sites satisfy the criteria for revegetation success, ODOE shall conclude that the certificate holder has met the restoration obligations for that area.

## **6.5 Reporting**

The certificate holder will provide an annual Revegetation and Noxious Weed Control Monitoring Report for five years or until success criteria are achieved following initial revegetation of construction disturbance areas. In addition to the annual reports, PGE will share preliminary monitoring results with ODFW/ODOE as soon as possible following monitoring fieldwork to allow consultation regarding planning necessary remedial measures such as erosion control, reseeding, and weed control. Such consultation will allow more timely coordination and response to habitat management needs than may occur under the annual reporting process. This additional consultation is required for revegetation monitoring associated with facilities authorized under Amendment 1 and is recommended as a best management practice for Unit 1 revegetation areas.

Each annual report will contain a summary of field data collected during field visits and include: an assessment of whether revegetation area monitoring sites are trending toward meeting the success criteria; assessment of factors impacting the ability of the revegetated area monitoring sites to trend towards meeting the success criteria; a summary of consultation with ODOE, ODFW, and Morrow and Gilliam Counties ~~County~~ and remedial measures (e.g., seeding, noxious weed control, and repair of erosion control structures) taken since the last annual report; any additional remedial measures planned; and the anticipated dates of completion of additional remedial measures.

## **6.6 Amendment of Plan**

This Plan may be amended from time to time by agreement of the certificate holder and the Oregon Energy Facility Siting Council (Council). Such amendments may be made without amendment of the site certificate. The Council authorizes ODOE to agree to amendments to this Plan. ODOE shall notify the Council of all amendments, and the Council retains the authority to approve, reject, or modify any amendment of this Plan agreed to by ODOE.

## 7 REFERENCES

- Oregon Department of Fish and Wildlife. 2010a. Rehabilitating Habitat. ODFW website: [http://www.dfw.state.or.us/fire/fire\\_rehab.asp](http://www.dfw.state.or.us/fire/fire_rehab.asp). Accessed on December 15, 2010.
- \_\_\_\_\_. 2010b. Personal communication between Lucas Meek of Ecology and Environment, Inc. and Travis Schultz of ODFW. Email correspondence dated December 8, 2010.
- Oregon Energy Facility Siting Council. 2007. Biglow Canyon Wind Farm: Revegetation Plan. March 10, 2007. <http://www.oregon.gov/ENERGY/SITING/docs/BCWOa2B.pdf>
- \_\_\_\_\_. 2013. Carty Generating Station project site field visit with Dave Pranger (Morrow County) and Don Farrar (Gilliam County), October 2, 2013.
- \_\_\_\_\_. 2017. Personal communication between Andy Bidwell of PGE and Dave Pranger, Morrow County Weed Coordinator/Inspector. Email correspondence dated December 21, 2017.
- \_\_\_\_\_. 2018. Conference call attended by PGE, ODFW, and ODOE to discuss revisions to the Carty Generating Station Revegetation and Noxious Weed Control Plan, June 12, 2018.

## Attachment 4

### Cost Estimate for Decommissioning Carty Generating Station

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## Attachment 5

### Wildlife and Habitat Mitigation and Monitoring Plan

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# **Carty Generating Station: Draft Amended Wildlife and Habitat Monitoring and Mitigation Plan<sup>1</sup>**

**December 14, 2018<sup>2</sup>, February 17, 2020<sup>3</sup>**

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## **I. INTRODUCTION**

The Carty Generating Station includes existing generating components (Unit 1 and its associated components and existing components originally approved under the Boardman Coal Plant site certificate) and approved, but not yet constructed generating components (Carty Solar Farm and its associated components and new components proposed in the Second Amended site certificate). Portland General Electric (PGE or certificate holder) received a site certificate from the Energy Facility Siting Council (Council) in June 2012 authorizing the construction and operation of a 900 megawatt (MW) combined-cycle natural gas-fueled energy generating facility in Boardman, Oregon in Morrow County (Carty Generating Station). The Council's 2012 approval authorized construction and operation of two 450-MW combined-cycle natural gas-fueled turbine generators (Unit 1 and Unit 2). PGE commenced Unit 1 construction on January 9, 2014; PGE completed Unit 1 construction on December 26, 2016; Unit 1 began operation on July 29, 2016. The construction commencement deadline for Unit 2 expired in June 2017 and therefore the certificate holder no longer has the authority to construct or operate Unit 2.

The Council issued the First Amended site certificate on DATE December 14, 2018, authorizing a site boundary change and the construction and operation of a 50 MW photovoltaic solar unit, five 34.5 kilovolt (kV) interconnecting transmission line routing options, and temporary construction and laydown areas (Carty Solar Farm). The construction commencement and completion deadlines for the components authorized in the First Amended site certificate is DATES are February 4, 2022, and February 4, 2025, respectively. The Council issued the Second Amended site certificate on DATE authorizing a boundary change; construction and operation of a new septic system, backup water pipeline, office/warehouse building, and security guard station; and incorporation of existing facilities that had been permitted under the Boardman Coal Plant site certificate including Carty Reservoir, existing transmission infrastructure, and interconnecting water pipelines. The construction commencement and completion deadlines for the components authorized in the Second Amended site certificate are DATES.

This Amended Wildlife and Habitat Monitoring and Mitigation Plan (Amended Plan) describes wildlife monitoring that the certificate holder shall conduct during construction and operation of the Carty Generating Station (facility), including the already constructed Carty Unit 1; Grassland Switchyard; the transmission line segment connecting Unit 1 to the switchyard; additional facilities as approved under Site Certificate Amendment 1, including the Carty Solar Farm site just southeast of Carty Reservoir and the associated interconnection transmission line; and additional facilities as approved under the Second Amended site certificate. The monitoring objectives are to determine whether the facility causes

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<sup>1</sup> This Amended Plan is incorporated by reference in the site certificate for the Carty Generating Station and must be understood in that context. It is not a "stand-alone" document. This plan does not contain all mitigation required of the certificate holder.

<sup>2</sup> A draft version of this plan was included as Exhibit 1 to the Energy Facility Siting Council's *Final Order on the Carty Generating Station Application for Site Certificate* (June 29, 2012). In accordance with Site Certificate Condition 10.1, the certificate holder consulted with the Oregon Department of Fish and Wildlife (ODFW) and obtained Department approval of the Plan prior to the start of construction (December, 2013). As allowed by Section IX of the Plan, ODOE reviewed and approved an amended Plan on July 7, 2014. This February 2018 amended plan is being submitted as part of the Request for Amendment No. 1 of the Carty Generating Station Site Certificate.

<sup>3</sup> Minor Plan updates were made to reference additional facilities within Morrow and Gilliam Counties included in the Second Amended site certificate.

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significant fatalities of wildlife species or results in a loss of habitat quality.

This Amended Plan also describes methods and standards for preservation and enhancement of land near the Carty Generating Station to mitigate for impacts of the facility on wildlife habitat and addresses mitigation for both the permanent impacts of facility components and the temporal impacts of facility construction. The certificate holder shall protect and enhance the mitigation area(s) as described herein. This Amended Plan specifies habitat enhancement actions and monitoring procedures to evaluate the success of those actions. Remedial action may be necessary if the mitigation area(s) do not demonstrate progress toward habitat enhancement success.

## II. DESCRIPTION OF THE FACILITY

The Carty Generating Station Site is located in Morrow and Gilliam Counties, Oregon, approximately 13 miles southwest of the town of Boardman, Oregon. The facility includes two transmission lines: one 500 kV line that extends west from the Grassland Switchyard 17 miles to the Slatt Substation and one 230 kV line that extends northwest to the Dalreed Substation. There is no proposed disturbance associated with the existing transmission lines. All proposed disturbance is within Morrow County. The facility would be located on an upland plateau at an elevation of approximately 650 feet above sea level. The facility components would be located entirely on private lands that are mostly characterized as shrub-steppe, grassland, or agricultural areas. There are some riparian and wetlands habitats present within the amended site boundary; however, all facility components—~~including transmission line towers~~—will be sited to avoid impacts on these habitats. Soil types in the area consist primarily of sandy loam, silt loam, and very stony loam.

Much of the native shrub-steppe vegetation within the site boundary has been modified by livestock grazing and past wildfires. Functional mature shrub-steppe habitat is patchy and is dominated by big sagebrush (*Artemisia tridentata*), broom snakeweed (*Gutierrezia sarothrae*), bluebunch wheatgrass (*Pseudoroegneria spicata*), cheatgrass (*Bromus tectorum*), gray rabbitbrush (*Ericameria nauseosus*), needle-and-thread grass (*Hesperostipa comata*), and Sandberg's bluegrass (*Poa secunda*). Grasslands consist of cheatgrass, crested wheatgrass (*Agropyron cristatum*), bluebunch wheatgrass, needle-and-threadgrass, Sandberg's bluegrass, redstem filaree (*Erodium cicutarium*), and mouse-ear chickweed (*Cerastium* sp.). Riparian forests are dominated by Russian olive (*Elaeagnus angustifolia*), Pacific willow (*Salix lucida* ssp.), Canada goldenrod (*Solidago canadensis*), amaranth (*Amaranthus* sp.), and broadleaf cattail (*typha latifolia*).

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The Oregon Department of Fish and Wildlife (ODFW) describes habitat categories in its Wildlife Habitat Mitigation Policy (Oregon Administrative Rules [OAR] 635-415-0025). The facility will be constructed in two phases, with the generating components referred to as Unit 1 and the Carty Solar Farm. Unit 1 (generating unit and a portion of the switchyard), completed in 2016, occupies approximately 45 acres of Category 4 shrub-steppe habitat, and temporary construction-related impacts occurred on approximately 55.4 acres of Category 4 shrub-steppe habitat. Portland General Electric Company (PGE) established a Habitat Mitigation Area (HMA) of 78 acres (the HMA for Unit 1) to mitigate these permanent and temporal impacts.

PGE will establish the HMA for the Carty Solar Farm to mitigate permanent and temporal impacts that result from construction of the Carty Solar Farm. The overall HMA for the Carty Generating Station (the Carty Generating Station HMA, or just HMA in this document) will consist of the combined areas of the HMA for Unit 1 and the HMA for the Carty Solar Farm. Disturbance and mitigation acreage for the Carty Solar Farm will be finalized and updated in this Amended Plan in consultation with ODFW and the Oregon Department of Energy (ODOE) prior to construction of each phase of the project (see Section IV for HMA acreage calculation).

In addition to these two construction phases, minor construction activities will occur as a result of the Second Amended site certificate, which includes a new septic system, new back up water pipeline, new security guard station and associated plumbing and communication lines, and new office/warehouse building. Only the new septic system and new security guard station and associated plumbing and communication lines would be constructed in vegetated areas with a total disturbance of approximately 1.0 acre. The existing habitat management area (HMA) is large enough to accommodate this additional disturbance; therefore, no new HMA is proposed.

### III. WILDLIFE MITIGATION AND MONITORING MEASURES

The certificate holder shall use a qualified investigator (wildlife biologist) to conduct monitoring for Washington ground squirrel (WGS; *Spermophilus washingtoni*), post-construction avian and bat mortality study, raptor nest surveys, and avian use of the facility area. Specific monitoring and mitigation measures for these species are described below (also see Section VII for HMA monitoring requirements):

#### A. Washington Ground Squirrel

##### Best Management Practices

- The certificate holder shall impose and enforce a construction and operation speed limit of 20 miles-per-hour throughout the facility site and, during the active squirrel season (February 1 through June 30) a speed limit of 10 miles-per-hour on private roads near known WGS colonies.
- Conduct Environmental Awareness Training for all facility personnel and construction contractors prior to the beginning of construction or before entering the Project right-of-way (ROW). The training program shall discuss WGS and all other environmental issues related to the facility, and include handouts with WGS identification information and reporting procedures. Smaller training sessions shall be conducted as needed for personnel that start after the beginning of construction.
- In order to discourage WGS from moving into planned construction areas that are currently not within 785 feet of a known WGS colony the certificate holder may disc or till a minimum of an 800-foot buffer within the perimeter of the planned ground disturbance areas in closest proximity to squirrel activity areas. Proposed measures and areas where measures will be

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implemented shall be reviewed by ODOE, in consultation with ODFW, and shall be informed by the most recent WGS survey data. If the certificate holder discs or tills areas, the certificate holder shall plant dryland wheat or another cover crop approved by ODFW in tilled areas. Such areas shall be tilled annually until construction begins to maintain a soil disturbance regime that is unsuitable for use by WGS. Other potential measures for deterring WGS movement into planned construction areas, such as installation of perimeter silt fences, will be planned in coordination with and approved by ODFW. In addition to preventing WGS from moving into the planned construction areas, disking or tilling the planned construction area, and/or implementing other approved deterrence measures, means the area will no longer be considered WGS habitat and would not be included in the no-impact buffer area for any new WGS burrows that are established within 785 feet of the Facility Site Boundary. (Note, an approximately 45-acre portion of the Energy Facility Site was tilled and planted with winter wheat in December 2012 following coordination with ODFW and USFWS).

- If pre-construction surveys determine that WGS burrows have been established in previously inactive areas, the certificate holder shall immediately report to ODOE and ODFW. The certificate holder shall coordinate with ODOE and ODFW to establish additional mitigation measures or to obtain an Incidental Take Permit, as appropriate.
- The certificate holder will consult with ODOE and ODFW to discuss the situation and potential additional avoidance measures should WGS establish burrows within 785 feet of existing facilities, construction activity, or planned construction disturbance areas. If there is concern that, despite reasonable avoidance measures, WGS may accidentally be killed or injured by construction activities, then the certificate holder shall work with ODFW to obtain an Incidental Take permit, as appropriate.

#### WGS Monitoring

The certificate holder shall conduct post-construction surveys on known colonies within the amended Site Boundary, on land owned by the certificate holder, and within the HMA where known active burrows were recorded during pre-construction field surveys. The surveys shall be conducted by qualified biologists in year one, year three, and year five after operation of Unit 1 has begun (i.e., 2017, 2019, and 2021), and in year one, year three, and year five after Carty Solar Farm operation has begun (years tbd), and otherwise at least every five years (in years divisible by five) for the life of the facility. The existing 500 kV Grassland to Slatt and 230 kV Boardman Coal Plant to Dalreed transmission lines incorporated into the Second Amended site certificate will be included in the every fiveyear WGS surveys. Surveyors shall record evidence of WGS activity, current land use, and any conditions caused by the facility that might increase erosion or result in a decline in vegetation quality and adversely affect a WGS colony. Unit 1, portions of the potential Carty Solar Farm transmission line, and portions of new components proposed as part of the second amended site certificate are located on the southwest side of Tower Road. In consultation with ODFW, it was determined that Tower Road is a significant boundary to WGS habitat. Therefore, for active burrows located on the northeast side of Tower Road, the 785-foot buffer will not extend across Tower Road.

#### **B. Raptor Nest Monitoring**

During the year in which any phase of construction occurs, the certificate holder shall use a protocol approved by ODFW to conduct raptor nest surveys to determine whether there are any active nests that would potentially be disturbed during construction. Surveys will consist of ground-based and/or helicopter aerial searches, as appropriate to the construction activity

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locations planned for a given year. Surveys will be carried out to one mile from the amended site boundary.

If a nest is occupied by any of these sensitive raptor species, the certificate holder shall not engage in high-impact construction activities (activities that involve blasting, grading, or other major ground disturbance) or allow high levels of construction traffic within designated buffer distances for each species (Table 1). Buffer distances may be decreased with approval by ODFW and USFWS depending on the intensity of construction activity and whether sufficient barriers (e.g., vegetation, topography) are present to shelter a particular nest site from construction disturbance or if consultation determines a lesser distance is feasible and appropriate. The certificate holder also will instruct construction personnel to avoid any unnecessary activity within the buffer area.

**Table 1. Critical Nesting Periods for Sensitive Raptors**

Species	Disturbance Buffer Distance (line of sight)	Critical Nesting Period	Early Release Date
Ferruginous Hawk	0.6 mile	March 15 to August 15	May 31
Bald Eagle	0.5 mile	January 1 to August 15	May 31
Swainson's Hawk	0.25 mile	April 1 to August 15	May 31
Golden Eagle	1 mile	January 1 to August 15	May 31
Burrowing Owl	0.25 mile	April 1 to August 15	July 15
Long-billed Curlew*	0.5 mile	March 8 to June 15	May 31

\*Although not a raptor species, a critical nesting period and buffer of 0.5 mile for active long-billed curlew nests were included in the Site Certificate. While not actively surveyed for, any curlew nests that are incidentally found will be protected with the stipulated nest buffer.

The certificate holder will direct a qualified biological monitor, as approved by ODOE, to observe the active nest sites during the sensitive period for signs of disturbance. The qualifications of the biological monitor shall be provided to ODOE in the annual report; the certificate holder shall provide notification to ODOE if changes in biological monitor occur. If an active State-sensitive raptor nest is found during construction that is for a species not currently identified in Table 1, the certificate holder will consult with ODFW and USFWS and institute buffer distances and monitoring as appropriate.

The certificate holder may begin or resume high-impact construction activities before the ending day of the sensitive period if any known nest site is not occupied by the early release date (Table 1). If a nest site is occupied, the certificate holder may begin or resume high-impact construction before the ending day of the sensitive period, with the approval of ODFW and USFWS, after the young are fledged. The certificate holder would use, and shall provide a copy to ODOE, of a protocol approved by ODFW and USFWS to determine when the young are fledged (that is, when the young are independent of the core nest site).

Annually during construction and in year one, year three, and year five after operations of Unit 1 have begun (i.e., 2017, 2019, and 2021) and year one, year three and year five after operations of Carty Solar Farm have begun (years tbd) and otherwise at least every five years (in years



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divisible by five) for the life of the facility, the certificate holder shall provide ~~an annual~~ sensitive species raptor nest monitoring report to ODOE, ODFW and USFWS. The report will document the locations and nest productivity of sensitive raptor species nests one mile of the amended site boundary. The existing 500 kV Grassland to Slatt and 230 kV Boardman Coal Plant to Dalreed transmission lines incorporated into the Second Amended site certificate will be included in the every five year raptor nest surveys. The certificate holder shall consult with USFWS and ODFW regarding any active protected bird nests found within the construction disturbance area or within the disturbance buffer distances (Table 1) of facility construction or operational activities.

If nest monitoring detects nest site abandonment or other adverse impact to nesting activity caused by facility activity, the certificate holder shall implement appropriate mitigation, in consultation with ODFW and subject to the approval of ODOE. The certificate holder shall propose and implement mitigation for the affected species in consultation with ODOE, ODFW, and USFWS. Mitigation shall be designed to benefit the affected species or contribute to overall scientific knowledge and understanding of what causes nest abandonment or nest failure. Mitigation may be designed to proceed in phases over several years. It may include, but will not be limited to, additional raptor nest monitoring, protection of natural nest sites from human disturbance or cattle activity (preferably within the general area of the facility), or participation in research projects designed to improve scientific understanding of the needs of the affected species.

All bird mortalities and active nests of all other protected bird species found in association with facility components shall be documented and reported consistent with PGE's adopted Avian Protection Plan. All eagle and other sensitive raptor species mortalities shall be reported immediately to USFWS and ODFW.

### C. Avian Protection

The certificate holder maintains a company-wide Avian Protection Plan (APP) to reduce impacts to avian species from electrocutions and collisions with electric utility power lines and equipment. The APP is hereby adopted by reference. The APP includes the following three-phased approach to address avian risks that will be applied to the development of the Carty Generating Station:

- Preventive – Emphasize compliance with applicable laws, regulations, and permits. Use avian-safe standards in areas identified as having high avian risk;
- Reactive – Implement the Avian Reporting System (report bird mortalities and conduct remedial measures as appropriate); and
- Proactive – Conduct employee training and risk assessments of existing lines, modify lines when necessary, and contribute to research of avian/electrical equipment interactions.

Electrocution from high-voltage transmission lines is very rare because the distances between conductors, and between conductors and grounded hardware, are greater than the wingspan of any raptor (APLIC 2006).<sup>4</sup> However, transmission lines do present a collision risk for birds.

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<sup>4</sup> APLIC (Avian Power Line Interaction Committee). 2006. Suggested Practices for Avian Protection On Power Lines: The State of the Art in 2006. Edison Electric Institute, APLIC, and the California Energy Commission. Washington D.C. and Sacramento, CA. [http://www.aplic.org/uploads/files/2643/SuggestedPractices2006\(LR-2\).pdf](http://www.aplic.org/uploads/files/2643/SuggestedPractices2006(LR-2).pdf). Accessed August 23, 2016.

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Consistent with the APP, the certificate holder shall employ pre-construction measures to protect raptors in the design and construction of transmission lines. Protection measures to reduce the potential risks to raptors and other birds will include the following:

- Design and construct all above-ground transmission line support structures following the practices suggested by the Avian Powerline Interaction Committee (APLIC), including a minimum separation of 9 feet between all energized transmission conductors;
- Install perch guards or other deterrents as needed and safe alternative perching or nesting locations, as appropriate; and
- Install bird flight diverters and line marking devices where necessary to minimize areas of bird collision risk, such as bird concentration areas (wetland/riparian areas) and known flight routes.

A nest management procedure, which identifies steps facility employees must take when a nest is encountered on utility structures, is also included in the APP. As described in the APP, the certificate holder will track avian mortalities, nest management issues, and remedial actions taken using an internal reporting system and database, the Avian Reporting System. This reporting database allows: (1) tracking of incidents and remedial actions to ensure that all measures are completed and documented, (2) accumulation of a long-term data set, and (3) compliance with the reporting requirements of the USFWS Special Purpose Permit currently held by the certificate holder. The reporting system also provides data on the location and frequency of bird mortalities and problem nests.

Where feasible, the certificate holder shall conduct site preparation for construction of the Carty Generating Station and transmission line in a manner that minimizes potential for impacting nesting native birds protected by the Migratory Bird Treaty Act, such as conducting initial site clearing outside of the typical bird breeding season (generally March to July). Prior to commencement of construction activity during the breeding season, a qualified biologist shall survey the construction site to determine the presence of any active protected bird nests. Construction personnel shall be trained in avian awareness, reporting of protected bird nests, and the proper procedures if dead birds are found at the construction site.

#### **D. Post-construction Avian and Bat Mortality Monitoring (Carty Solar Farm)**

##### **Monitoring Goals**

The monitoring program will involve surveys designed to estimate bird and bat fatality rates at the Carty Solar Farm in the year following start of Carty Solar Farm operation. The certificate holder will analyze bird and bat carcass monitoring data to accomplish the following goals:

- Detect carcasses and estimate bird and bat fatality rates for the Carty Solar Farm;
- Estimate fatality rates for species of concern, if practicable; and
- Determine whether additional conservation measures are needed to reduce impacts to birds and bats at the Carty Solar Farm.

##### **Monitoring Methods**

###### **i) Study Design**

The avian and bat mortality monitoring study is designed to maximize the accuracy of the fatality estimates and to correct for the following sources of field-sampling error: (1) carcasses that occur on a highly periodic basis, (2) carcass removal by scavengers, (3) searcher efficiency, and (4) carcasses or injured birds or bats that may land or move to areas not included in the search transects (Kunz et al. 2007). Post-construction monitoring at the Carty Solar Farm will involve standardized distance-sampling based carcass searches, searcher efficiency trials, and

carcass persistence trials, consistent with recommendations from Huso et.al (2016b) and accepted monitoring designs at other utility-scale solar facilities (WEST 2016a-c). Surveys of the PV panel area will be conducted using a distance-sampling based methodology. The layout of PV facilities is often well-suited to a distance-sampling approach. Distance sampling involves searching a transect line and assumes that searcher efficiency decreases (possibly dramatically) as a function of distance from the observer, and is ideally suited to situations in which animals (or carcasses) are sparsely distributed across a landscape (Buckland et al. 1993). As the landscape at the Carty Solar Farm would be flat and relatively clear of vegetation, a distance sampling design is well supported, as demonstrated at other PV solar facilities (WEST 2016a; Huso et. al 2016b).

Distance sampling adjusts carcass counts for variable searcher efficiency by calculating the *effective* searcher efficiency along a transect. Effective searcher efficiency is the average probability of detection in the searched area, derived from the detection function. As a highly simplified example, if a searcher walks a 10-m (33-ft) long transect line and detects 90% of all carcasses within 10-m of the line, and 60% of carcasses that are 10 to 30 m (33 to 99 ft) from the line, then the effective searcher efficiency between zero and 10 m would be 0.9 and the effective searcher efficiency between 10 and 30 m would be 0.6. For the total 10 by 30-m area, the effective searcher efficiency would be  $\frac{0.9+0.6}{100m^2+200m^2} = 0.5$ .

In practice, searcher efficiency is modeled as a continuous function of distance, and the detection function is estimated from bias trial data. An advantage to the use of data from bias trials is that the assumption that carcasses are randomly distributed within the search area (typical of most distance sampling designs) becomes unnecessary. Furthermore, having a sufficient sample size to fit the detection function is no longer dependent on what is observed, as in most distance sampling studies, and trials can be placed to measure potential covariates such as carcass size and ground cover. The fitted detection function is used to determine the overall probability of detection as well as to inform the approximate effective view shed of non-zero detection probability for observers.

Final study design will depend on actual as-built configuration of the Carty Solar Farm and post-construction site conditions, and current knowledge of avian mortality at PV solar farms and will be determined in coordination with ODFW. One potential design, if compatible with site design and conditions such as vegetation height, would be for surveyors to walk or drive an ATV along the facility's access roads, perpendicular to panel rows, and scan 90 meters (295 ft) along the PV array rows (Figure 1). Surveys will include a 50% sample of the blocks in the PV panel area. Study design may be refined, scaled down, or systematic study eliminated entirely if results from other PV solar farm systematic studies to date at the time of project construction indicate a low expected risk of bird mortality at Carty Solar Farm.

## **ii) Search Interval and Search Period**

Surveys will be conducted once every three weeks November through February, and once every two weeks from March through October in the year following start of Carty Solar Farm operation; this period includes spring and fall migration and summer nesting/maternity seasons for birds and bats, respectively. Carcass persistence trials will be conducted concurrently with carcasses searches, and if documented scavenger rates indicate that shorter or longer search intervals are needed, the search intervals may be modified to improve carcass detection rates. Guidance from Huso et. al (2016b) suggests determining search intervals such that the average probability a carcass is available to be found is at least 50%. Since carcass persistence may vary by carcass size, search intervals should be determined based on the size or sizes of principal



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species of interest; for example, if impacts to water-associated birds are a focus, then search intervals can be adjusted based on persistence times for large and medium-sized birds, such as grebes, ducks, and loons.

**iii) Searcher Qualifications**

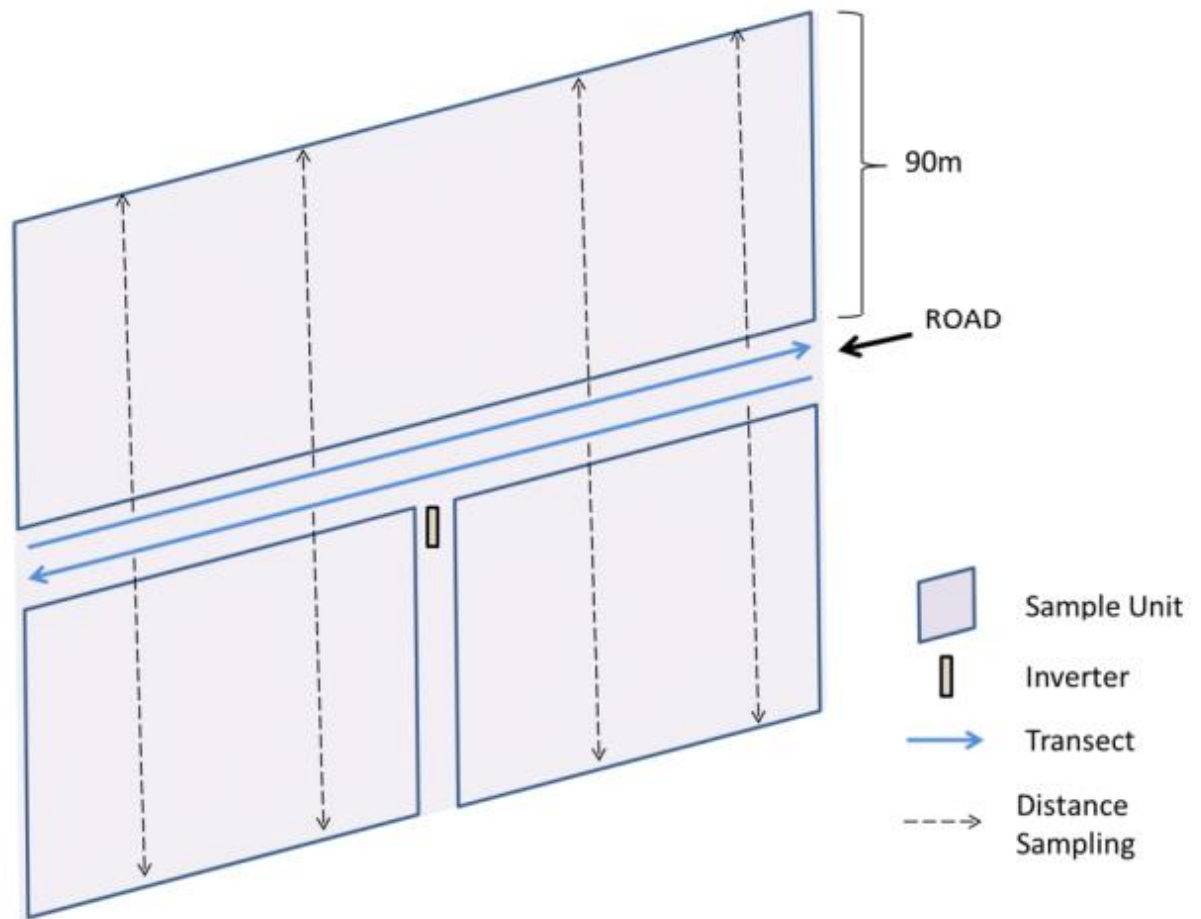
Searchers will be trained to conduct carcass searches and will be familiar with and able to accurately identify bird and bat species likely to be found in the Carty Solar Farm area. Any unknown birds and bats or suspected state or ESA-listed species discovered during carcass searches will reported to a qualified biologist for positive identification.

**iv) Data Collection**

For each carcass or injured bird found, data recorded will include the following:

- Photos of the carcass from different angles and including a size-referencing object
- Date and time
- Initial species identification
- Sex, age, and reproductive condition (when possible)
- GPS location
- Nearest CARTY SOLAR FARM component (PV array, control house/storage facility, equipment, or other)
- Distance to the nearest PV panel
- Distance from observer when carcass first observed
- Substrate/ground cover conditions
- Condition of specimen
  - Dead and intact
  - Fresh or Dry
  - Dismembered
  - Feather spot (at least two or more primary feathers, five or more tail feathers, or ten or more feathers)
  - Other evidence of scavenging
  - Injured (note apparent injuries)

Bird and bat carcasses found in non-search areas (i.e., outside of the sampled areas described in Section i) will be coded as incidental finds and documented in a similar fashion to those found during standard searches. Incidental finds will be included in the raw survey summary totals but will not be included in the estimated fatality calculations. Carcasses be collected and disposed of consistent with PGE's Avian Protection Program and existing federal Migratory Bird Special Purpose Utility permit. Injured birds will be transferred to a licensed rehabilitator.



**Figure 1. Example illustration of generic PV sampling unit with travel routes and searches using distance sampling ('observation perspectives').**

*(1) Searcher Efficiency and Carcass Persistence Trials*

Searcher efficiency and carcass persistence trials will be conducted in conjunction with standard carcass surveys. Searcher efficiency trials will be placed throughout each season on scheduled search days to ensure trials are representative of search conditions throughout each season. Trials will be placed on at least five different days throughout each season. Searcher efficiency trials will be used to estimate the percentage of bird and bat carcasses that are detected during the carcass searches. Using the detection function fit from searcher efficiency trial data, the average probability of detecting a carcass along a specified length of panel rows can be calculated and used to adjust discovered carcasses for detection bias. Similarly, carcass persistence trials will be used to estimate the percentage of bird and bat carcasses that persist (i.e. are not removed by scavengers) long enough to be located by searchers. When considered together, the results of searcher efficiency and carcass persistence trials will inform the likelihood that a bird or bat carcass that falls within the searched area will be recorded. These correction factors will be incorporated into a fatality estimate model to estimate fatality rates.

The bias-trial sample sizes required to produce precise, adjusted fatality estimates are not well established, in part because needs may vary substantially depending on actual project-specific searcher efficiency, carcass persistence, and fatality rates. However, using searcher-efficiency trials to help

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evaluate the efficacy of the distance-sampling approach used in this investigation will require larger sample sizes to produce a sampling design that effectively accounts for distance as a key covariate of interest. A minimum of 25 carcass samples per small size class, 15 for medium, and 10 for large is anticipated within the solar array per season (Table 2). Searcher efficiency will be summarized for each individual searcher, but to avoid needlessly inflating the variance of the estimate, individual searcher effects will not be included in the fatality estimation model.

<b>Table 2. Approximate Searcher efficiency trial sample sizes per season.</b>		
<b>Facility component</b>	<b>Size</b>	<b>Sample size</b>
<b>solar arrays</b>	Small	25
	Medium	15
	Large	10
<b>Totals</b>		50

Carcasses of bird or bat species recovered during the study that are not listed under the Migratory Birds Species Act or state or federal endangered species regulations may be re-used in the searcher efficiency trials, as carcass condition allows. Species such as house sparrows (*Passer domesticus*) and European starlings (*Sturnus vulgaris*) may be used to represent small-sized birds; rock doves (*Columba livia*) and commercially raised hen mallards (*Anas platyrhynchos*) or hen pheasants (*Phasianus colchicus*) may be used to represent medium to large-sized birds. If visibility classes are established, to account for differences in vegetation, trial carcasses will be placed in a variety of vegetation types so that searcher efficiency rates can be determined for each visibility class. The number of carcasses used will be limited to ensure that a scavenger swamping does not occur. Searcher efficiency trials will be conducted blindly; the searchers will not know when trials are occurring, within which transects the trial carcasses are placed, or where trial carcasses are located within the project.

The number and location of trial carcasses found by searchers will be recorded and compared to the total number placed in the transects. Searchers will be instructed prior to the initial search effort to leave carcasses, once discovered to be trial carcasses (by inconspicuous ID tags), in place (these carcasses will also be used to calculate carcass persistence). The number of trial carcasses available for detection (non-scavenged) will be determined immediately after the conclusion of the trial. Searcher efficiency of the surveyors will generate the estimate of searcher bias for input into the fatality estimate models.

Carcass persistence trials will be conducted concurrently with searcher efficiency trials and, to the extent possible, using the same carcasses from the searcher efficiency trials. In total, 30 small, 20 medium, and 10 large carcasses will be randomly placed and monitored within the solar arrays, each season (Table 3). Carcass persistence trials in the solar arrays will be monitored, using motion-triggered, digital trail cameras (e.g., see Smallwood et al. 2010). The status of each trial carcass (e.g. gone/present, fresh/desiccated, whole/partial) will be recorded throughout the trial. The length of time carcasses persist on the ground will be used to generate the estimate of carcass persistence for input into the fatality estimate models.

It may not be necessary to use cameras to monitor every carcass, as carcass persistence can also be conservatively estimated by frequent field visits and using the last date a carcass was observed as its removal date. However, at least a subset of carcasses will be monitored with cameras to help determine fate of scavenged carcasses. Cameras may also be useful for other purposes. For example, if trained on solar arrays and facility fences, motion-activated cameras could help to document cause of avian and bat

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fatalities, which is often undetermined at solar farms. The number and purpose of cameras used will be determined along with final study protocol in consultation with ODFW and ODOE.

**Table 3. Approximate Carcass Persistence Trail Sample Sizes Per Season.**

Facility component	Size	Sample size
solar arrays	Small	30
	Medium	20
	Large	10
<b>Totals</b>		60

Fake cameras or cameras without bias trial carcasses may also be placed to avoid training ravens to recognize cameras as “feeding stations”. Periodic ground-based checking of carcasses also will occur to guard against misleading indicators of carcass removal, such as wind blowing the carcass out of the camera’s field of view. To minimize potential bias caused by scavenger swamping (Smallwood 2007, Smallwood et al. 2010), carcass-persistence specimens will be distributed across the entire Facility, not just in areas subject to standard surveys, and new specimens will be placed every two to three weeks in small numbers.

*(2) Data Analysis and Modeling*

Because the detectability of carcasses during field surveys can be imperfect, raw carcass counts generally underestimate actual mortality. Therefore, the Huso fatality estimator (Huso 2011; Huso et al. 2012, Huso et. al 2016a), modified to account for distance sampling (WEST 2016a, Huso et. al 2016b), will be applied to generate corrected fatality rate estimates for the Carty Solar Farm.

The Huso fatality estimator (Huso 2011; Huso et al. 2012) allows the user to model categorical covariates that may affect searcher efficiency and carcass persistence. AICc scores are used to evaluate the effectiveness of candidate models before generating final fatality estimates. Because the underlying assumption that searchers have a single opportunity to discover a carcass, only those carcasses determined to have occurred within the previous search interval will be used to generate adjusted fatality estimates. In addition, the model does not produce reliable estimates when there are few carcasses included in analysis.

When fewer than five carcasses belonging to a group of interest (e.g. small birds) are found and included in analysis, estimates will not be provided. Corrected fatality estimates will be reported for the solar Facility (PV panel area). Estimated mortalities will be expressed in terms of carcasses/MW/season and in other metrics appropriate for a solar facility to facilitate comparison with other studies. Analysis of data collected during the post-construction study will include seasonal fatality estimates for all birds and bats to the taxonomic level where fatality estimates can be calculated. Fatality estimates and confidence intervals will be compared to determine if differences in fatality estimates between taxa or group (e.g. birds compared to bats, large birds compared to small birds), or season. Because representative fatality estimates are more challenging to develop for small (i.e. <5) numbers of carcasses, appropriate taxonomic level fatality estimates will only be calculated if the number of carcasses is sufficient.

**Reporting**

The Certificate Holder will document the results of the monitoring in a summary report following the completion of the post-construction monitoring. The certificate holder may include this summary report of bird and bat fatality monitoring data and analysis in the annual report required under OAR 345-026-

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0080 or submit this information as a separate document at the same time the annual report is submitted.

The summary report will include fatality estimates and data summaries. The report will include all data analyses, including correlation analyses and overall fatality estimates, and a discussion of monitoring results and their implications. The certificate holder shall notify the appropriate agency immediately upon the discovery of a carcass of any state-listed, ESA-listed species or eagle on the Facility site.

### **Adaptive Management**

#### **i. Adaptive Management Goals**

Adaptive management will allow the Certificate Holder to meet the goals of avoiding and minimizing impacts to birds and bats. After the end of the first year of post-construction monitoring, if the fatality rates do not exceed any thresholds of concern identified in Section 3.2, no additional monitoring will be conducted. However, if the fatality rates do exceed any of the thresholds of concern in Section 3.2, ODOE, in consultation with ODFW and the Certificate Holder, will determine if additional monitoring is warranted based on the number of observed carcasses and estimated fatality rates and consideration of any other significant information available at the time.

#### **ii. Adaptive Management Process**

To enable new information, including the results of post-construction monitoring, to influence and improve avoidance and minimization measures, certain trigger events and the subsequent changes or actions have been established. The events that would trigger need to consider the additional avoidance and minimization measures presented herein would be:

- Discovery of an eagle carcass
- New ESA-listing of a bird or bat species
- Discovery of an ESA-listed species carcass
- New state-listing of a bird or bat species
- Discovery of a state-listed species carcass
- The total number of observed bird and bat mortalities is higher than expected and likely to be significant, as defined in Section 3.2.6.

##### **1) Discovery of an Eagle or ESA-listed Species Carcass**

If an eagle or ESA-listed species carcass is discovered within the Carty Solar Farm, the following actions will be taken:

- Certificate Holder will, working with a qualified wildlife biologist, promptly identify and secure the carcass at the place of its discovery in the field until USFWS personnel can be reached and provide the further instruction for the storage of the carcass.
- Certificate Holder will notify USFWS, ODFW, and ODOE within one business day after discovery and positive identification of the carcass.
- Certificate Holder will work with the USFWS to evaluate available data concerning the find and, as appropriate, identify and implement avoidance and minimization measures to reduce the risk of future carcasses. Potential adaptive management approaches are presented in Section 3.2.7 below.
- Certificate Holder will assess the need to obtain additional authorizations in view of the new information.

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2) New ESA-listing of a Bird or Bat Species

If a bird or bat species, known to occur or that has a high likelihood to occur within the Carty Solar Farm area, becomes listed under the ESA during the life of the facility, Certificate Holder will coordinate with USFWS. If this trigger is met, Certificate Holder will work with USFWS to assess the potential for the facility to impact the species and subsequently to determine the appropriate action(s), if any.

3) New State-listing of a New Bird or Bat Species

If a bird or bat species, known to occur or that has a high likelihood to occur within the Carty Solar Farm area, becomes listed by ODFW during the life of the facility, Certificate Holder will coordinate with ODFW and ODOE. If this trigger is met, Certificate Holder will work with ODFW and ODOE to assess the potential for the facility to impact the species and subsequently to determine the appropriate action(s).

4) Discovery of a State-listed Species Carcass

- Certificate Holder will, working with a qualified wildlife biologist, promptly identify and secure the carcass at the place of its discovery in the field until ODFW personnel can be reached and provide the further instruction for the storage of the carcass.
- Certificate Holder will notify ODFW and ODOE within one business day after the discovery and positive identification of the carcass.
- Certificate Holder will work with the ODFW and ODOE to evaluate available data concerning the discovery and, as appropriate, identify and implement avoidance and minimization measures to reduce the risk of future mortalities.
- Certificate Holder will assess the need to obtain additional authorizations in view of the new information.

5) Total Number of Observed Bird and Bat Mortalities is Higher than Expected and Likely to be Significant

Mortalities to birds and bats during operations are expected to be low. Significance of the levels of mortality of any bird or bat species would be determined in coordination with USFWS, ODFW and ODOE based on the best available information, including the most recent data on species' population sizes and trends and fatality rates at technologically and geographically similar facilities if available. At this time, there is no publicly available avian fatality data at PV facilities in Oregon, but there may be in the future. This approach recognizes that higher levels of mortality of common species may not be significant. Conversely, lower levels of mortalities of less common species may be of more concern, particularly if these species appear to be at risk (e.g., Oregon sensitive-critical species). Given the assessment and prediction that impacts are likely to be low, the following actions are suggested in response to monitoring outcomes:

- If documented fatalities are low and not considered significant for the species involved, no mitigation will be conducted.
- If fatalities are high enough that they could be considered significant for the species involved, Certificate Holder will meet and confer with the ODFW and ODOE and the applicable actions presented below will be carried out. If a particular cause can be identified, Certificate Holder will develop specific mitigation measures in consultation with ODFW and ODOE to address the occurrence.



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6) Potential Adaptive Management Approaches

Circumstances that trigger the need for adaptive management will be investigated such that the Certificate Holder can, in consultation with ODFW and ODOE, implement avoidance, minimization, and mitigation measures designed and implemented to reduce impacts to birds and/or bats while maintaining Facility viability. If ODOE determines that additional avoidance, minimization or mitigation measures are appropriate based on analysis of the data, consultation with ODFW, and consideration of other significant information available at the time, the Certificate Holder, in consultation with ODOE and ODFW, shall propose and implement measures to address the concern, subject to the approval of ODOE. Avoidance, minimization, and mitigation actions that may be taken under adaptive management include, but are not limited to, the following:

- Remove or modify any identified sources of bird or bat attraction to the extent practicable.
- If more than one eagle carcass is discovered in a 5-year time period, Certificate Holder will develop and implement a roadkill removal program on roads within or near the Carty Solar Farm, as appropriate, to offset Carty Solar Farm impacts to eagles.
- Implement technological solutions. If bird and/or bat carcass discoveries exceed the above-defined adaptive management triggers and new techniques or technology become available, the Certificate Holder, ODOE, and/or ODFW shall propose new approaches, techniques or technology designed to avoid and/or minimize impacts to the affected species, taking into consideration factors including but not limited to cost effectiveness and feasibility to implement, subject to the approval of ODOE. At this time, there are no technological solutions available. If ODOE determines that additional monitoring is appropriate based on analysis of the data, consultation with ODFW and Certificate Holder, and consideration of any other significant information available at the time, the Certificate Holder shall conduct additional specific, targeted monitoring to determine if adaptive management measures are effective.

#### IV. CALCULATION OF THE SIZE OF THE MITIGATION AREA

The HMA must be large enough and have characteristics that meet the standards set by ODFW's Wildlife Habitat Mitigation Policy. These standards include: no net loss of habitat quantity or quality and to provide a net benefit of habitat quantity or quality for Category 2 habitat; no net loss of habitat quantity or quality for Category 3 habitat (in-kind, in-proximity mitigation); no net loss of habitat quantity or quality for Category 4 habitat; net benefit in habitat quantity or quality for Category 5 habitat (i.e., actions that improve habitat conditions); and minimize impacts for Category 6 habitat.

Unit 1 permanent impacts and estimated acreage permanent impacts for the Carty Solar Farm are shown in Table 4. For permanent impacts, the mitigation area shall include 2 acres for every acre of impacts to Category 2 habitat (a 2:1 ratio to provide no net loss and a net benefit of habitat quantity) and 1 acre for every acre of permanent impacts to Category 3 and 4 habitats (a 1:1 ratio to provide no net loss). Mitigation for temporary impacts shall include 1 acre for every acre of impacts to Category 2 habitat (a 1:1 ratio) and 0.5 acre for every acre of temporary impacts to Category 3 and 4 habitat (a 0.5:1 ratio) that have not previously been mitigated for temporary impacts (e.g., areas of temporary impacts that are mitigated as part of construction for Unit 1 that are reused for subsequent units will not result in additional mitigation acreage). Temporary impacts on grasslands typically do not require mitigation in the form of land acquisition and/or conservation.

The acreages of impact in this Amended Plan for Unit 1 are based on the final design layout of the facility submitted to ODOE and ODFW prior to beginning of Unit 1 construction and the revised final design layout of the facility and the associated impact acreages provided to ODOE and ODFW during construction. The construction of Unit 1 resulted in 45 acres of permanent disturbance and 55.4 acres of temporary disturbance, resulting in a total required mitigation area of 72.7 acres.

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The acreages of impact for the Carty Solar Farm are based on preliminary design and will be updated based on final design layout of the amended facility. The acreages of impact will be submitted for approval to ODOE and ODFW prior to beginning construction to demonstrate that the HMA is appropriately sized. The calculated maximum habitat impact estimates of the Carty Generating Station construction associated with each unit are shown in the table below (Table 4).

The acreages of impact for the septic system and security guard station including associated plumbing and communication lines are based on preliminary design and will be updated based on the final design layout of the amended facility. The acreages of impact will be submitted for approval to ODOE and ODFW prior to beginning construction to demonstrate that no new HMA is needed. The calculated maximum habitat impact estimates associated with the Second Amended site certificate are shown in the table below (Table 4).

**Table 4. Estimated Habitat Impacts of the Carty Generating Station by Habitat Category**

Habitat Type by Project Area	Temporary Impacts (acres) <sup>1</sup>	Permanent Impacts (acres) <sup>2</sup>	Calculated Mitigation Area (acres) <sup>1,2</sup>
<b>Unit 1 and Supporting Facilities<sup>3</sup></b>			
Category 4	55.4	45	72.75
Total Area	55.4	45	
Total Unit 1 Mitigation <sup>1,2</sup>	27.75	45	72.75
<b><u>New Septic System and Security Guard Station and Associated with the Second Amended Site Certificate</u></b>			
<u>Category 4</u>	<u>1.0</u>	<u>1.0</u>	<u>1.0</u>
<u>Total Area</u>	<u>1.0</u>	<u>1.0</u>	
<u>Total New RFA2 Facilities Mitigation</u>	<u>0.5</u>	<u>1.0</u>	<u>1.5</u>
<b>Carty Solar Farm and Supporting Facilities<sup>4</sup></b>			
Category 2			
Category 3	14.05	302.16	309.19
Category 4	90.57	18.79	64.08
Category 6	2.81	0.19	0
Total Area	107.43	321.14	
Total Solar Farm Mitigation <sup>1,2</sup>	53.72	321.14	373.27
Total Mitigation for Amended Project			446.02447.52
Mitigation Required to date (Unit 1)			72.75446.02
Additional Mitigation Required ( <u>Security Guard Station/</u> <u>Septic System/Carty Solar Farm</u> )			373.271.50



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**Table 4. Estimated Habitat Impacts of the Carty Generating Station by Habitat Category**

Habitat Type by Project Area	Temporary Impacts (acres) <sup>1</sup>	Permanent Impacts (acres) <sup>2</sup>	Calculated Mitigation Area (acres) <sup>1,2</sup>
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**Notes:**

In all cases, impacts in a given project area will only be mitigated once.

<sup>1</sup>Temporary impact mitigation is based on a 1:1 ratio for Category 2, a 0.5:1 acre ratio of Category 3 and 4, and zero for Category 6.

<sup>2</sup> Permanent impact mitigation is based on a 2:1 ratio for Category 2, a 1:1 acre ratio of Category 3 and 4 and zero for Category 6.

<sup>3</sup> Unit 1 includes Unit 1 and all related or supporting facilities constructed as part of Unit 1.

<sup>4</sup> The Carty Solar Farm includes the Carty Solar Farm energy facility site, the potential route for the Carty Solar Farm interconnection transmission line that would require the most mitigation acres (Route 1), the Grassland Switchyard buildout area if interconnection Option 1 is selected (along with potential interconnection Route 1), and temporary construction laydown and parking areas.

## V. DESCRIPTION OF THE MITIGATION AREA

To comply with the mitigation criteria outlined in OAR 635-415-0025, the certificate holder shall mitigate for impacts to Category 2, 3, 4, and 5 habitat in a manner consistent with the ODFW habitat mitigation policy and subject to the approval of ODFW. The certificate holder will establish a HMA (or areas) that will be maintained, enhanced, and monitored throughout the life of the facility<sup>5</sup> through implementation of the habitat enhancement actions described in this Amended Plan. The certificate holder shall provide appropriate legal documentation to ODOE showing the legal right to create, maintain, and protect the HMA for the life of the facility. The certificate holder shall not undertake any development activities within the HMA throughout the life of the facility.

The 78-acre HMA for Unit 1 is located immediately east of the Site Boundary and adjacent to existing conservation areas, and comprises all or portions of map T3N R24E, tax lots 101, 113, and 116. The parcel is owned and has been placed under conservation easement by the certificate holder. It is adjacent to the existing PGE Conservation Area on the north and east sides, and a conservation area maintained by The Nature Conservancy along part of the west boundary. The vegetation in the HMA is dominated by Sandberg's bluegrass, bluebunch wheatgrass, and intermittent areas of needle-and-thread grass, as well as cheatgrass. There are also occasional green rabbitbrush (*Chrysothamnus viscidiflorus*) and gray rabbitbrush, big sagebrush, fiddleneck (*Amsinckia menziesii*), and yarrow (*Achillea millefolium*). WGS burrows were identified within the HMA for Unit 1 in 2006. As of 2010, approximately 80 percent of the HMA for Unit 1 area was located within 785 feet of identified WGS burrows, and was therefore considered Category 1 habitat. The remainder of the HMA for Unit 1 was included in the buffer area for previously occupied WGS habitat and was therefore designated as Category 2 habitat. Based on 2016–2017 WGS surveys, the majority of the HMA for the Carty Solar Farm (see below) would be located on Category 2 or Category 3 habitat based on the current habitat categorization for Amendment 1. The 78-acre HMA is 5.25 acres larger than required for temporary and permanent impacts associated with Unit 1 and supporting facilities. Therefore; the additional 1.5 acres of mitigation required for the septic system and security guard station included in the Second Amended Site Certificate are covered by this HMA.

<sup>4</sup> As used in this plan, “life of the facility” means continuously until the facility site is restored and the site certificate is terminated in accordance with OAR 345-027-0110.

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The proposed HMA for the Carty Solar Farm and supporting facilities (the HMA for the Carty Solar Farm), estimated at approximately 373 acres per Table 4, would be located within a portion of the certificate holder's Multi-Species Candidate Conservation Agreement with Assurances (MSCCAA) Conservation Area that contains remnant stands of sagebrush. The MSCCAA area adjoins the HMA for Unit 1 to the north and east and is located in Section 26, T3N R24E tax lot 101 and the eastern half of Section 35, T3N R24E, tax lot 113). The certificate holder plans to mitigate for the habitats impacted by placing a conservation easement on a portion of the MSCCAA area and by providing habitat uplift through the habitat enhancement and monitoring activities described below. Final location of the HMA for the Carty Solar Farm within the MSCCAA area will be delineated in coordination with ODFW prior to construction once final design layout and mitigation acreage is determined.

## **VI. HABITAT ENHANCEMENT ACTIONS**

The objectives of habitat enhancement and restoration are to protect habitat within the mitigation area from degradation and improve the habitat quality of the mitigation area. The certificate holder shall initiate the habitat enhancement actions for the facility before beginning operation. The certificate holder shall restrict uses of the mitigation area that are inconsistent with the goal of no net loss and net benefit of Category 2 habitat and no net loss of Category 3 and 4 habitats. The certificate holder shall implement habitat enhancement actions as described in this Amended Plan and as specified in the amended Site Certificate.

### **A. Noxious Weed Prevention, Inventory, and Control within the Habitat Management Area**

The certificate holder shall conduct comprehensive noxious weed inventories to identify patches of weed infestation within the HMA during year one, year three, and year five after construction of Unit 1 (i.e., 2017, 2019, and 2021), and then continue once every five years (in years divisible by five) for the life of the facility. Weed control and monitoring activities will be conducted more frequently (at least every two years), in areas prioritized based on the results of the comprehensive surveys, and reported to ODOE and ODFW. Weeds will be controlled as needed to maintain and enhance habitat quality within the mitigation area, with the goal of working toward eradication of targeted noxious weeds or, if eradication is not practical, decreasing their abundance to minimize impacts on native plant communities. Weed management practices will be consistent with an integrated weed management approach, using an appropriate combination of inventory; prevention (such as best management practices to prevent weed establishment); and control methods (such as hand pulling, mowing, biological control, and/or herbicides). The certificate holder shall obtain ODFW's approval prior to the use of pesticides. Controlling weeds in the HMA should promote growth of native vegetation. If a substantial area of soil is left bare from weed control activities, the area will be seeded using the appropriate methods (as described in the Revegetation and Noxious Weed Control Plan) during the appropriate time of year and using an appropriate mixture of native grass and/or shrub seeds.

### **B. Fire Control Plan**

The certificate holder shall implement a fire control plan for wildfire suppression within the HMA according to the existing Boardman Wildfire Control Plan. A copy of the fire control plan will be provided to ODOE upon request. If vegetation in the HMA is damaged from fire or from fire suppression efforts (e.g., vehicular disturbance), the area would be seeded as necessary with the appropriate seed mix using the appropriate methods, as described in the Revegetation and Noxious Weed Control Plan.

### **C. Access Control and Wildlife-Compatible Fencing**

The certificate holder will monitor and control access to the HMA and will post informative signs

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depicting the area(s) as “protected” and including natural resources information as appropriate for the life of the facility. Primary access to the PGE property is controlled by a gate off Tower Road northwest of PGE’s Boardman Plant (currently used by PGE and The Nature Conservancy [TNC]), the gated entrance to the Boardman Plant, and a gated road from Ione to the south. TNC and Three Mile Canyon Farms may occasionally use the two track access crossing PGE’s property to access the Farm’s conservation area. Approved access to the site is currently limited to such occasional approved use of access roads, Boardman Plant operational needs, and MSCCAA monitoring and noxious weed control efforts. Any fences within or bordering the mitigation area(s) will be removed or modified to wildlife-friendly specifications as appropriate. No livestock grazing is currently occurring on the site, and grazing would not be allowed in the future. Periodic monitoring (at least annually but typically more frequently concurrent with other site activities) will be conducted to evaluate effectiveness of access control measures and signage maintenance needs.

#### **D. Enhancement and Sagebrush Habitat**

To mitigate for permanent impacts to Category 2, 3, and 4 sagebrush habitat affected at the Carty Solar Farm (see acreage in Table 4), the certificate holder will plant sagebrush and/or bitterbrush seedlings in the HMA for the Carty Solar Farm, focusing on enhancing and expanding remnant stands of shrubs that were impacted by past wildfires. Sagebrush and/or bitterbrush seedlings will be planted at a density of 450 plants per acre (approximately 10 feet on center). Planted shrubs will be monitored annually for a period of five years, with a performance goal of 60% survival at the end of the five-year monitoring period. Methods and performance criteria to be finalized through consultation with ODFW.

#### **E. Provide Additional Raptor Nesting Opportunities**

As recommended by ODFW, to mitigate for removal of juniper trees and potential raptor nesting sites in the Carty Solar Farm permanent footprint, the certificate holder will plant up to one tree per 10 acres (roughly 660-foot spacing on center) based on the final size of the HMA for the Carty Solar Farm. Initial planting will be conducted in the October/November or February/March time period during the first year following start of construction. Planted juniper trees will be monitored annually for a period of five years, with a performance goal of 60% survival at the end of the five-year monitoring period. Methods and performance criteria to be finalized through consultation with ODFW.

### **VII. MITIGATION AREA MONITORING**

The certificate holder shall use a qualified investigator (botanist, wildlife biologist, or revegetation specialist) to conduct a comprehensive monitoring program for the HMA. The purpose of this monitoring is to evaluate on an ongoing basis the protection of habitat quality, the results of enhancement actions, and the use of the area by avian and mammal species, especially during the wildlife breeding season.

The investigator shall visit the HMA as necessary to complete the required monitoring during the first, third, and fifth year after Unit 1, and the Carty Solar Farm construction (i.e., 2017, 2019, 2021) and every fifth year thereafter (in years divisible by five, unless otherwise specified for specific measures) for the life of the Project. Monitoring activity shall include an assessment of the following:

General quality of vegetation cover (dominant species, structural age, etc.), as determined by ocular estimates and photo points (see below);

- 1) Success of weed control efforts;
- 2) Success of remedial actions to restore habitat quality in damaged areas (such as managed weed infestations and any necessary seeding/planting areas), as determined by vegetation cover (ocular estimate) and photo points (see below). Areas where remedial actions involve soil disturbance and

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reseeding would be monitored consistent with the revegetation monitoring methods and schedule as described in the Amended Carty Generating Station Revegetation and Noxious Weed Plan. See Section VI for schedule and performance criteria for habitat enhancements involving shrub and juniper plantings.

- 3) Photos taken from established photo points within the HMA, including 1) a minimum of five permanent photo points distributed to show general vegetation status throughout the HMA, and 2) additional photo points as needed to monitor success of significant enhancement activities, such as managed weed infestations and/or any necessary seeding/planting areas;
- 4) Incidental wildlife occurring within the HMA (counts concurrent with all other monitoring work);
- 5) Environmental factors found on site during monitoring activities and annual summary records (such as precipitation);
- 6) Surveys of resident special status wildlife species (WGS) that have been documented during previous monitoring or survey efforts within the HMA, using existing protocols approved by ODFW; and
- 7) Avian point counts during the breeding season ~~conducted annually as part of the~~ at existing point count stations, formerly monitored under the Boardman Plant Ecological Monitoring Program, in the vicinity of the HMA(s) existing Boardman Plant Ecological Monitoring Program (four existing point count stations are located in the immediate vicinity of the HMA for Unit 1, and an additional four sites are located in the immediate vicinity of the proposed HMA for the Carty Solar Farm.

#### **VIII. DATA REPORTING**

The certificate holder shall submit a report including wildlife and habitat monitoring data and analysis to ODOE and ODFW during each monitoring year according to the Table 5 as shown below. The certificate holder shall notify USFWS and ODFW within one business day if any federal or state endangered or threatened species are killed or injured on the facility site or within the HMA. The certificate holder may include the reporting of wildlife monitoring data and analysis in the report required under OAR 345-026-0080, or submit this information as a separate document concurrent with the submittal of the report. In addition, the certificate holder shall provide ODOE with any data or record generated by the investigators in carrying out this Amended Plan upon request by ODOE.

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**Table 5. Schedule of Wildlife Mitigation and Monitoring Programs**

<b>Task</b>	<b>Schedule</b>
Post-construction Washington Ground Squirrel Survey Monitoring	Year one, three and five after operation of Unit 1 has begun and in year one, three and five after operation of Carty Solar Farm has begun, and otherwise at least every five years (in years divisible by five) for the life of the facility.
Raptor Nest Monitoring	
Post-construction Avian and Bat Mortality Monitoring	A full year of formal post construction avian and bat monitoring in the year following start of Carty Solar Farm operation. N/A for Unit 1.
General HMA Monitoring	During the first, third, and fifth year after Unit 1 HMA, (i.e., 2017, 2019, 2021) and during the first, third, and fifth years after Carty Solar Farm construction for Carty Solar Farm HMA, and otherwise every fifth year thereafter for the life of the facility for entire applicable HMA.
Noxious Weed Inventory for HMA	
General Weed Control and Monitoring Activity for HMA	At least every two years (in priority areas based every-five-year comprehensive inventory results) starting from the completion of construction.
HMA Sagebrush Habitat Monitoring	Annually for a period of five years, with a performance goal of 60% survival at the end of the five-year monitoring period, for the Carty Solar Farm. N/A for Unit 1.
Additional Raptor Nest Opportunities (juniper plantings) Monitoring for HMA	Annually for a period of five years, with a performance goal of 60% survival at the end of the five-year monitoring period for Carty Solar Farm. N/A for Unit 1.

## IX. AMENDMENT OF THE PLAN

This Wildlife and Habitat Monitoring and Mitigation Plan may be periodically amended by agreement of the certificate holder and ODOE. Such amendments may be made without amendment of the Site Certificate. The Energy Facility Siting Council (Council) authorizes ODOE to agree to amendments to this plan and to mitigation actions that may be required under this Plan. ODOE shall notify the Council of all amendments and mitigation actions, and the Council retains the authority to approve, reject, or modify any amendment of this plan or mitigation action agreed to by ODOE.

## X. LITERATURE CITED

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- Huso, M. 2011. An estimator of wildlife fatality from observed carcasses. *Environmetrics*, n/a. doi: 10.1002/env.1052.
- Huso, M., N. Som, and L. Ladd. 2012. Fatality estimator user's guide. U.S. Geological Survey Data Series 729. Available at: <http://pubs.usgs.gov/ds/729/pdf/ds729.pdf>.
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- Western Ecosystems Technology, Inc. (WEST). 2016a. Avian and Bat Monitoring at the Desert Sunlight Solar Farm Project Riverside County, California, 2015 - 2016 Annual Report [Draft]. Prepared for Desert Sunlight 250, LLC and Desert Sunlight 300, LLC, Juno Beach, Florida. Prepared by WEST, Cheyenne Wyoming.
- Western EcoSystems Technology, Inc. (WEST). 2016b. Bird and Bat Conservation Strategy, Blythe Solar Energy Project, Riverside County, California. 57 pp.
- Western EcoSystems Technology, Inc. (WEST). 2016c. Bird and Bat Conservation Strategy, McCoy Solar Energy Project, Riverside County, California. 57 pp.

Attachment 6  
Property Owners List

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### Adjacent Property Owners<sup>1</sup>

Mailing Address and Name	Relationship to Site Boundary	Tax Lot	Map Number	County
INLAND LAND CO, LLC JENSEN, DAVID R 75906 THREEMILE RD BOARDMAN, OR 97818	Intersect	121	04N24E	Morrow
PORTLAND GENERAL ELECTRIC 121 SW SALMON ST PORTLAND, OR 97204	Intersects	102	02N24E	Morrow
	Intersects	103	02N24E	Morrow
	Intersects	106	02N24E	Morrow
	Intersects	121	03N24E	Morrow
	Intersects	122	03N24E	Morrow
	Within 500 Feet	101	03N24E	Morrow
	Within 500 Feet	113	03N24E	Morrow
	Intersects	102	03N24E	Morrow
	Intersects	104	03N24E	Morrow
	Intersects	105	02N24E	Morrow
	Intersects	114	03N24E	Morrow
	Intersects	115	03N24E	Morrow
	Intersects	117	03N24E	Morrow
	Within 500 Feet	116	03N24E	Morrow
THREEMILE CANYON FARMS, LLC ATTENTION: MR MARTIN MYERS 75906 THREEMILE RD BOARDMAN, OR 97818	Intersects	101	02N24E	Morrow
	Intersects	100	02N23E	Morrow
	Intersects	100	02N24E	Morrow
	Intersects	100	03N23E	Morrow
	Intersects	100	03N24E	Morrow
	Intersects	107	02N24E	Morrow
	Intersects	110	04N23E	Morrow
	Intersects	112	03N24E	Morrow
BONNEVILLE POWER ADMINISTRATION PO BOX 3621 PORTLAND, OR 97208-3621	Intersects	506	03N21E	Gilliam
	Within 500 Feet	506	03N21E	Gilliam
GRIFFITH GEORGE G TRUSTEE 68498 HWY 74 IONE, OR 97843	Within 500 Feet	3800	02N22E	Gilliam
KREBS J.R. PO BOX 8 ARLINGTON, OR 97812	Intersects	503	03N21E	Gilliam
	Within 500 Feet	500	03N21E	Gilliam
KREBS KIP H & SARAH M 75398 HWY 74 IONE, OR 97843	Intersects	100	02N22E	Gilliam
	Intersects	200	02N22E	Gilliam
KREBS SKYE H & PENNY M 73654 HIGHWAY 74 IONE, OR 97843	Intersects	700	03N22E	Gilliam
	Intersects	702	03N22E	Gilliam
MYERS MARTIN 75906 THREEMILE ROAD BOARDMAN, OR 97818	Intersects	100	03N22E	Gilliam
	Intersects	200	04N22E	Gilliam
	Intersects	2100	03N22E	Gilliam
OGDEN JARROD & ALISON 74475 HIGHWAY 74 IONE, OR 97843	Intersects	2202	03N22E	Gilliam

<b>Mailing Address and Name</b>	<b>Relationship to Site Boundary</b>	<b>Tax Lot</b>	<b>Map Number</b>	<b>County</b>
PACIFIC POWER & LIGHT CO. 825 N.E. MULTNOMAH SUITE 1900 PORTLAND, OR 97232-4107	Within 500 Feet	2201	03N22ED001	Gilliam
PORTLAND GENERAL ELECTRIC CO. 121 SW SALMON ST PORTLAND, OR 97204	Intersects	3601	03N22E	Gilliam
OREGON DEPARTMENT OF TRANSPORTATION – RIGHT- OF-WAY 355 CAPITOL STREET NE SALEM OR 97301	Within 500 Feet	300	02N22E	Gilliam
SULLIVAN BRIAN & LORI 75181 SULLIVAN RD. IONE OR 97843	Intersects	2203	03N22E	Gilliam

<sup>1</sup> Excludes roadways