

**BEFORE THE  
ENERGY FACILITY SITING COUNCIL  
OF THE STATE OF OREGON**

In the Matter of Request for Amendment 2 for the  
Carty Generating Station Site Certificate

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)  
) PROPOSED ORDER ON  
) REQUEST FOR AMENDMENT 2 TO  
) THE SITE CERTIFICATE

November 12, 2020

[Tracked changes version:

All changes from Draft Proposed Order to Proposed Order presented in red-line]

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## I. INTRODUCTION

The Oregon Department of Energy (Department) issues this ~~draft~~ proposed order, in accordance with Oregon Revised Statute (ORS) 469.405(1) and Oregon Administrative Rule (OAR) 345-027-03~~7265~~, based on its review of Request for Amendment 2 (RFA2) to the Carty Generating Station (CGS or Carty) site certificate, as well as comments and recommendations received by specific state agencies, Tribal Governments and local governments during review of the preliminary amendment request. This proposed order also considers comments received on the record of the draft proposed order (October 2 through November 2, 2020). The certificate holder for the facility is Portland General Electric Company (certificate holder or PGE).

The certificate holder requests approval from the Energy Facility Siting Council (EFSC or Council) to amend the site certificate to authorize the following modifications<sup>1</sup>:

- Amend the site boundary to both remove approximately 378 acres of agricultural land from the existing site boundary, and also increase the site boundary by approximately 3,414 acres to incorporate existing facilities currently authorized under the Boardman Coal Plant site certificate, based on the planned decommissioning of the Boardman Coal Plant;
- Amend the site certificate to incorporate shared infrastructure and existing facilities (shared by the Boardman Coal Plant and Carty Generating Station);
- Construct new infrastructure at the Carty Generating Station, including a new sewer line, septic tank, septic drain field, a backup water pipeline, potable water line, a wastewater pipeline, ~~a 7.2 kilovolt (kV) powerline~~, a substation and associated distribution lines, an office and warehouse, and a new security guard station.
- Modify Schedule A, Condition 6 of the existing Oregon Department of Environmental Quality (ODEQ) Water Pollution Control Facility (WPCF) permit to add turbine rinse water as an allowed discharge to Carty Reservoir.

Based upon review of RFA2 and in conjunction with the ~~the~~ comments received from the general public and recommendations received by specific state agencies, Tribal Governments and local governments, the Department recommends Council approve the amendment request and issue an amended grant an amendment of the CGS site certificate subject to the existing, recommended new and amended conditions set forth in this ~~draft~~ proposed order.

---

<sup>1</sup> CGSAMD2 Complete RFA with Attachments 2020-10-02.



1 **I.A. Name and Address of Certificate Holder**

2  
3 Portland General Electric Company  
4 121 SW Salmon Street  
5 3WTC-~~BR050403~~  
6 Portland, OR 97204  
7

8 Individual responsible for submitting this amendment request:

9  
10 Arya Behbehani  
11 General Manager Environmental & Licensing Services  
12 Portland General Electric Company  
13 121 SW Salmon Street, 3WTC0403  
14 Portland, OR 97204  
15 503-464-8141  
16 [Arya.Behbehani@pgn.com](mailto:Arya.Behbehani@pgn.com)  
17

18 **I.B. Facility Description (Operational/Approved)**

19  
20 The approved, operating facility includes a 450 ~~megawatt~~ (MW) natural gas fueled combined-  
21 cycle electric generating turbine (Unit 1) and its associated components including a heat  
22 recovery steam generator, steam turbine generator, natural-gas fueled auxiliary boiler, and  
23 cooling tower ~~cell~~. Related and supporting facilities include the Grassland Switchyard, onsite  
24 500 kV interconnection transmission line (Unit 1 to Grassland Switchyard), interconnecting  
25 water pipelines, sewer lines, liquid storage facilities, accessory buildings, utility lines, roads and  
26 temporary laydown areas.  
27

28 The facility shares several components with the existing Boardman Coal Plant, including  
29 portable water and sanitary waste infrastructure, and the Carty Reservoir for water withdrawal  
30 and water discharge purposes. While these facilities are shared, they are not currently included  
31 in the Carty Generating Station site certificate.  
32

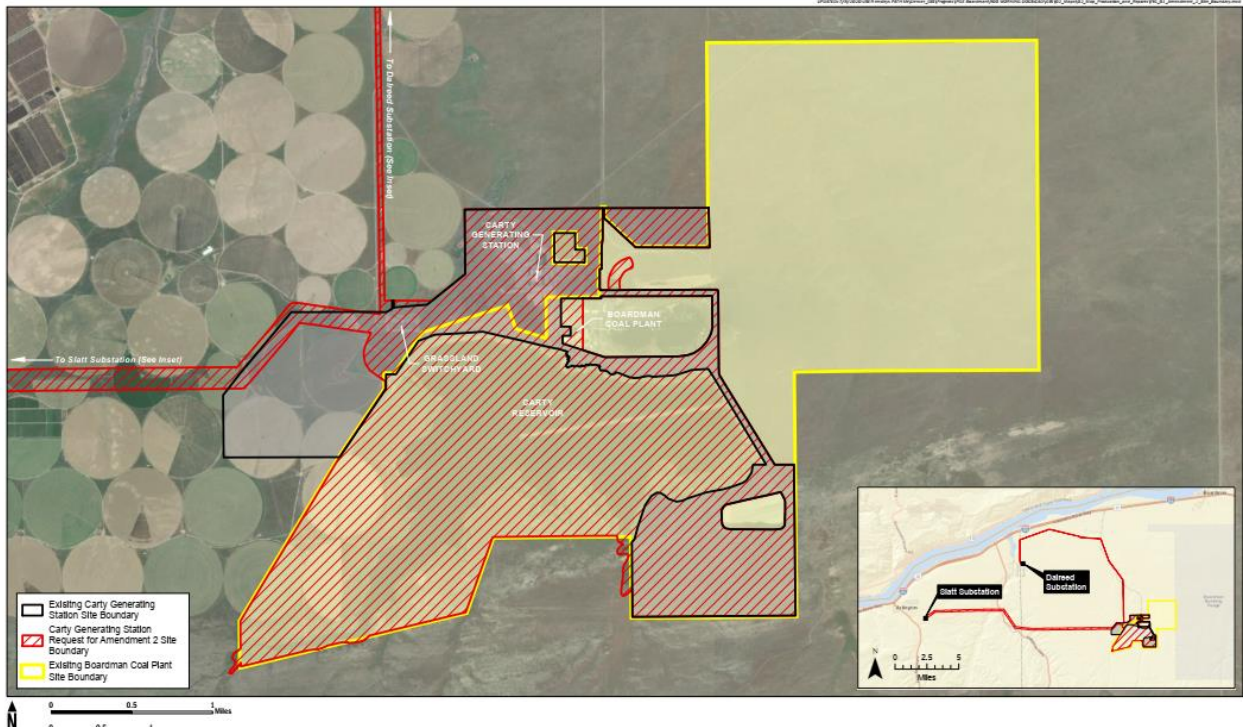
33 In the *Final Order on ~~Request for Amendment 1 (RFA1)~~* for the Carty Generating Station, Council  
34 approved the construction and operation of a 50 MW photovoltaic solar generating unit (Carty  
35 Solar Farm). *Final Order on Amendment 1* ~~RFA1~~ was approved by Council on December 14, 2018  
36 and the site certificate was fully executed on February 4, 2019. Construction of the Carty Solar  
37 Farm must commence by February 2022 and be completed by February 2025.  
38

39 **I.C. Facility Location and Site Boundary**

40  
41 The existing facility is located in Morrow County, Oregon, southwest of the City of Boardman  
42 and adjacent to the Carty Reservoir and the Boardman Coal Plant.  
43

As presented in Figure 1, *Site Boundary*, the approved site boundary (outlined in “black”) encompasses approximately 1,581 acres and includes the perimeter of the area of the approved energy facility and its related or supporting facilities, temporary laydown and staging areas, and all corridors.

**Figure 1: Site Boundary**



### **I.D. Site Certificate Procedural History**

The Council issued its *Final Order on the Application for Site Certificate for the Carty Generating Station (Final Order on ASC)* on June 29, 2012. The site certificate became effective on July 2, 2012. The final order authorized the construction and operation of a natural gas fuel combined-cycle generating plant producing up to 900 ~~megawatts (MW)~~ of electrical power, and related or supporting facilities.

On December 14, 2018, Council issued its *Final Order on Amendment 1* and granted an amended site certificate on December 14, 2018, which approved the construction and operation of a 50 MW photovoltaic solar unit; construction and operation of a 34.5 ~~kilovolt (kV)~~ interconnection transmission line with five interconnection transmission line routing options and three interconnection options; use of temporary construction laydown and parking areas; removal of reference to the previously approved but not yet constructed second 450 MW natural gas combined cycle turbine generator (Unit 2) and its associated components and related or supporting facilities; site boundary modification (reduction from 3,800 to 1,581 acres); amendment to the Water Pollution Control Facilities Permit (WPCF); and condition

1 amendments. Components approved in *Final Order on Amendment 1* have not yet been  
2 constructed.

## 3 4 **II. AMENDMENT PROCESS**

5  
6 Section II. *Amendment Process* of this order presents the changes proposed in Request for  
7 Amendment 2 and describes both the amendment review process and regulatory requirements  
8 triggering the site certificate amendment process. The Department notes that, based on the  
9 timing of RFA2 and its previous approval of RFA1, which authorized construction and operation  
10 of the Carty Solar Farm and its related or supporting facilities (50 MWs of solar photovoltaic  
11 energy generation equipment) by February 2022, it is possible for construction activities  
12 approved in *Final Order on RFA1* to overlap with construction activities to be approved in *Final*  
13 *Order on RFA2*.

14  
15 Potential impacts to resources protected under an applicable Council standard from the facility,  
16 with proposed changes approved in *Final Order on RFA1* and *Final Order on RFA2*, would be less  
17 than those evaluated and determined to result in impacts that would be less than significant,  
18 with mitigation, in the *Final Order on ASC* for construction and operation of a 900 MW natural-  
19 gas facility. Therefore, the Department recommends Council acknowledge approval of facility  
20 components through the first and second site certificate amendments, and continue to rely on  
21 the findings contained herein and in Council's previous Final Orders to determine that the  
22 facility, with proposed changes approved in *Final Order on RFA1* and *Final Order on RFA2* would  
23 result in impacts that, with mitigation, would not likely be significant or adverse.

### 24 25 **II.A. Requested Amendment**

26  
27 Request for Amendment 2 seeks ~~The certificate holder requests~~ Council approval for the  
28 following:

- 29
- 30 • Site boundary modification to both remove approximately 378 acres of agricultural land  
31 and add approximately 3,414 acres to incorporate existing facilities currently authorized  
32 under the Boardman Coal Plant site certificate;
  - 33 • Incorporate shared infrastructure and existing facilities (shared by the Boardman Coal  
34 Plant and Carty Generating Station);
  - 35 • Construct new infrastructure, including a new sewer line, septic tank, septic drain field,  
36 a backup water pipeline, potable water line, a wastewater pipeline, ~~a 7.2 kV powerline,~~  
37 a substation and associated distribution lines, an office and warehouse space, and a new  
38 security guard station; and,
  - 39 • Amend the existing Oregon Department of Environmental Quality (ODEQ) Water  
40 Pollution Control Facility (WPCF) permit to allow turbine rinse water as an allowed  
41 discharge to Carty Reservoir.

42  
43 The proposed components are described in further detail below.

## *Amended Site Boundary*

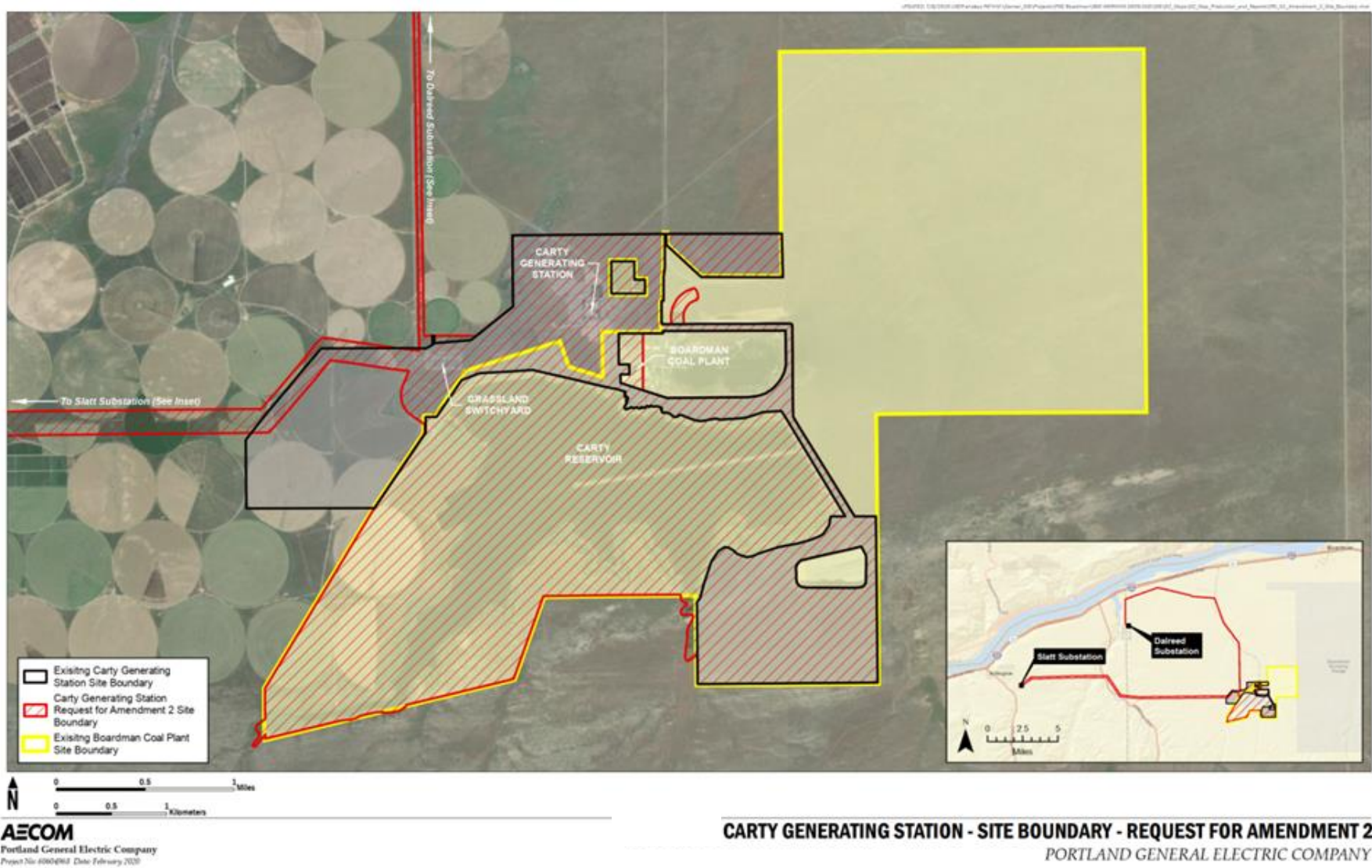
The certificate holder proposes to amend the site boundary including removal of 378 acres of agricultural land and adding approximately 3,414 acres. As proposed, the amended site boundary would encompass approximately 4,997 acres. The areas within the proposed site boundary expansion are currently authorized under the Boardman Coal Plant site certificate, and include related or supporting facility components. Specifically, the site boundary expansion would incorporate the following existing facility components to be used for Carty Generating Station operation: 500 kV Grassland to Slatt transmission line (approximately 17 miles-long), 230 kV BCP to Dalreed transmission line (approximately 16 miles-long), 34.5 kV BCP to the railroad crossing at Tower Road transmission line, Carty 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.

In Figure 2: *Amended Site Boundary*, below, the existing site boundary is presented in black outline; the areas to be added to the existing site boundary are presented in red outline; and, the area presented in yellow outline represents the BCP site boundary.



Figure 2: Amended Site Boundary

1



2  
3

1 *Existing Infrastructure to be Incorporated from Boardman Coal Plant*

2  
3 As presented in RFA2, the existing site certificate authorizes the shared use of several existing  
4 Boardman Coal Plant (BCP) facilities. The list of facility components below represents existing  
5 BCP facility infrastructure that the certificate holder requests be incorporated into the Carty  
6 site certificate. The incorporation of the listed facilities is related to a December 31, 2020  
7 ~~deadline for cessation~~ ~~cease~~ of operations at the BCP. After the December 31, 2020 deadline to  
8 cease operations of BCP, the shared facilities and other identified BCP facilities would exist only  
9 to serve CGS and therefore must be added as “related or supporting facilities” to the CGS site  
10 certificate in order to be used by CGS. The existing BCP infrastructure to be incorporated into  
11 the CGS site certificate is presented below (see Attachment A of this order for a detailed  
12 description of each of these components)<sup>2</sup>:

- 14 • 500 kV Grassland to Slatt transmission line
- 15 • Carty Reservoir, including portions of the raw water intake system, irrigation pump
- 16 station, and associated electrical connection lines
- 17 • Water discharge channel
- 18 • Sanitary sewer lagoons
- 19 • Boeing well and pump (potable water source)
- 20 • 300,000-gallon potable/fire water tank and associate existing water pipeline
- 21 • 230 kV BCP to Dalreed transmission line
- 22 • 34.5 kV BCP to railroad crossing at Tower Road transmission line
- 23 • ~~7.2 kV underground distribution line connecting BCP to the construction substation~~
- 24 • 12.5 kV underground distribution line connecting the construction substation to Boeing
- 25 Well pump
- 26 • 480-volt underground distribution line connecting the 34.5 kV transmission line to the
- 27 Carty Reservoir seepage pumps
- 28 • Construction Substation
- 29 • Two existing evaporation ponds

30  
31 *Proposed Related or Supporting Facilities (to be constructed)*

32  
33 As presented in RFA2, the certificate holder seeks Council approval to construct and operate  
34 the following related or supporting facilities, described in detail below:

- 36 • Water and wastewater pipelines; and new septic system
- 37 • Carty substation
- 38 • Office and warehouse space, and
- 39 • Security guard station

40  
41 *Septic System, Water Pipeline and Wastewater Pipeline*

42  
43 In RFA2, the certificate holder proposes to construct and operate new water and wastewater  
44 pipelines and a new septic system, as described below.

1 ~~Raw Water/Fire Water~~

2  
3 ~~Raw water from the Carty Reservoir is used for service water and fire water. It is withdrawn via~~  
4 ~~a single intake structure located inside the Raw Water Intake Building, from which it is taken in~~  
5 ~~through a channel outfitted with a traveling screen and enters a wet well. The certificate holder~~  
6 ~~proposes to construct and operate an underground distribution line extending from the intake~~  
7 ~~building to the facility. The duration of construction is anticipated at 3 months and would~~  
8 ~~require excavators, a backhoe, dump truck, compactor, possibly an asphalt paver, and several~~  
9 ~~pickup trucks.~~

10  
11 Wastewater

12  
13 The facility process waste and plant drainage waste flows are discharged into holding ponds,  
14 which can provide 7 days of holding capacity (if needed for discharge line maintenance or some  
15 other event preventing direct discharge). From the holding ponds, wastewater is discharged via  
16 ~~The certificate holder proposes to construct and operate~~ an 8-inch diameter wastewater  
17 pipeline from the facility into the Water Discharge Channel. The certificate holder requests two  
18 existing evaporation ponds currently permitted under the Site Certificate for BCP be added to  
19 CGS site certificate; wastewater from the holding ponds would be conveyed to the evaporation  
20 ponds via a new approximately 1,000-foot-long underground wastewater pipeline. The duration  
21 of construction is anticipated at 3 months and would require excavators, a backhoe, dump  
22 truck, compactor, possible an asphalt paver, and several pickup trucks.

23  
24 Potable Water/Fire Water

25  
26 Potable water for drinking fountains, showers (emergency and lavatory), sinks, and flushing of  
27 lavatory fixtures comes from the Boeing Well. The Boeing Well is a groundwater extraction well  
28 located just south of the facility. The well is 600 feet deep with a 30-horsepower pump hung at  
29 around 440 feet below ground surface. The well fills a holding tank within the facility prior to  
30 direct distribution to the plant services building. The Boeing Well pump drive motor is powered  
31 from a 150-kilovolt-ampere 12470-480/277 V distribution transformer. This transformer is  
32 connected via a 12.5 kV ~~overhead~~ underground distribution line to the ~~C~~onstruction  
33 substation. The construction substation, in turn, derives power from a 12.5 kV distribution line  
34 originating at the 1X33 transformer at BCP.

35  
36 The certificate holder facility also requests aincludes backup potable/firewater storage in a  
37 300,000-gallon, welded-steel water storage tank with adjacent pump house currently permitted  
38 under the Site Certificate for the BCP be added to CGS. The certificate holder proposes to  
39 construct and operate a 4-inch-in-diameter ~~intake~~ pipeline to connect the facility to the ~~Boeing~~  
40 ~~well~~ 300,000-gallon tank. The duration of construction is anticipated at 3 months and would

---

<sup>2</sup> CGSAMD2 Complete RFA with Attachments Introduction, 2020-10-02.

1 require excavators, a backhoe, dump truck, compactor, possibly an asphalt paver, and several  
2 pickup trucks.

### 3 4 *Sanitary Sewer*

5  
6 Sanitary sewer flows at the facility are solely from plant lavatories, sinks, and bathroom  
7 showers used by plant personnel. These flows are currently directly discharged to the sewage  
8 lagoons via a sewer lift station, ~~or an onsite septic system~~. There are ~~two~~ three existing sewage  
9 lagoons: the South Lagoon and Middle Lagoon (both lined). ~~The certificate holder proposes to~~  
10 ~~construct a and third sewage lagoon,~~ the North Lagoon (unlined). The certificate holder  
11 requests that sewer flows be permitted to be discharged to either the existing lagoons or to a  
12 new septic system, which requires a permit from the Umatilla County Public Health  
13 Department. The proposed septic system would be sized per state and county standards and  
14 the Umatilla County Public Health Department requirements and is in an area deemed  
15 acceptable for a standard, non-residential septic system. Because the design flow of the system  
16 is less than 2,501 gallons per day, the facility ~~is will~~ not be governed under the WPCF Permit  
17 100189. The duration of construction is anticipated at 2 to 3 months and would require  
18 excavators, a wheeled crane, backhoe, dump trucks, a compactor, and several pickup trucks.

### 19 20 *Carty Substation*

21  
22 The certificate holder proposes to construct and operate a new 7.2 kV open box structure  
23 substation, control house for relay, supervisory control and data acquisition system,  
24 communications and direct current DC system, a 73-foot dead-end structure for the existing  
25 230 kV transmission line, and 8-foot perimeter security fence southeast of the construction  
26 substation (as further described below), as shown in RFA2 Figure 2a, Figure 2b, and Figure 4.  
27 The existing 230 kV Boardman to Dalreed transmission line would be relocated to interconnect  
28 to the proposed Carty Substation, which would provide backup power to the Carty Generation  
29 Station, replacing the backup power previously provided by the BCP power block.

30  
31 The new Carty Substation infrastructure would relocate the existing 230 kV from the BCP power  
32 block at BCP and would support the future abandonment of the existing 500 kV line connecting  
33 BCP to Grassland Substation, while maintaining optical ground wire for communication needs.  
34 New distribution lines would be constructed to (1) connect to the existing pump house and  
35 construction substation via an existing underground conduit, (2) connect to the existing intake  
36 structure via an existing underground conduit from CGS to the intake structure, and (3) connect  
37 to the existing H-frame to connect to CGS for backup power supply via a new overhead line. As  
38 explained in RFA2, the construction duration of the Carty Substation is anticipated at 9 to 10  
39 months, and would require excavators, a backhoe, dump truck, compactor, and several pickup  
40 trucks.



1 New equipment within the Carty Substation would include the following<sup>3</sup>:

- 2
- 3 • Box Structure: The box frame structure is a metal frame structure (not enclosed) that
- 4 would be approximately 16 feet wide by 36 feet long and 24 feet high.
- 5 • 230 kV Disconnect Switch: The switch would be approximately 16 feet by 16 feet and 6
- 6 feet tall. It would be mounted on a 9-foot structure (overall height of about 15 feet).
- 7 • Capacitive Voltage Transformer (CVT): The transformer are a tall cylinder shape, similar
- 8 in appearance to the insulators. The transformer at Carty Substation would be
- 9 approximately 7-feet tall, mounted on an 8-foot structure, for an overall height of 15
- 10 feet.
- 11 • Dead End Structure: The dead-end structure would be one of the tallest features,
- 12 measuring approximately 53 feet. Shield wires for lightning protection would add an
- 13 additional 20 feet, resulting in an overall height of about 75 feet.
- 14 • Lightning Mast: Approximately two to four 75-foot-tall lightning masts would be
- 15 mounted on the dead-end structure.
- 16 • Circuit Switcher: The circuit switcher would be 15.5 feet tall and would be mounted on
- 17 a base measuring approximately 8 to 12 feet tall. The overall height would be 23.5 feet
- 18 to 27.5 feet.
- 19 • Circuit Breakers: The circuit breakers would be located underneath the box structure;
- 20 therefore, these components are considered part of the dimensions of the box
- 21 structure.
- 22 • Light poles: Lights would be installed and would be approximately 35 feet tall.
- 23 • Control House: The control house would be approximately 15 feet by 35 feet and 12
- 24 feet tall.
- 25 • Distribution line: The distribution line from Carty Substation to the existing
- 26 aboveground CGS backup power line would be mounted on single wood poles
- 27 approximately 50 feet tall. PGE anticipates needing four to five poles, two of which will
- 28 have down guys and anchors.
- 29

30 The substation would be contained within a fence line with dimensions of approximately 170  
31 feet by 180 feet. The fence would be 8 feet tall with an additional 1 foot of barbed wire. Within  
32 the fence line PGE would use the existing 27.5 megavolt-ampere power transformer and oil  
33 containment. The transformer contains a total of 13,995 gallons of mineral oil and the CGS Spill  
34 Prevention, Control, and Countermeasure Plan would be updated as required by condition 5.9  
35 of the site certificate. The transformer is an existing noise source and is currently in operation  
36 at the location of the new substation (e.g.i.e., the new substation is being built around the  
37 existing transformer so that it can be reused). Because the transformer is the only noise-  
38 emitting component, the substation is not considered a new noise source.

---

<sup>3</sup> CGSAMD2 Complete RFA with Attachments, Section 5.1.5. 2020-10-02.

1 The temporary disturbance footprint is estimated to be 0.6 acre, which assumes a 10-foot  
2 buffer around the fence line. New transmission infrastructure would relocate the existing 230  
3 kV from the power block at BCP to a new dead-end structure.

#### 4 5 *Office and Warehouse Space* 6

7 The certificate holder proposes to construct a new building within the existing CGS fence line to  
8 provide additional office and warehouse space (RFA2 Figure 2b, Figure 4). The building would  
9 be approximately 60 feet by 100 feet and approximately 20 feet tall. It would provide both  
10 office and warehouse space and be similar in appearance to the existing site buildings.

11 Temporary disturbance is estimated at 0.2 acres and assumes a 10-foot disturbance buffer  
12 around the building. As explained in RFA2, the construction duration of the office and  
13 warehouse space is anticipated at 10 to 12 months, and would require use of a small wheeled  
14 crane, excavator, front-end loader, compactor, aerial lifts, telehandler, triaxle dump truck, a  
15 skid steer loader, and pickup trucks.

#### 16 17 *Security Guard Station* 18

19 The certificate holder proposes to construct a new security guard station along Tower Road to  
20 the north of CGS. An entry gate and new fencing would connect to existing fencing on either  
21 side of Tower Road. New fencing would not exceed 200 linear feet. The security guard station  
22 would have a maximum footprint of 250 square feet and would include a single restroom. The  
23 proposed location for the security guard station and new fencing is on currently vegetated land.  
24 New potable water, wastewater, electricity, and communication lines for the new security  
25 guard station would need to be installed. These new lines would be placed underground and  
26 are anticipated to cross through existing paved, unpaved, and vegetated areas. The temporary  
27 disturbance footprint for these lines is estimated to be 0.26 acre, which assumes a 4-foot-wide  
28 trench for the plumbing and communication lines and a 10-foot disturbance buffer around the  
29 building. The permanent disturbance footprint would be approximately 250 square feet. The  
30 duration of construction is anticipated at 6 months and would require a telehandler, a backhoe,  
31 skid steer, triaxle dump truck, auger, small excavator, and several pickup trucks.

## *Modifications to the Water Pollution Control Facility Permit*

In RFA2, the certificate holder requests modifications to Water Pollution Control Facilities (WPCF) Permit 100189, a permit issued by Oregon Department of Environmental Quality (DEQ) but governed by the site certificate. The requested modification applies to Schedule A, Condition 6 and would authorize discharge of turbine rinse water to Carty Reservoir. The technical analysis and proposed findings for the WPCF Permit Modification (Addendum 2) is included at Attachment E to this order. The WPCF permit modification also included several requested language changes related to ongoing management of the facility as the coal fired plant (the Boardman Coal Plant) is slated to cease burning coal by end of 2020. The modified language would allow the Carty Generating Station to continue operation with oversight of the WPCF Permit for management of industrial and domestic wastewater, ~~domestic wastewater, and for the closure of the coal ash landfill.~~<sup>4</sup> The modification also includes required language for proper closure of the sanitary lagoons once taken out of service during the permit term.

### **II.B. Recommended Amended Site Certificate and Condition Format**

The recommended amended site certificate includes existing and recommended new and amended conditions. Some of the conditions apply to the facility, with proposed changes, some conditions apply only to existing operational facility components, and some conditions apply only to the proposed facility components.

Previously imposed conditions that are not recommended to be amended through new or deleted language would apply to both existing and proposed facility components. Previously imposed conditions that are recommended to be amended, but that include differing requirements for existing operational components and proposed components include a delineation format, where a roman numeral “i” indicates the requirements of the condition apply to operating components, or Unit 1 and its related or supporting facilities; roman numeral “ii” indicates that requirements of the amended condition apply to components from Amendment 1, including the Carty Solar Farm and its related or supporting facilities; and, roman numeral “iii” indicates that the requirements of the amended condition apply to proposed components of Request for Amendment 2, including existing infrastructure from the Boardman Coal Plant.

### **II.C. Amendment Review Process**

Council rules describe the processes for transfers, Type A, Type B, and Type C review of a request for amendment at OAR 345-027-0351. The Type A review is the standard or “default”

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<sup>4</sup> In comments received on the record of the Draft Proposed Order, the certificate holder clarified that the although the WPCF includes conditions for the closure of the BCP coal ash landfill and BCP has ceased operations, those conditions and the coal ash landfill are not requested to be included in the CGS site certificate. CGSAMD2 DPO Comments (PGE) Letter 2020-11-02

1 site certificate amendment process for changes that require an amendment. Type C review  
2 process is associated with construction-related changes. The key procedural difference  
3 between the Type A and Type B review is that the Type A review includes a public hearing on  
4 the draft proposed order and an opportunity for a contested case proceeding. The primary  
5 timing differences between Type A and Type B review are the maximum allowed timelines for  
6 the Department's determination of completeness of the preliminary request for amendment,  
7 as well as the issuance of the draft proposed order and proposed order. It is important to note  
8 that Council rules authorize the Department to adjust the timelines for these specific  
9 procedural requirements, if necessary.

10  
11 A certificate holder may submit an amendment determination request to the Department for a  
12 written determination of whether a request for amendment justifies review under the Type B  
13 review process. The certificate holder has the burden of justifying the appropriateness of the  
14 Type B review process as described in OAR 345-027-0351(3). The Department may consider,  
15 but is not limited to, the factors identified in OAR 345-027-0357(8) when determining whether  
16 to process an amendment request under Type B review.

17  
18 On February 28, 2020, the certificate holder submitted preliminary Request for Amendment 2,  
19 inclusive of a Type B Review amendment determination request (Type B Review ADR). The Type  
20 B Review ADR, requesting requested the Department's review and determination of whether,  
21 based on evaluation of the OAR 345-027-0357(8) factors, the amendment request could be  
22 reviewed under the Type B review process. On May 29, 2020, the Department determined that  
23 Request for Amendment 2 of the Carty Generating Station site certificate justified Type B  
24 review, based on the low level of complexity, the limited level of anticipated public and  
25 reviewing agency interest in the proposed changes ~~anticipated by the Department~~, and the low  
26 likelihood of significant adverse impacts or additional mitigation from the proposed changes.

27  
28 On August 17, 2020, the certificate holder submitted a revised preliminary Request for  
29 Amendment 2 which included modification of the list (and description) of existing BCP  
30 infrastructure to be incorporated into the site certificate to also include the Construction  
31 Substation, Irrigation Pump Station and Evaporation Ponds; and, modification of the list (and  
32 description) of proposed related or supporting facilities to be constructed to also include the  
33 Carty Substation. On September 16, 2020, the certificate holder submitted a revised Type B  
34 Review ADR to reflect the changes presented in the revised pRFA2. Based on review, the  
35 Department determined that the revisions would not change its May 29, 2020 determination  
36 that the certificate holder had justified Type B review for the proposed changes, as  
37 demonstrated in the recommendations presented in this order.

38  
39 Pursuant to OAR 345-027-0363(2), on March 20, 2020, the Department determined pRFA2 to  
40 be incomplete and issued requests for additional information.<sup>5</sup> The Department also issued a

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<sup>5</sup> CGSAMD2 Completeness Determination and RAI 2020-03-20.

1 second batch of RAI's on May 13, 2020, and a third batch of RAI's on August 21, 2020. The  
2 certificate holder provided responses to the information request #1 on April 4, 2020, June 5,  
3 2020<sup>6</sup>, and responses to RAI #2 and #3 on September 15, 2020. Additionally, the certificate  
4 holder provided the Department with responses to additional clarification questions asked by  
5 the Department during a phone call on September 18, 2020.<sup>7</sup>

6  
7 After reviewing the responses to its information request, on October 2, 2020, the Department  
8 determined the RFA to be complete. Under OAR 345-027-0363(5), an RFA is complete when the  
9 Department finds that a certificate holder has submitted information adequate for the Council  
10 to make findings or impose conditions for all applicable laws and Council standards. The  
11 certificate holder submitted a complete RFA2 on October 2, 2020, which was then posted on  
12 October 2, 2020 to the Department's project website with an announcement notifying the  
13 public that the complete RFA had been received and is available for viewing.

14  
15 Under OAR 345-027-0360(3), the analysis area for any Council standard that requires evaluation  
16 of impacts within an analysis area is the larger of either the study area as defined in OAR 345-  
17 001-0000(59) or the analysis areas described in the project order for the facility, unless  
18 otherwise approved in writing by the Department following a pre-amendment conference. On  
19 September 29, 2020, the Department approved, in writing, use of analysis area based on the  
20 sites of potential project impact, as opposed to the entire amended Carty Generating Station  
21 facility site boundary.

#### 22 23 Reviewing Agency Comments on Request for Amendment 2

24  
25 The Department consulted with or received comments on RFA2 from the following reviewing  
26 agencies: As presented in Attachment B of this order, the Department received comments on  
27 pRFA2 from the following local and state reviewing agencies:

- 28
- 29 • Confederated Tribes of the Umatilla Indian Reservation (CTUIR)
- 30 • Morrow County Planning Department
- 31 • Oregon Department of Environmental Quality (DEQ)<sup>8</sup>
- 32 • Oregon Department of Fish and Wildlife (ODFW)
- 33 • Oregon Department of Geologic and Mineral Industries (DOGAMI)
- 34 • Oregon Department of Aviation (ODA)
- 35

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<sup>6</sup> On June 5, 2020, the certificate holder requested to extend the deadline to provide responses to the  
Departments second batch of RAI's.

<sup>7</sup> CGSAMD2 PGE Responses to Questions 2020-09-18.

<sup>8</sup> The Department received two comments from ODEQ on the pRFA2, one from Fredrick Moore on 4/13/2020, and  
a second from Justin Sterger on 4/16/2020 which was the transmittal for Attachment E: Oregon Department of  
Environmental Quality Technical Analysis and Proposed Findings for Water Pollution Control Facilities Permit  
Modification (Addendum 2).

Comments received and Issues raised by reviewing agencies regarding compliance with an applicable Council standard are addressed in Section III.A., *Standards Potentially Impacted by Request for Amendment 2* of this order. Copies of reviewing agency comments are provided in Attachment B of this order.

#### **II.D. Council Review Process**

On October 2, 2020, the Department issued the draft proposed order, and a notice of comment period on RFA2 and the draft proposed order (notice) extending 30-days from October 2 through November 2, 2020. The notice was distributed to all persons on the Council's general mailing list, to the special mailing list established for the facility, to an updated list of property owners supplied by the certificate holder, and to a list of reviewing agencies as defined in OAR 345-001-0010(52).

To raise an issue on the record of the draft proposed order, a person must raise the issue in a written comment submitted after the date of the notice of the draft proposed order received by the Department before the written comment deadline. The Council will not accept or consider public comments on RFA2 or on the draft proposed order after the written comment deadline, ~~listed above~~ November 2, 2020, that closes the record on the draft proposed order. After the Department considers all comments received before the comment deadline for the draft proposed order, but not more than 21 days after the comment deadline, the Department will issue a proposed order.

The Department received six comments on the record of the draft proposed order, including comments from members of the public, reviewing agencies, and the certificate holder. All comments were transmitted to Council for its review and consideration.<sup>9</sup> Additionally, as provided in Attachment B of this proposed order, the Department received comments on the complete RFA and the DPO from the general public, the certificate holder, and specific state, local, and Tribal governments:

- Portland General Electric Company (certificate holder)
- Friends of the Columbia River Gorge, Columbia Riverkeeper, and the Green Institute at the Lewis & Clark Law School [FRIENDS] (general public)<sup>10</sup>

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<sup>9</sup> All comments received in the record of the DPO were provided to Council as Attachment 1 in the Department's November 6, 2020 Staff Report for Agenda Item C, for the November 19-20 EFSC meeting.

<sup>10</sup> In their comments on the record of the DPO, FRIENDS suggest that RFA2 be deemed incomplete, as PGE "failed to disclose within RFA2...a copy of its [Draft Standard Air Contaminant Discharge Permit (ACDP)] application currently pending with DEQ." FRIENDS attached a copy of DEQ's February 23, 2018 Public Notice Extension, and explains that PGE's Draft ACDP has not been approved and remains pending with DEQ. Additionally, FRIENDS infer that PGE has omitted numerous key elements from RFA2, including a visual impact analysis of the proposed



- Oregon Department of Aviation<sup>11</sup>
- Morrow County Board of Commissioners
- Oregon State Historic Preservation Office
- Confederated Tribes of the Umatilla Indian Reservation

On November 12, 2020, the Department issued the proposed order, addressing comments received on the record of the draft proposed order (see Attachment B-2 of this order for all DPO comments), along with a notice of proposed order issuance. The proposed order notice was distributed to all persons on the Council's general mailing list, to the special mailing list established for the facility and a current list of property owners supplied by the certificate holder. The proposed order shall recommend approval, modification, or denial of the second amended site certificate. Upon issuance of the proposed order, the Department will issue a notice of the proposed order.

The Council, may adopt, modify or reject the proposed order based on the considerations described in OAR 345-027-0375. In a written final order, the Council shall either grant or deny issuance of an amended site certificate. In making a decision to grant or deny issuance of an amended site certificate, the Council shall apply the applicable laws and Council standards required under OAR 345-027-0375 and in effect on the dates described in OAR 345-027-0375 (3). The Council's final order is subject to judicial review by the Oregon Supreme Court as provided in ORS 469.403.

## **II.E. Applicable Division 27 Rule Requirements**

A site certificate amendment is necessary under OAR 345-027-0350(4) because the certificate holder requests to design, construct, and operate the facility in a manner different from the description in the site certificate, and the proposed change would impair the certificate holder's ability to comply with a site certificate condition, and would require new conditions or modification to existing conditions in the site certificate.

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increases in volatile organic compounds (VOC's). The Department notes that not only does RFA2 not include any components that contribute to VOC emissions, but also clarifies that Council does not have authority over federally-delegated permits. The Environmental Protection Agency (EPA) has delegated authority to the DEQ to administer the ACDP program. For these reasons, this comment is not within the Council's jurisdiction and is therefore not addressed further in this order.

<sup>11</sup> Following additional consultation with the Department of Aviation, a clarification email was provided to the Department on November 6, 2020 in which ODA's clarified that their initial request to have an airspace review conducted for any incorporated infrastructure shared by the Carty Generation Station and the Boardman Coal Plant within the amended site boundary that is more than 200 feet in height or within the distances [identified] in the October 30 comment letter, is not needed if the transmission line in question was included in the original Carty Generating Station Site Certificate. The 500 kV Boardman to Slatt Substation Transmission line was included, and approved by Council in the 2012 Site Certificate.

1 The Type B amendment review process (consisting of rules 345-027-0359, -0360, -0363, -0365, -  
2 0368, -0372, and -0375) shall apply to the Council's review of a request for amendment that the  
3 Department or the Council approves for Type B review under 345-027-0357.

### 4 5 **III. REVIEW OF REQUESTED AMENDMENT**

6  
7 Under ORS 469.310, the Council is charged with ensuring that the "siting, construction and  
8 operation of energy facilities shall be accomplished in a manner consistent with protection of  
9 the public health and safety." ORS 469.401(2) further provides that the Council must include in  
10 the amended site certificate "conditions for the protection of the public health and safety, for  
11 the time for completion of construction, and to ensure compliance with the standards, statutes  
12 and rules described in ORS 469.501 and ORS 469.503."<sup>12</sup> The Council implements this statutory  
13 framework by adopting findings of fact, conclusions of law, and conditions of approval  
14 concerning the amended facility's compliance with the Council's Standards for Siting Facilities  
15 at OAR 345, Divisions 22, 24, 26 and 27.

16  
17 This ~~draft~~ proposed order includes the Department's ~~initial~~ analysis of whether the changes  
18 proposed in RFA2, meet each applicable Council Standard (with mitigation and subject to  
19 compliance with existing and recommended new and amended conditions, as applicable),  
20 based on the information in the record. ~~Following the written comment period on the draft~~  
21 ~~proposed order, the Department will issue its proposed order, which will include the~~  
22 ~~Department's consideration of any oral comments made at the public hearing, agency~~  
23 ~~consultation, applicant responses to comments, and any Council comments.~~

### 24 25 **III.A. Standards Potentially Impacted by Request for Amendment 2**

#### 26 27 **III.A.1. General Standard of Review: OAR 345-022-0000**

28  
29 *(1) To issue a site certificate for a proposed facility or to amend a site certificate, the*  
30 *Council shall determine that the preponderance of evidence on the record supports the*  
31 *following conclusions:*

32  
33 *(a) The facility complies with the requirements of the Oregon Energy Facility Siting*  
34 *statutes, ORS 469.300 to ORS 469.570 and 469.590 to 469.619, and the standards*  
35 *adopted by the Council pursuant to ORS 469.501 or the overall public benefits of the*  
36 *facility outweigh the damage to the resources protected by the standards the facility*  
37 *does not meet as described in section (2);*

38  
39 *(b) Except as provided in OAR 345-022-0030 for land use compliance and except for*  
40 *those statutes and rules for which the decision on compliance has been delegated by*

---

<sup>12</sup> ORS 469.401(2).

1       the federal government to a state agency other than the Council, the facility  
2       complies with all other Oregon statutes and administrative rules identified in the  
3       project order, as amended, as applicable to the issuance of a site certificate for the  
4       proposed facility. If the Council finds that applicable Oregon statutes and rules, other  
5       than those involving federally delegated programs, would impose conflicting  
6       requirements, the Council shall resolve the conflict consistent with the public interest.  
7       In resolving the conflict, the Council cannot waive any applicable state statute.

8  
9       \*\*\*\*\*<sup>13</sup>

10  
11       (4) In making determinations regarding compliance with statutes, rules and ordinances  
12       normally administered by other agencies or compliance with requirements of the Council  
13       statutes if other agencies have special expertise, the Department of Energy shall consult  
14       with such other agencies during the notice of intent, site certificate application, and site  
15       certificate amendment processes. Nothing in these rules is intended to interfere with the  
16       state's implementation of programs delegated to it by the federal government.

#### 17 18       **Findings of Fact**

19  
20       OAR 345-022-0000 provides the Council's General Standard of Review and requires the Council  
21       to make findings based on the preponderance of evidence on the record standard. These  
22       findings must support the conclusion that the facility, with proposed changes, complies with  
23       the requirements of Council statutes, the siting standards adopted by the Council, and all other  
24       Oregon Statutes and administrative rules identified in the project order and as applicable to the  
25       issuance of an amended site certificate for proposed facility modifications.

26  
27       As discussed in Section II.CB., *Amendment Review Process*, the Department consulted with  
28       other state and local government, including agencies and both Gilliam and Morrow cCounties  
29       during review of pRFA2 to aid in the evaluation of the proposal against the relevant statutes,  
30       rules, and ordinances administered by these agencies. Additionally, the Department relied upon  
31       reviewing agencies' special expertise in evaluating the facility's compliance with the  
32       requirements of the Council's standards. As presented in this order, the Department  
33       recommends Council find that the existing, recommended new and amended site certificate  
34       conditions would ensure that the facility, with proposed changes, would maintain compliance  
35       with all applicable statutes, administrative rules, and ordinances under Council jurisdiction.

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<sup>13</sup> OAR 345-022-0000(2) and (3) apply to amendment requests where a certificate holder has shown that the amended facility cannot meet Council standards or has shown that there is no reasonable way to meet the Council standards through mitigation or avoidance of the damage to protected resources; and, for those instances, establish criteria for the Council to evaluate in making a balancing determination. The certificate holder does not assert that the amended facility cannot meet an applicable Council standard. Therefore, OAR 345-022-0000(2) and (3) do not apply to this review.

1 *Certificate Expiration [OAR 345-027-0013]*

2  
3 A site certificate, or amended site certificate, becomes effective upon execution by the Council  
4 Chair and the certificate holder. A site certificate, or amended site certificate, expires if  
5 construction has not commenced on or before the construction commencement deadline, as  
6 established in the site certificate and statutorily required under ORS 469.401(2).  
7

8 Included as Attachment 1 of RFA2, the certificate holder provided an amended site certificate  
9 with proposed updates to both the Introduction section and Facility descriptions section.  
10 Additionally, the certificate holder included requested amendments made to existing  
11 conditions<sup>14</sup>. One such amendment was made to existing Condition 4.1, which specifies the  
12 construction commencement dates for Unit 1 and construction commencement dates of the  
13 Carty Solar Farm. The certificate holder requests that Council amend Condition 4.1 to include  
14 specific construction commencement dates for the construction related to RFA2. Specifically,  
15 and as represented in Attachment 1, the certificate holder requests that Council grant a  
16 construction commencement deadline that is within three years after the effective date of the  
17 amended site certificate. To remain consistent with the existing format of the First Amended  
18 Site Certificate, the certificate holder amended Condition 4.1 to include a third delineation from  
19 the condition as roman numeral "iii". This delineation specifies the requested commencement  
20 dates for the construction of proposed RFA2 facility components. The Department recommends  
21 that Council amend Condition 4.1 to specify the construction commencement deadline based  
22 upon three years following the amended site certificate execution date.  
23

24 Existing Condition 4.2, which specifies construction completion dates for Unit 1 and the Carty  
25 Solar Facility, was also requested to include specific dates tailored to RFA2 construction  
26 completion. As represented in the proposed amended Condition 4.2, the certificate holder  
27 requests that the construction completion deadline be within six years of the effective date of  
28 the amended site certificate. The Department agrees with the requested timeframe to reach  
29 completion, and suggests that the three years for construction commencement and additional  
30 three years for completion would be consistent with past Council requirements. As such, the  
31 Department recommends that Council amend Conditions 4.1 and 4.2 as follows:  
32

33 **Recommended Amended Condition 4.1:**

34 The certificate holder shall:

- 35 i. Begin construction of Unit 1 within three years after the effective date of the site  
36 certificate. Under OAR 345-015-0085(9), a site certificate is effective upon execution by  
37 the Council Chair and the applicant. The Council may grant an extension of the deadline  
38 to begin construction in accordance with OAR 345-027-0030 or any successor rule in  
39 effect at the time the request for extension is submitted.

40 [Final Order III.D.3; Mandatory Condition OAR 345-027-0020(4)]

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<sup>14</sup> CGSAMD2 Complete RFA with Attachments 2020-10-02, Section 4.

- 1 ii. Begin construction of the Carty Solar Farm within three years after the effective date of  
2 the amended site certificate, or February 4, 2022. Under OAR 345-015-0085(8), the site  
3 certificate is effective upon execution by the Council Chair and the certificate holder.  
4 [AMD1]
- 5 iii. Begin construction of facility components authorized by the Final Order on ~~Request for~~  
6 Amendment 2 within three years after the effective date of the amended site certificate  
7 [TBD]. Under OAR 345-015-0085(8), the site certificate is effective upon execution by  
8 the Council Chair and the certificate holder.  
9 [AMD2]

10  
11 **Recommended Amended Condition 4.2:**

12 The certificate holder shall:

- 13 i. Complete construction of Unit 1 of the facility within three years of beginning  
14 construction of Unit 1. Construction is complete when: 1) the facility is substantially  
15 complete as defined by the certificate holder's construction contract documents; 2)  
16 acceptance testing has been satisfactorily completed; and 3) the energy facility is ready  
17 to begin continuous operation consistent with the site certificate. The certificate holder  
18 shall promptly notify the Department of the date of completion of construction of Unit  
19 1. The Council may grant an extension of the deadline for completing construction in  
20 accordance with OAR 345-027-0030 or any successor rule in effect at the time the  
21 request for extension is submitted.  
22 [Final Order III.D.4] [Mandatory Condition OAR 345-027-0020(4)] [AMD1]
- 23 ii. Complete construction of the Carty Solar Farm within six years of the effective date of  
24 the amended site certificate, or February 4, 2025. The certificate holder shall promptly  
25 notify the Department of the date of completion of construction of the Carty Solar Farm  
26 and its supporting facilities  
27 [AMD1]
- 28 iii. Complete construction of facility components authorized by the Final Order on ~~Request~~  
29 for Amendment 2 within six years of the effective date of the amended site certificate  
30 [TBD]. The certificate holder shall promptly notify the Department of the date of  
31 completion of construction of these supporting facilities.  
32 [AMD2]

33  
34 *Mandatory and Site-Specific Conditions in Site Certificates [OAR 345-025-0006 and OAR 345-*  
35 *025-0010]*  
36

37 OAR 345-025-0006 lists certain mandatory conditions that the Council must adopt in every site  
38 certificate. The Council's October 2017 rule changes moved the mandatory conditions from  
39 Division 27 to Division 25. As such, the Department recommends Council impose new  
40 mandatory conditions for the proposed RFA2 facility modifications, using the language and

1 citations consistent with the October 2017 rule change, as presented in draft amended site  
2 certificate and provided in Attachment A of this order.

3  
4 The Department recommends that Council administratively amend Conditions 2.10, 2.13, 4.4  
5 and 4.6, as presented in Attachment A of this order, to be consistent with the updated  
6 mandatory condition OAR chapter and numbering: Based on the administrative nature of the  
7 condition amendments, the proposed changes are not presented in this section. The  
8 Department recommends that the Council find that the requested condition amendments  
9 would not substantively change the intent of the previously imposed conditions and amend the  
10 conditions as requested.

11  
12 In Attachment A of the RFA2, the certificate holder proposes ~~the creation of~~ Condition 4.7. As  
13 proposed, Condition 4.7 would mirror the requirements of existing condition 4.4.<sup>15</sup> The only  
14 variation between ~~the~~ existing Condition 4.4 and proposed Condition 4.7 is when the 90 day  
15 timeframe to provide the Department with a legal description of the site begins. Existing  
16 Condition 4.4 requires the certificate holder to provide a legal description of the site 90 days  
17 after beginning operation of the facility, whereas Condition 4.7 would require the legal  
18 description be provided 90 days after the execution of the second amended site certificate. As  
19 ~~d~~Described in Section II.A. *Requested Amendment*, RFA2 proposes to both incorporate shared  
20 infrastructure and existing facilities (shared by the Boardman Coal Plant and Carty Generating  
21 Station); and construct new infrastructure. The Department recommends that Council not  
22 impose Condition 4.7, as the requirements of existing Condition 4.4 would already apply to  
23 both the existing infrastructure proposed to be incorporated, and the new infrastructure to be  
24 built associated with RFA2. The Department interprets the requirements of Condition 4.4, as  
25 they relate to the incorporation of existing infrastructure to begin once the second amended  
26 site certificate was executed. Alternatively, the requirements of Condition 4.4, as they relate to  
27 the proposed new facility infrastructure, would not start until beginning operation.

28  
29 *Construction and Operation Rules for Facilities [OAR Chapter 345, Division 26]*

30  
31 The Council has also adopted rules at OAR Chapter 345, Division 26 to ensure that construction,  
32 operation, and retirement of facilities are accomplished in a manner consistent with the  
33 protection of public health, safety, and welfare and protection of the environment. These rules  
34 include requirements for compliance plans, inspections, reporting and notification of incidents.  
35 The certificate holder must construct the facility substantially as described in the site certificate  
36 and the certificate holder must construct, operate, and retire the facility in accordance with all  
37 applicable rules adopted by the Council in OAR Chapter 345, Division 26.

38  
39  
40  

---

<sup>15</sup> Condition 4.4 itself mirrors the OAR 345-025-0006(7) Mandatory Condition.

1 **Conclusions of Law**

2  
3 Based on the foregoing findings of fact and conclusions of law, and subject to compliance with  
4 the recommended amended ~~mandatory and site specific~~ conditions, the Department  
5 recommends the Council find that the facility, with proposed changes, would satisfy the  
6 requirements of OAR 345-022-0000.  
7

8 **III.A.2. Organizational Expertise: OAR 345-022-0010**

- 9  
10 (1) *To issue a site certificate, the Council must find that the applicant has the*  
11 *organizational expertise to construct, operate and retire the proposed facility in*  
12 *compliance with Council standards and conditions of the site certificate. To conclude*  
13 *that the applicant has this expertise, the Council must find that the applicant has*  
14 *demonstrated the ability to design, construct and operate the proposed facility in*  
15 *compliance with site certificate conditions and in a manner that protects public*  
16 *health and safety and has demonstrated the ability to restore the site to a useful,*  
17 *non-hazardous condition. The Council may consider the applicant's experience, the*  
18 *applicant's access to technical expertise and the applicant's past performance in*  
19 *constructing, operating and retiring other facilities, including, but not limited to, the*  
20 *number and severity of regulatory citations issued to the applicant.*  
21  
22 (2) *The Council may base its findings under section (1) on a rebuttable presumption that*  
23 *an applicant has organizational, managerial and technical expertise, if the applicant*  
24 *has an ISO 9000 or ISO 14000 certified program and proposes to design, construct*  
25 *and operate the facility according to that program.*  
26  
27 (3) *If the applicant does not itself obtain a state or local government permit or approval*  
28 *for which the Council would ordinarily determine compliance but instead relies on a*  
29 *permit or approval issued to a third party, the Council, to issue a site certificate, must*  
30 *find that the third party has, or has a reasonable likelihood of obtaining, the*  
31 *necessary permit or approval, and that the applicant has, or has a reasonable*  
32 *likelihood of entering into, a contractual or other arrangement with the third party*  
33 *for access to the resource or service secured by that permit or approval.*  
34  
35 (4) *If the applicant relies on a permit or approval issued to a third party and the third*  
36 *party does not have the necessary permit or approval at the time the Council issues*  
37 *the site certificate, the Council may issue the site certificate subject to the condition*  
38 *that the certificate holder shall not commence construction or operation as*  
39 *appropriate until the third party has obtained the necessary permit or approval and*  
40 *the applicant has a contract or other arrangement for access to the resource or*  
41 *service secured by that permit or approval.*  
42  
43  
44



## Findings of Fact

Subsections (1) and (2) of the Council's Organizational Expertise standard require that the certificate holder demonstrate its ability to design, construct and operate the facility, with proposed changes, in compliance with Council standards and all site certificate conditions, and in a manner that protects public health and safety, as well as its ability to restore the site to a useful, non-hazardous condition. The Council may consider the certificate holder's experience and past performance in constructing, operating and retiring other facilities in determining compliance with the Council's Organizational Expertise standard. Subsections (3) and (4) address third party permits.

### *Compliance with Council Standards and Site Certificate Conditions*

The Council may consider a certificate holder's past performance, including but not limited to the quantity or severity of any regulatory citations in the construction or operation a facility, type of equipment, or process similar to the facility, in evaluating whether a proposed change may impact the certificate holder's ability to design, construct and operate a facility in compliance with Council standards and site certificate conditions.<sup>16</sup> To evaluate whether construction and operation of the proposed RFA2 facility modifications would impact the certificate holder's ability to comply with Council standards and site certificate conditions, the Department evaluates the certificate holder's relevant experience constructing and operating ~~solar facilities~~similar systems and considers whether any regulatory citations have been received for its facilities.

The certificate holder is an investor owned utility that has been operating in Oregon for 132 years. The certificate holder owns and operates multiple generating and non-generating facilities in Oregon, including several energy facilities subject to Council jurisdiction. As mentioned above in Section II.A., *Requested Amendment*, Portland General Electric is also the certificate holder of the Boardman Coal Plant (BCP) which is a 550 MW coal-fueled electric generating power plant that was issued a site certificate in 1975, became operational in 1980, and will ~~have to~~ cease operations by December 31, 2020.

In RFA2, the certificate holder explains that they have extensive experience in construction and operation of natural gas and transmission facilities and will provide financial security to ensure appropriate retirement.<sup>17</sup> Furthermore, the existing facility components shared between the Carty facility and BCP are currently operational, and compliant with their respective site certificate conditions.

The certificate holder's compliance history at the Carty facility includes two regulatory citations received in the last 8 years, from the Department (Electric ROW outside of the site boundary in

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<sup>16</sup> OAR 345-021-0010(1)(d)(D).

<sup>17</sup> CGSAMD2 Complete RFA with Attachments 2020-10-02, Section 8.1.

1 2017; and, construction of a new work space without a written evaluation in October 2020).  
2 The most recent potential violation was self-reported by the certificate holder within the 72-  
3 hour notification period required by existing condition 2.12, and has committed to providing a  
4 written report to the Department within 30 days of potential violation.<sup>1819</sup> Based on the resolve  
5 of the 2017 citation, compliance with existing site certificate conditions, and the continued  
6 operation of five EFSC certified facilities, the Department recommends that Council find that  
7 the most recent regulatory citation (October 2020) should not interfere with Council's previous  
8 findings.

9  
10 In the *Final Order on the Application for the Carty Generating Station*, Council found that  
11 sufficient evidence had been provided to find that the certificate holder ~~has demonstrated~~  
12 sufficient ~~the~~ organizational expertise to construct, operate and retire the facility in compliance  
13 with the Council standards and the conditions of the site certificate. In the *Final Order on the*  
14 *Application*, the Council adopted conditions in Section IV.B.2. (IV.B.2.1 through 2.8) of the site  
15 certificate to ensure compliance with the Organizational Expertise standard. The existing  
16 Retirement and Financial Assurance conditions (15.1 through 15.7) would also apply to the  
17 incorporated infrastructure. The Department's evaluation of the Retirement and Financial  
18 Assurance standard and RFA2 can be found in section III.G, *Retirement and Financial Assurance*  
19 of this order.

20  
21 The certificate holder requests to administratively amend Condition 2.1 to include Gilliam  
22 County, Oregon, as presented in Attachment A of this order. Based on the administrative  
23 nature of the condition amendment, the proposed changes are not presented in this section.  
24 The Department recommends that the Council find that the requested condition amendments  
25 would not substantively change the intent of the previously imposed conditions and amend the  
26 conditions as requested.

### 27 28 *Public Health and Safety*

29  
30 The existing 500 kV Grassland to Slatt transmission line and the existing 230 kV BCP to Dalreed  
31 transmission line proposed to be included in the site boundary produce Electric fields (EMF).  
32 These two transmissions would operate not exceeding 9-kV per meter at one meter above  
33 ground levels. The evaluation of EMF and induced current is presented in Section  
34 ~~III.A.8~~ III.A.12.1, ~~Public Services and Section III.P.1.,~~ *Siting Standards for Transmission Lines* of  
35 this order. Based on the reasoning and analysis provided in the sections described, the  
36 Department recommends that the Council find that the proposed RFA2 modifications, including  
37 the incorporation of the 500 and 230 kV transmission lines s, ~~and the 230 kV transmission line~~  
38 would not impact the certificate holder's ability to design, construct, and operate the facility in  
39 a manner that protects public health and safety.

40  

---

<sup>18</sup> CGSOPS Notification of Potential Violation at Carty 2020-10-16

<sup>19</sup> OAR 345-029-0010(3)

1 *Ability to Restore the Site to a Useful, Non-Hazardous Condition*

2  
3 The certificate holder's ability to restore the facility site to a useful, non-hazardous condition is  
4 evaluated in ~~Section III.A.6,~~ *Retirement and Financial Assurance*, of this order, in which the  
5 Department recommends that Council find that the certificate holder would continue to be able  
6 to comply with the Retirement and Financial Assurance standard.

7  
8 *ISO 900 or ISO 14000 Certified Program*

9  
10 OAR 345-022-0010(2) is not applicable because the certificate holder has not proposed to  
11 design, construct or operate the facility, with proposed changes, according to an ISO 9000 or  
12 ISO 14000 certified program.

13  
14 *Third-Party Permits*

15  
16 OAR 345-022-0010(3) addresses the requirements for potential third party permits; ~~and~~ for  
17 third party permits Council would ordinarily determine compliance, Council must find that the  
18 certificate holder has a reasonable likelihood of entering into a contract or other agreement  
19 with the third-party for access to the resource secured by that permit, and that the third party  
20 has a reasonable likelihood of obtaining the necessary permit. -In RFA2, the certificate holder  
21 identifies one state permit, two county permits, and one state program that may be required  
22 for construction and operation of the new facility infrastructure. The certificate holder is not  
23 relying on a third party for any permits identified for which the Council would ordinarily  
24 determine compliance.

25  
26 **Conclusions of Law**

27  
28 Based on the evidence presented in the RFA, the Department recommends the Council find  
29 that ~~with~~ based on compliance with existing site certificate conditions, the certificate holder  
30 has the ability to design, construct, and operate the facility, with proposed changes, in  
31 compliance with all Council standards and conditions, as required by the Organizational  
32 Expertise standard.

33  
34 **III.A.3. Structural Standard: OAR 345-022-0020**

35  
36 *(1) Except for facilities described in sections (2) and (3), to issue a site certificate, the*  
37 *Council must find that:*

38  
39 *(a) The applicant, through appropriate site-specific study, has adequately characterized*  
40 *the seismic hazard risk of the site; and*

41  
42 *(b) The applicant can design, engineer, and construct the facility to avoid dangers to*  
43 *human safety and the environment presented by seismic hazards affecting the site, as*  
44 *identified in subsection (1)(a);*

1  
2 (c) The applicant, through appropriate site-specific study, has adequately characterized  
3 the potential geological and soils hazards of the site and its vicinity that could, in the  
4 absence of a seismic event, adversely affect, or be aggravated by, the construction and  
5 operation of the proposed facility; and

6  
7 (d) The applicant can design, engineer and construct the facility to avoid dangers to  
8 human safety and the environment presented by the hazards identified in subsection (c).  
9

10 (2) The Council may not impose the Structural Standard in section (1) to approve or deny  
11 an application for an energy facility that would produce power from wind, solar or  
12 geothermal energy. However, the Council may, to the extent it determines appropriate,  
13 apply the requirements of section (1) to impose conditions on a site certificate issued for  
14 such a facility.  
15

16 (3) The Council may not impose the Structural Standard in section (1) to deny an  
17 application for a special criteria facility under OAR 345-015-0310. However, the Council  
18 may, to the extent it determines appropriate, apply the requirements of section (1) to  
19 impose conditions on a site certificate issued for such a facility.  
20

## 21 **Findings of Fact**

22  
23 As provided in section (1) above, the Structural Standard generally requires the Council to  
24 evaluate whether the applicant (certificate holder) has adequately characterized the potential  
25 seismic, geological and soil hazards of the site, and whether the applicant (certificate holder)  
26 can design, engineer and construct the facility to avoid dangers to human safety and the  
27 environment from these hazards.<sup>20</sup> ~~Pursuant to OAR 345-022-0020(2), the Council may issue a~~  
28 ~~site certificate for a wind energy facility without making findings regarding compliance with the~~  
29 ~~Structural Standard; however, the Council may apply the requirements of the standard to~~  
30 ~~impose site certificate conditions.~~

31  
32 ~~The analysis area for the Structural Standard, as defined in the Project Order, is the area within~~  
33 ~~the site boundary. As described in Section II.C. Amendment Review Process of this order,~~  
34 ~~consistent with OAR 345-027-0360(3), the Department provided written authorization for the~~  
35 ~~evaluation of impacts from RFA2 to be based on an analysis area extending from the areas to~~  
36 ~~be disturbed from construction related activities rather than the entirety of area within the~~  
37 ~~amended site boundary.~~  
38

39 In the *Final Order*, the Council found that the design, construction, and operation of the facility  
40 would meet the Council's Structural Standard, subject to the conditions adopted in Section

---

<sup>20</sup> OAR 345-022-0020(3) does not apply to this facility because the facility, with proposed changes, is a not a special criteria facility under OAR 345-015-0310.

IV.C.2.<sup>21</sup> In the *Final Order on Amendment 1*, the Council found that with both the existing and amended site certificate conditions, the certificate holder continued to have the ability to design, construct, and operate the facility, including the proposed Carty Solar Farm, in a manner that would ~~to~~ avoid dangers to human safety ~~presented by the~~ from non-seismic and seismic hazards identified at the site.

In addition, while the last Council decision on the Carty Generating ~~Facility~~ Station site certificate amended the rule citations of previously imposed mandatory and site-specific conditions due to the Council's October 2017 rule change, changes to the language of applicable conditions were not amended. Based on the October 2017 rule changes, the Department recommends that Council administratively amend Conditions 6.7, 6.10, and 6.11 as follows to be consistent with the mandatory condition language:

**Recommended Amended Condition 6.7:** The certificate holder ~~shall~~ must design, engineer and construct the facility to avoid dangers to human safety and the environment presented by seismic hazards affecting the site that are expected to result from all maximum probable seismic events. As used in this rule "Seismic seismic hazard" includes ground shaking, ground failure, landslide, liquefaction, triggering and consequences (including flow failure, settlement buoyancy, and lateral spreading), cyclic softening of clays and silts, fault rupture, directivity effects and soil-structure interaction. For coastal sites, this also includes tsunami inundation hazards, and seismically-induced coastal fault displacement and subsidence. [Final Order IV.C.2.5] [Mandatory Condition OAR 345-~~027025-0020~~ 0006(12)] [AMD2]

**Recommended Amended Condition 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 and implement corrective or mitigation actions. [Final Order IV.C.2.2] [Mandatory Condition OAR 345-~~027025-0020~~ 0006(13)] [AMD1] [AMD2]

**Recommended Amended Condition 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. After the Department receives notice, the Council may require the certificate holder to consult with

---

<sup>21</sup> The conditions adopted in Section IV.C.2. of the Final Order (conditions IV.C.2.1, IV.C.2.2, IV.C.2.3., IV.C.2.4., IV.C.2.5., and IV.C.2.6.) are represented in the Site Certificate as conditions 5.4, 6.10, 6.11, 6.6, 6.7, and 6.8 respectively.

1 the Department of Geology and Mineral Industries and the Building Codes Division to  
2 propose and implement corrective or mitigation actions.

3 [Final Order IV.C.2.3] [Mandatory Condition OAR 345-027-025-00200006(14)] [AMD2]  
4

#### 5 *Potential Seismic, Geological and Soil Hazards*

6

7 In RFA2, in response to ~~a DOGAMI~~ comments received from the Department of Geology and  
8 Mineral Industries (DOGAMI) requesting that the certificate holder utilize the latest building  
9 codes, and also conduct site specific Geotechnical work that involves borings, the certificate  
10 holder clarifies that as proposed, the new related or supporting facility components of RFA2 are  
11 sited in areas that were previously characterized for potential geological and soil hazards.<sup>22</sup>  
12 Additionally, the certificate holder explains that the geotechnical investigations conducted as  
13 part of the 2011 ASC and also those provided in RFA1, along with the pre-construction  
14 geotechnical evaluation performed at Carty in 2013 (Terracon Consultants, Inc. 2013) per  
15 Condition 5.4, will be used and therefore no additional geotechnical investigations will be  
16 needed. As such, the certificate holder requests that Council amend Condition 5.4(a) to specify  
17 that the exploratory borings would not be required for the new construction of facility  
18 components associated with RFA2, presented below:

19  
20 **Recommended Amended Condition 5.4:** Before beginning construction of Unit 1 and Carty  
21 Solar Farm, the certificate holder must:

- 22 i. Complete an investigation of subsurface soil and geologic conditions to identify  
23 geological or geotechnical hazards per Condition 5.4.a and obtain Department  
24 approval of the investigation report per Condition 5.4.b. The investigation must  
25 include at least the following activities...

26 [Final Order IV.C.2.1]

- 27 ii. Complete an investigation...

28 [AMD1] [AMD2]  
29

30 As provided in the 2011 ASC on behalf of the certificate holder, Cornforth Consultants Inc. (CCI)  
31 conducted a preliminary geotechnical investigation for the facility site, characterizing potential  
32 seismic hazards at the site and in its vicinity. OAR 345-022-0020(1)(a) requires the certificate  
33 holder to adequately characterize the seismic hazard risk of the site. In the 2011 ASC  
34 geotechnical investigation, CCI identified two principal types of earthquake sources in the  
35 vicinity of the facility site: the Cascadian Subduction Zone (CSZ) and local crustal faults.  
36 Furthermore, Council previously determined that the facility is located over 200 miles from the  
37 CSZ and within the light damage zone as defined in the Oregon ~~Resiliency~~ Resilience Plan  
38 (2013), making it inherently resilient to region-wide seismic disaster.  
39

---

<sup>22</sup> CGSAMD2 Reviewing Agency Comment DOGAMI\_Wang 2020-04-15.

1 *Design, Engineer and Construct facility to Avoid Dangers to Human Safety from Seismic and*  
2 *Non-Seismic Hazards*

3  
4 In RFA2, the certificate holder confirmed that the new facility components proposed to be  
5 constructed would occur in areas that were previously characterized in both the ASC and RFA1  
6 for potential geologic and soil hazards.<sup>23</sup> Furthermore, the certificate holder cites site certificate  
7 conditions 5.4, 6.6, 6.7, 6.8, 6.10, and 6.11 and continued compliance with each condition  
8 respectively as a means to ensure that RFA2 would continue to comply with the standard.  
9 However, as represented in Attachment 1 of RFA2, the certificate holder proposes a  
10 modification to Condition 5.4, to clarify when exploratory borings would be required. During  
11 the completeness review of RFA2, the Department of Geology and Mineral Industries (DOGAMI)  
12 provided comments indicating that “the applicant needs to utilize the latest building codes [for  
13 the construction of the new proposed components, and that]... the applicant needs to conduct  
14 site specific [Geotechnical] work that involves borings”.<sup>24</sup> The certificate holder explains in RFA2  
15 that the geotechnical investigations associated with potential geological and soil hazard  
16 assessments characterized in the 2011 ASC and RFA1, along with the pre-construction  
17 geotechnical evaluation performed at Carty in 2013 (Terracon Consultants, Inc. 2013), will be  
18 used and therefore no additional geotechnical investigations will be needed.

19  
20 Additionally, the new security guard station, and office/warehouse building are considered  
21 “light structures,” and therefore would not require a geotechnical investigation. Lastly, the new  
22 septic system, water pipeline, and wastewater pipeline would not require a geotechnical  
23 investigation, and percolation test have already been performed satisfactorily for the septic  
24 system.

25  
26 *Integration of Disaster Resilience Design*

27  
28 In RFA2, the certificate holder explains that as proposed, the new related or supporting  
29 facilities ~~components~~ would also be located over 200 miles from the Cascadia Subduction Zone,  
30 within the light damage zone as defined in the Oregon Resiliency Plan (2013). As such, the  
31 certificate holder concludes that the new related or supporting facilities would inherently be  
32 resilient to region-wide seismic disaster, per their proposed location. Furthermore, the RFA  
33 indicates that ~~l~~ocal seismic resiliency will be addressed by adhering to current seismic building  
34 codes, when building codes are applicable to the new construction. Lastly, the certificate holder  
35 explains that the construction of the Carty substation will ensure CGS continues to have a  
36 backup power supply, which directly helps maintain the resiliency of CGS as a whole.<sup>25</sup>

37  
38  
39  

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23 CGSAMD2 Complete RFA with Attachments 2020-10-02, Section 8.2.

24 CGSAMD2 Reviewing Agency Comment DOGAMI\_Wang 2020-04-15.

25 CGSAMD2 Complete RFA with Attachments 2020-10-02, Section 8.2.



## 1 Conclusions of Law

2  
3 Based on the foregoing analysis, subject to compliance with existing and recommended  
4 conditions, and in compliance with OAR 345-022-0020(2), the Department recommends that  
5 the Council find that the certificate holder would satisfy the requirements of the Council's  
6 Structural Standard.

### 7 8 III.A.4. Soil Protection: OAR 345-022-0022

9  
10 *To issue a site certificate, the Council must find that the design, construction and*  
11 *operation of the facility, taking into account mitigation, are not likely to result in a*  
12 *significant adverse impact to soils including, but not limited to, erosion and chemical*  
13 *factors such as salt deposition from cooling towers, land application of liquid effluent,*  
14 *and chemical spills.*

## 15 16 Findings of Fact

17  
18 The Soil Protection standard requires the Council to find that taking into account mitigation, the  
19 design, construction, and operation of the facility, with proposed changes, are not likely to  
20 result in significant adverse impacts to soil.

21  
22 As described in Section II.C. Amendment Review Process of this order, consistent with OAR 345-  
23 027-0360(3), the Department provided written authorization for the evaluation of impacts from  
24 RFA2 to be based on an analysis area extending from the areas to be disturbed from  
25 construction related activities rather than the entirety of area within the amended site  
26 boundary.

27  
28 In the *Final Order*, the Council found that the design, construction, and operation of the facility  
29 would not result in a significant adverse impact to soils. The Council adopted conditions in  
30 Section IV.D.2. of the site certificate to ensure compliance with the Soil Protection standard.<sup>26</sup>  
31 These conditions would continue to apply to the construction and operation of the ~~new~~  
32 proposed RFA2 facility components, ~~including with the exception of those that apply to the~~  
33 1200-C National Pollutant Discharge Elimination System (NPDES) permit based on DEQ's  
34 evaluation of potential discharge from the facility site to jurisdictional waters.<sup>27</sup>

35  
36 *Potential Significant Adverse Impacts to Soils*  
37

---

<sup>26</sup> The conditions adopted in Section IV.D.2. of the Final Order (conditions IV.D.2.1, IV.D. 2.2., IV.D.2.3., IV.D.2.4., IV.D.2.5., IV.D.2.6., IV.D.2.7. IV.D.2.8., IV.D.2.9., IV.D.2.10., IV.D.2.11., and IV.C.2.12.) are represented in the Site Certificate as conditions 9.1, 9.2, 9.3, 9.4, 9.5, 5.5, 9.6, 9.7, 9.8, 9.9, 9.10, and 9.11 respectively.

<sup>27</sup> CGSAMD2 DPO Comments (ODEQ) Clarification 2020-11-05.

~~The analysis area for the Soil Protection standard is the area within the site boundary. In RFA2, the analysis area is the area that will be affected during construction and operation of the new proposed RFA2 facility components.<sup>28</sup> In RFA2, the certificate holder explains that potential adverse impacts to soils during from construction of new RFA2 facility components would be similar to those evaluated in the 2011 ASC and 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. Existing conditions 5.9 and 9.1 through 9.7 9.2, 9.3, and 9.5 through 9.7 impose measures to control soil erosion and sediment runoff during construction, and the revegetation and monitoring of disturbed sites post-construction. In RFA2, the certificate holder confirms that a 1200-C NPDES would not be required because stormwater would not reach waters of the state, therefore Conditions 9.1 and 9.4 would not apply.~~

In Request for Amendment 1, Council deleted Condition 9.8 from the site certificate. Condition 9.8 requires the certificate holder to remove and then dispose of all accumulated evaporation pond solids, at a landfill approved for such waste material. All residual solids deposited in the evaporation ponds must be removed to an appropriate disposal facility upon closure of the facility. This condition was removed from the site certificate because the certificate holder no longer maintained the ability to construct and operate Unit 2, Unit 2 associated components, or the previously approved but not yet constructed related and supporting facilities. In request for Amendment 2, the two existing BCP evaporation ponds are proposed to be incorporated into the CGS Site Certificate. The certificate holder proposes that the evaporation ponds would be operated in compliance with Condition 9.8, as previously imposed in the Final Order, but removed in the Final Order on Amendment 1. The Department recommends that Council reapply Condition 9.8 to the Site Certificate, as originally imposed.

### **Conclusions of Law**

Based on the foregoing recommended findings of fact and conclusions of law, and subject to compliance with existing and recommended amended site certificate conditions, the Department recommends that the Council find that the certificate holder would continue to comply with the Councils Soil Protection standard.

#### **III.A.5. Land Use: OAR 345-022-0030**

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

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

---

<sup>28</sup>~~CGSAMD2 Analysis Area adjustment ODOE EMAIL 2020-09-29.~~

1 \*\*\*

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

4  
5 (A) The proposed facility complies with applicable substantive criteria as described in  
6 section (3) and the facility complies with any Land Conservation and Development  
7 Commission administrative rules and goals and any land use statutes directly  
8 applicable to the facility under ORS 197.646(3);

9  
10 (B) For a proposed facility that does not comply with one or more of the applicable  
11 substantive criteria as described in section (3), the facility otherwise complies with  
12 the statewide planning goals or an exception to any applicable statewide planning  
13 goal is justified under section (4); or

14  
15 (C) For a proposed facility that the Council decides, under sections (3) or (6), to  
16 evaluate against the statewide planning goals, the proposed facility complies with  
17 the applicable statewide planning goals or that an exception to any applicable  
18 statewide planning goal is justified under section (4).

19  
20 (3) As used in this rule, the "applicable substantive criteria" are criteria from the affected  
21 local government's acknowledged comprehensive plan and land use ordinances that are  
22 required by the statewide planning goals and that are in effect on the date the applicant  
23 submits the application. If the special advisory group recommends applicable  
24 substantive criteria, as described under OAR 345-021-0050, the Council shall apply them.  
25 If the special advisory group does not recommend applicable substantive criteria, the  
26 Council shall decide either to make its own determination of the applicable substantive  
27 criteria and apply them or to evaluate the proposed facility against the statewide  
28 planning goals.

29  
30 (4) The Council may find goal compliance for a proposed facility that does not otherwise  
31 comply with one or more statewide planning goals by taking an exception to the  
32 applicable goal. Notwithstanding the requirements of ORS 197.732, the statewide  
33 planning goal pertaining to the exception process or any rules of the Land Conservation  
34 and Development Commission pertaining to the exception process, the Council may take  
35 an exception to a goal if the Council finds:

36  
37 (a) The land subject to the exception is physically developed to the extent that the land is  
38 no longer available for uses allowed by the applicable goal;

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

43 (c) The following standards are met:  
44

- (A) Reasons justify why the state policy embodied in the applicable goal should not apply;
- (B) The significant environmental, economic, social and energy consequences anticipated as a result of the proposed facility have been identified and adverse impacts will be mitigated in accordance with rules of the Council applicable to the siting of the proposed facility; and
- (C) The proposed facility is compatible with other adjacent uses or will be made compatible through measures designed to reduce adverse impacts.

\*\*\*

## **Findings of Fact**

The Council must apply the Land Use standard in conformance with the requirements of ORS 469.504. Under ORS 469.504(1)(b)(A), the Council may find compliance with statewide planning goals if the Council finds that the amendment request “complies with 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 in effect on the date the application is submitted” (the initial amendment request was received on August 29, 2016).

~~The analysis area for potential land use impacts, as defined in the project order, is the area within and extending ½-mile from the site boundary, as amended.~~

~~As described in Section II.C. Amendment Review Process of this order, consistent with OAR 345-027-0360(3), the Department provided written authorization for the evaluation of impacts from RFA2 to be based on an analysis area extending from the areas to be disturbed from construction related activities rather than the entirety of area within the amended site boundary. The analysis area for potential land use impacts, as defined in the Project Order, is the area within and extending ½-mile from the site boundary. RFA2 proposes to modify the site boundary; therefore, the analysis area includes the area within and extending ½-mile from the proposed amended site boundary, but for this amendment request, focuses on the area within and extending ½-mile from proposed RFA2 facility component locations which would be limited to area within Morrow County.~~

Previously approved and existing facility components of the Boardman Coal Plant, proposed to be incorporated into the Carty Generating Station site certificate have already been approved and constructed in accordance with the BCP Site Certificate; an evaluation of applicable substantive criteria has therefore not been included in this order.

## **Local Applicable Substantive Criteria**

Under OAR 345-022-0030(2), the Council must apply the applicable substantive criteria recommended by the Special Advisory Group (SAG). On November 19, 2009, the Council appointed the Gilliam County Board of Commissioners and Morrow County Board of Commissioners as the Special Advisory Group (SAG) for the facility. In its consideration of a site certificate amendment request, the Council applies the “applicable substantive criteria,” as

described in the rule above, that are in effect on the date the certificate holder submitted the amendment request. Proposed RFA2 facility components would be located entirely within Morrow County; therefore, the Department coordinated review of pRFA2 with Morrow County Planning Department on behalf of Morrow County Board of Commissioners.<sup>29</sup> Comments received on pRFA2 from Morrow County are addressed in RFA2 and in this order and are provided as Attachment B of this order.

The applicable substantive criteria for proposed RFA2 facility components are presented in Table 1, Morrow County Applicable Substantive Criteria below. As described above, while the facility, as approved, would be located within Gilliam and Morrow County, proposed RFA2 facility components would be located entirely within Morrow County. Therefore, for this amendment request, substantive criteria from Gilliam County Development Code and Comprehensive Plan do not apply.

**Table 1: Morrow County Applicable Substantive Criteria**

| <b>Morrow County Zoning Ordinance (MCZO)</b> |                              |
|----------------------------------------------|------------------------------|
| <i>Article 1 – Introductory Provisions</i>   |                              |
| Section 1.050                                | Zoning Permit                |
| <i>Article 3 – Use Zones</i>                 |                              |
| Section 3.010                                | Exclusive Farm Use, EFU Zone |
| Section M                                    | Yards                        |
| Section N                                    | Transportation Impacts       |
| Section 3.070                                | General Industrial Zone      |
| Section D                                    | Dimension Requirements       |
| Section E                                    | Transportation Impacts       |
| <i>Article 4 – Supplementary Provisions</i>  |                              |
| Section 4.165                                | Site Plan Review             |
| <i>Article 9 – Sewage Disposal Approval</i>  |                              |
| Section 9.060                                | Sewage Disposal Approval     |
| <b>Morrow County Comprehensive Plan</b>      |                              |
| Agricultural Policy 1 and 4                  |                              |
| Energy Policies 3 and 9                      |                              |
| Economic Element Policy 2A, 3A, 5A and 6C    |                              |

As presented in the following section, the Department recommends Council find that the certificate holder demonstrates that the components of the amendment request would comply with all of the applicable substantive criteria in Morrow County.

<sup>29</sup> CGSAMD2 Special Advisory Group Comment Morrow County\_Wreccsics 2020-04-10.

1  
2 III.A.5.1 Morrow County Zoning Ordinance (MCZO)  
3

4 Facility modifications proposed in RFA2 include the Carty Substation and associated distribution  
5 lines, septic system, water pipeline, wastewater pipeline, security guard station, and  
6 office/warehouse building. These facilities would be constructed as part of the existing facility  
7 and therefore are considered an “accessory use or accessory structure” to a “commercial utility  
8 facilities for the purpose of generating power for public use by sale..”. The septic system and a  
9 portion of the wastewater pipeline are within Morrow County’s Exclusive Farm Use (EFU) zone.  
10 The Carty Substation and associated distribution lines, security guard station, and portion of the  
11 wastewater pipeline connecting CGS to the evaporation ponds are within the General Industrial  
12 (MG) zone. The office/warehouse building will likely be within the EFU zone, although  
13 depending on final design it could partially be within the MG zone; therefore, applicable  
14 ordinances for both the EFU and MG zone are evaluated for the office/warehouse building.<sup>30</sup>  
15

16 The following analysis addresses the applicable substantive criteria identified in the MCZO.  
17

18 MCZO Section 1.050 Introductory Provisions, Zoning Permit  
19

20 *Prior to the construction, reconstruction, alteration, or change of use of any structure*  
21 *larger than 100 square feet or use for which a zoning permit is required, a zoning permit*  
22 *for such construction, reconstruction, alteration, or change of use or uses shall be*  
23 *obtained from the Planning Director or authorized agent thereof. A zoning permit shall*  
24 *become void after 1 year unless the development action has commenced. A 12-month*  
25 *extension may be granted when submitted to the Planning Department prior to the*  
26 *expiration of the approval period.*  
27

28 MCZO Section 1.050 requires projects larger than 100 square feet, including the construction,  
29 reconstruction, alteration or change of use of any structure, or use for which a zoning permit is  
30 required, to obtain a zoning permit. A zoning permit, as described in Article 1, is issued prior to  
31 a building permit, or prior to commencement of a use subject to administrative review, and  
32 states that the proposed use is in accordance with requirements of the corresponding land use  
33 zone.  
34

35 The construction and operation of the components proposed in the amendment request  
36 would alter or change the existing land use by more than 100 square feet. Therefore, the  
37 certificate holder would be required to obtain a zoning permit, which would be subject to  
38 administrative review under the provisions of MCZO Article 4.165. As described below,  
39 existing Condition 4.6 requires that the certificate holder obtain all necessary local permits,  
40 including the zoning permit; this condition would apply to the proposed facility components of

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<sup>30</sup> CGSAMD2 Complete RFA with Attachments 2020-10-02, Section 8.4.

1 RFA2. Moreover, the Department presents its evaluation of the certificate holder's MCZO  
2 Section 4.165 compliance assessment below. Based upon compliance with existing Condition  
3 4.6 and consistency with MCZO Section 4.165 provisions, the Department recommends  
4 Council find that the components proposed in the amendment request would satisfy the  
5 MCZO Section 1.050 provision.

6  
7 MCZO Section 3.010 Exclusive Farm Use, EFU Zone  
8

9 *MCZO 3.010(B) Uses Permitted Outright*

10 *In the EFU zone, the following uses and activities and their accessory buildings and*  
11 *uses are permitted subject to the general provisions set forth by this ordinance:*

12  
13 *22. Commercial utility facilities for the purpose of generating power for public*  
14 *use by sale, not including wind power generation facilities or photovoltaic solar*  
15 *power generation facilities subject to Subsection K.*

16  
17 The Carty Generating Station is a commercial utility facility for the purpose of generating power  
18 for public use by sale. Therefore, the requirement under MCZO Section 3.010(M) and (N) apply.

19  
20 *MCZO Section 3.010(M) Yards. In an EFU Zone, the minimum yard setback requirements*  
21 *shall be as follows:*

- 22 1. *The front yard setback from the property line shall be 20 feet for property*  
23 *fronting on a local minor collector or marginal access street ROW, 30 feet from a*  
24 *property line fronting on a major collector ROW, and 80 feet from an arterial*  
25 *ROW unless other provisions for combining accesses are provided and approved*  
26 *by the County.*  
27 2. *Each side yard shall be a minimum of 20 feet except that on corner lots or parcels*  
28 *the side yard on the street side shall be a minimum of 30 feet.*  
29 3. *Rear yards shall be a minimum of 25 feet.*  
30 4. *Stream Setback. All sewage disposal installations such as outhouses, septic tank*  
31 *and drainfield systems shall be set back from the high-water line or mark along*  
32 *all streams and lakes a minimum of 100 feet, measured at right angles to the*  
33 *high-water line or mark. All structures, buildings, or similar permanent fixtures*  
34 *shall be set back from the high-water line or mark along all streams or lakes a*  
35 *minimum of 100 feet measured at right angles to the high-water line or mark.*  
36

37 The EFU Yard Setback Requirements under MCZO Section 3.010(M)(1-3) apply to "open spaces  
38 on a lot" (i.e., "yards") and establish minimum setback distances from the front, side and rear  
39 yards to road rights-of-way and intensive agricultural use. The EFU Yard Setback Requirements  
40 under MCZO Section 3.010(M)(4) apply to sewage disposal installation and establish minimum  
41 setback distances from streams and lakes. Council previously imposed Condition 6.22(b), which  
42 mirrors the requirements of MCZO Section 3.010(M)(1-4). The certificate holder affirms that  
43 the proposed RFA2 facility modifications would be designed to satisfy the setback requirements  
44 established in Condition 6.22(b). Based upon compliance with Condition 6.22(b), the



1 Department recommends Council find that the facility, with proposed changes, would satisfy  
2 the provisions of MCZO Section 3.010(M).

3  
4 *MCZO Section 3.010(N) Transportation Impacts*

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

13  
14 The EFU Transportation Impact Analysis (TIA) under MCZO Section 3.010(N) applies to projects  
15 that would generate more than 400 passenger equivalent trips per day. Based on the estimated  
16 peak daily vehicle and truck trip generation during construction, less than 400 passenger car  
17 equivalents per day are expected and therefore a TIA is not required to satisfy the  
18 requirements of Section 3.010(N).

19  
20 Potential traffic-related impacts on surrounding roadways would be limited to Tower Road.  
21 Council previously imposed Condition 6.17 under the Public Services standard requiring  
22 implementation of traffic control measures during construction. The Department recommends  
23 Council find that compliance with existing Condition 6.17 would minimize construction traffic  
24 related impacts.

25  
26 Long-term operational traffic would generate approximately less than 10 passenger car or  
27 pickup truck trips per day, with infrequent heavy vehicle trips and would not trigger the  
28 requirements of Section 3.010(N). Based on estimated operational traffic, the Department  
29 recommends Council conclude that the certificate holder is not required to satisfy the  
30 requirements of Section 3.010(N).

31  
32 MCZO Section 3.070 General Industrial, MG

33  
34 Facility components to be located within General Industrial (MG) zoned land include the Carty  
35 Substation and associated distribution lines, water pipelines, portion of the wastewater  
36 pipeline, security guard station, and office/warehouse building (if constructed within the MG  
37 zone). Therefore, the applicable code provisions within MG-zoned land are evaluated below.

38  
39 *The General Industrial Zone is intended to provide, protect and recognize areas well*  
40 *suited for medium and heavy industrial development and uses free from conflict with*  
41 *commercial, residential and other incompatible land uses. This district is intended to*  
42 *be applied generally only to those areas which have available excellent highway, rail*  
43 *or other transportation.*

MCZO Section 3.070 does not include a commercial utility facility for purpose of generating power for public use by sale as a use permitted outright or a conditional use. Pursuant to OAR 345-022-0030(1), if the proposed RFA2 facility components do not comply with local land use regulations, the Council must determine whether the establishment of proposed facility components in the MG zone complies with statewide planning goals. This evaluation is addressed below.

MCZO Section 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.*
- 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.*
- 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.*
- 4. Uses adjacent to residential uses. A sight-obscuring fence shall be installed to buffer uses permitted in the General Commercial Zone from residential uses. Additional landscaping or buffering such as diking, screening, landscaping or an evergreen hedge may be required as deemed necessary to preserve the values of nearby properties or to protect the aesthetic character of the neighborhood or vicinity.*

MCZO Section 3.070(D) establishes dimensional requirements including lot size and frontage; setbacks from streams, road rights-of-way and structures; and installation of a sight-obscuring fence from uses adjacent residential uses.

MCZO Section 3.070(D)(1) requires the lot used by facility components within MG-zoned land to be adequate to accommodate the proposed use and include minimum lot frontage of 300 feet from arterial or collector roads and 200 feet from local streets. The certificate holder asserts that the area within MG-zoned land to be utilized for siting of proposed facility components are adequate in size for the proposed use. The certificate holder also confirms that the frontage distance from the nearest road is 5,000 feet, which satisfies the minimum frontage requirements. Therefore, the Department recommends Council find that the proposed components within MG-zoned land would satisfy the MCZO Section 3.070(D)(1) provision.

MCZO Section 3.070(D)(2) and (3) require proposed uses within MG-zoned land to comply with setback distances from proposed structures to arterial road rights-of-way; and, to streams and lakes when the proposed use includes a sewage disposal installation. The certificate holder describes that, in MG-zoned land, Tower Road terminates at BCP and is classified as a private roadway for approximately 2.27 miles; because the proposed structures would be located along a private road, the nearest road is located a distance of 2.27 proposed structures and is a private segment of Tower Road, of which the provisions do not apply. The certificate holder confirms that proposed structures would be located greater than 10 feet from the high-water line or mark along all streams and lakes. is not proposing sewage disposal installations. Therefore, the Department recommends Council find that the proposed components within MG-zoned land would satisfy the provisions of MCZO Section 3.070(D)(2); and ~~find that~~ MCZO Section 3.070(D)(3) ~~would not apply.~~

MCZO Section 3.070(D)(4) requires installation of a sight-obscuring fence when a proposed use would be adjacent to residences. The certificate holder affirms that there are no residential uses within proximity of the site. Therefore, the Department recommends Council find MCZO Section 3.070(D)(4) does not apply.

#### MCZO Section 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)*

The MG Transportation Impact Analysis (TIA) under MCZO Section 3.070(E) applies to projects that would generate more than 400 passenger equivalent trips per day, mirroring the requirements of MCZO Section 3.010(N). Based on the estimated peak daily vehicle and truck trip generation during construction, less than 400 passenger car equivalents per day are

1 expected and therefore a TIA is not required to satisfy the requirements of Section 3.070(E).<sup>31</sup>  
2 Council previously imposed Condition 6.17 under the Public Services standard requiring  
3 implementation of traffic control measures during construction, which would support  
4 minimization of traffic impacts.

5  
6 Long-term operational traffic would generate approximately 10 passenger car or pickup truck  
7 trips per day, with infrequent heavy vehicle trips and would not trigger the requirements of  
8 Section 3.010(N). Based on estimated operational traffic, the Department recommends Council  
9 conclude that the certificate holder is not required to satisfy the requirements of Section  
10 3.070(E).

11  
12 MCZO Section 4.165 Site Plan Review

13 *Site Plan Review is a non-discretionary or "ministerial" review conducted without a*  
14 *public hearing by the County Planning Director or designee. Site Plan Review is for*  
15 *less complex developments and land uses that do not require site development or*  
16 *conditional use review and approval through a public hearing.*

17  
18 *A. Purpose. The purpose of Site Plan Review (ministerial review) is based on clear*  
19 *and objective standards and ensures compliance with the basic development*  
20 *standards of the land use district, such as building setbacks, lot coverage,*  
21 *maximum building height, and similar provisions. Site Plan review also addresses*  
22 *conformity to floodplain regulations, consistency with the Transportation System*  
23 *Plan, and other standards identified below.*

24  
25 *C. Applicability. Site Plan Review shall be required for all land use actions requiring*  
26 *a Zoning Permit as defined in Section 1.050 of this Ordinance. The approval shall*  
27 *lapse, and a new application shall be required, if a building permit has not been*  
28 *issued within one year of Site Review approval, or if development of the site is in*  
29 *violation of the approved plan or other applicable codes.*

30  
31 The Site Plan Review is the county's ministerial review conducted prior to issuance of a zoning  
32 permit, defined under MCZO Section 1.050 as "an authorization issued prior to a building  
33 permit, or commencement of a use subject to administrative review, stating that the proposed  
34 use is in accordance with the requirements of the corresponding land use zone." As required  
35 by Condition 4.6, previously imposed by Council, the certificate holder is required to secure

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<sup>31</sup> CGSAMD1. RFA Exhibit U. 2018-02-20. The certificate holder estimates peak construction related traffic based on 104 worker trips per day, which includes a 1.25 carpool factor, and 28 two-way truck trips per day. The Department evaluates whether a TIA is necessary based on maximum vehicle trips per day, without adjusting for carpooling and the passenger car equivalent factor of 2.2 for heavy trucks, as follows: 130 workers per day x 2 trips per day + 28 2-way truck trips per day x 2.2 passenger car equivalent = 322 trips per day.

1 zoning, building and Conditional Use permits from Morrow County prior to construction of the  
2 energy facility.<sup>32,33</sup>

3  
4 *D. Review Criteria.*

- 5  
6 1. *The land use, building/yard setback, lot area, lot dimension, density, lot coverage,*  
7 *building height and other applicable standards of the underlying land use district and*  
8 *any sub-district(s) are met.*

9  
10 Condition 6.22.b of the First Amended Site Certificate for CGS requires compliance with the  
11 yard and stream setback requirements of MCZO 3.010.M. The septic system would be set back  
12 100 feet from the high-water line of all nearby water sources. The Carty Substation, guard  
13 station, and office/warehouse building side and back yard setbacks would be over 100 feet  
14 from the adjacent lot.

- 15  
16 2. *Development in flood plains shall* comply with Section 3.100 Flood Hazard Overlay Zone  
17 *of the Ordinance.*

18  
19 The development proposed in this RFA2 is not within a floodplain.

- 20  
21 3. *Development in hazard areas identified in the Morrow County Comprehensive Plan shall*  
22 *safely accommodate and* not exacerbate the hazard and shall not create new hazards.

23  
24 Morrow County Comprehensive Plan, Natural Hazards Element states: “A natural hazard occurs  
25 when a natural hazard impacts people or property and creates adverse conditions with the  
26 community.” The Natural Hazards Element and the Morrow County Natural Hazard Mitigation  
27 Plan updated in 2016 identify eight natural hazards of concern within some or all of Morrow  
28 County: drought, earthquake, flood, landslide, volcano, wildfire, windstorm, and winter storm.  
29 The Natural Hazard Element indicates that only some natural hazards, “such as flooding and  
30 landslide hazard areas,” can be mitigated through development standards, whereas “for other,  
31 more widespread or random hazards such as drought, wildfire, winter storm, or windstorms,  
32 effective mitigation must come in the form of public awareness, preparedness and  
33 participation.”

34  
35 As indicated in response to MCZO 4.165(D)(4), the new development proposed in this RFA2 is  
36 not within a floodplain. Section 6.2 of this RFA2 addresses soil conditions. Moreover, conditions

---

<sup>32</sup> Pursuant to ORS 469.401(3), the county must issue a zoning permit upon submittal of the proper applications and fees, but without hearings or other proceedings and subject only to conditions set forth in the site certificate.

<sup>33</sup> In comments received on the record of the Draft Proposed Order, the Morrow County Board of Commissioners clarify that because RFA2 would result in project that is different than uses permitted in existing Conditional Use Permits issued in 1975 (BCP) and 2013 (CGS), the certificate holder would be required to obtain a new or revised Conditional Use Permit. CGSAMD2 DPO Comments (Morrow Co) Letter 2020-10-28

1 of the First Amended Site Certificate for CGS address natural hazards. Condition 6.8 requires  
2 the certificate holder to “design, engineer and construct the facility to avoid dangers to human  
3 safety presented by non-seismic hazards,” including “settlement, landslides, flooding and  
4 erosion.” Condition 6.7 requires the certificate holder to “design, engineer and construct the  
5 facility to avoid danger to human safety presented by seismic hazards affecting the area that  
6 are expected to result from all maximum probable seismic events.” Other conditions (6.10 and  
7 6.11) require notification to the ODOE, Department of Geology and Mineral Industries, and the  
8 State Building Codes Division if previously unknown conditions are identified at the energy  
9 facility site. PGE proposes to implement actions included in RFA2 in compliance with these  
10 standards.

- 11  
12 4. *Off-street parking* and loading-unloading facilities shall be provided as required in  
13 Section 4.040 and 4.050 of the Morrow County Zoning Ordinance. Safe and convenient  
14 pedestrian access to off-street parking areas also shall be provided as applicable.  
15

16 Any permanent employees associated with CGS would park on-site, which has developed  
17 parking facilities.  
18

- 19 5. *County transportation facilities shall be located, designed and constructed* in accordance  
20 with the design and access standards in the Morrow County Transportation System Plan.  
21

22 The facilities proposed in this RFA2 do not involve or require the development of new county  
23 transportation facilities or new access to existing county transportation facilities.  
24

- 25 6. *Site planning, including the siting of structures, roadways and utility easements, shall*  
26 *provide, wherever practicable, for the protection of trees eight-inch caliper or greater*  
27 *measured four feet from ground level, with the exception of noxious or invasive species,*  
28 *such as Russian olive trees.*  
29

30 Development and operation of the Carty Substation and associated distribution lines, septic  
31 system, water pipeline, wastewater pipeline, security guard station, or office/warehouse  
32 building are not expected to require the removal of any trees 8 inches or more in diameter.  
33

- 34 7. *Development shall comply with Section 3.200 Significant Resources Overlay Zone or*  
35 *3.300 Historic Buildings and Sites* protecting inventoried significant natural and historic  
36 resources.  
37

38 There are no inventoried historic buildings or sites on the site.  
39

- 40 8. *The applicant shall determine if compliance is required with Oregon Water Resources*  
41 *Department water quantity and/or Oregon Department of Environmental Quality water*  
42 *quality designations.*  
43

44 Water use and wastewater disposal are addressed in Section 8.13 of the RFA2.

1  
2 9. *The applicant* shall determine if previous Code Enforcement violations have been  
3 cleared as applicable.

4  
5 As presented in RFA2, the certificate holder confirms that PGE-it is not aware of any prior Code  
6 Enforcement violations.

7  
8 10. *The applicant* shall determine the method of disposal for solid waste, with staff  
9 providing information to the applicant about recycling opportunities.

10  
11 Section 8.13 of the RFA2 addresses recycling and disposal of solid waste. In addition, Condition  
12 6.3 of the First Amended Site Certificate for CGS requires the implementation of a waste  
13 management plan during construction, and Condition 10.22 requires a waste management plan  
14 during operation. PGE proposes to implement actions included in RFA2 in compliance with  
15 these site certificate conditions.

16  
17 11. *The applicant shall obtain the necessary access permit through the Public Works*  
18 *Department as required by Morrow County Resolution R-29-2000.*

19  
20 PGE does not anticipate needing new access to county roads. If access is needed, Condition 4.5  
21 of the First Amended Site Certificate for CGS requires that the certificate holder obtain the  
22 permit. PGE proposes to implement actions included in RFA2 in compliance with this site  
23 certificate condition.

24  
25 MCZO 9.060. Sewage Disposal Approval

26  
27 *No zoning permit shall be issued for any use or structure which will have an individual*  
28 *sanitary subsurface disposal system until written approval is obtained by the applicant*  
29 *for said system.*

30  
31 PGE will obtain a Construction Permit for On-site Sewage Treatment System from the Umatilla  
32 County Public Health Department for the septic system. Therefore, CGS will remain in  
33 compliance with its Zoning Permit.

34  
35 **Morrow County Comprehensive Plan**

36  
37 *Agricultural Lands Element*

38  
39 *Agricultural Policy 1: It shall be the policy of Morrow County, Oregon, to preserve*  
40 *agricultural lands, to protect agriculture as its main economic enterprise, to balance*  
41 *economic and environmental considerations, to limit non- compatible nonagricultural*  
42 *development, and to maintain a high level of livability in the County.*  
43



1 The locations of the Carty Substation and associated distribution lines, septic system, water  
2 pipeline, wastewater pipeline, security guard station, and office/warehouse building were  
3 selected, in part, to minimize land disturbance and avoid critical resource areas. The sites  
4 selected do not impact any cultivated farmland and are sites currently owned by PGE.

5  
6 *Agricultural Policy 4: It shall be the policy of the County to develop and implement*  
7 *comprehensive and definitive criteria for the evaluation of all non-farm developments to*  
8 *ensure that all objectives and policies set forth herein are complied with to the maximum*  
9 *level possible.*

10  
11 The new Carty Substation and associated distribution lines, septic system, water pipeline, and  
12 office/warehouse building will be constructed in the EFU zone in Morrow County and are  
13 considered an "accessory use or accessory structure" as defined in MCZO 1.030 and are  
14 therefore not considered a "primary" use under the MCZO. The Department recommends  
15 Council find that the proposed RFA2 facility modifications would be consistent with Agricultural  
16 Policy 4 by meeting the criteria for approval of non-farm uses in the EFU zone.

17  
18 Directly Applicable Statutes and Administrative Rules

19  
20 **ORS 215.296(1)**

21 *In the Exclusive Farm Use zone a conditional use may be approved only when the County*  
22 *finds that the use will not:*

- 23 1. *Force a significant change in accepted farm or forest practices on surrounding lands*  
24 *devoted to farm or forest use; or*  
25 2. *Significantly increase the cost of accepted farm or forest practices on surrounding lands*  
26 *devoted to farm or forest use.*

27  
28 The new Carty Substation and associated distribution lines, septic system, water pipeline, and  
29 office/warehouse building will each be an "accessory use or accessory structure" to CGS and  
30 will not force significant changes in farm practices or cause significant increases in the costs of  
31 accepted farm practices on surrounding lands devoted to farm use. As stated in the Final Order  
32 on the ASC, the predominate farming practice in the area is center pivot irrigation. Based on the  
33 location of proposed RFA2 facility components, potential impacts such as interference with the  
34 predominate farming practice would not be expected. The Department recommends Council  
35 find that the proposed RFA2 facility components would satisfy the requirements under ORS  
36 215.296(1).

37  
38 **OAR 660-033-130(5)**

39  
40 The criteria of OAR 660-033-130(5) are identical to ORS 215.296(1) and are addressed above.

41  
42 **Statewide Planning Goal 3–Agricultural Lands**  
43

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 Carty Substation and associated distribution lines, septic system, water pipeline, 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 Carty Substation and distribution lines, septic system, water pipeline, wastewater 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 Carty Substation and associated distribution lines, septic system, water pipeline, wastewater 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. 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.

1 The Site Certificate for CGS issued in 2012 included seven site certificate conditions for land  
2 use to ensure consistency with the land use standard. The Site Certificate on Amendment 1 for  
3 CGS did not alter the conditions applied to land use. Similarly, no modifications to existing  
4 conditions or new conditions associated with land use are necessary for RFA2, except for  
5 clarifying the application of Condition 6.17 to pertain specifically to Carty Solar Farm. Therefore,  
6 the continued operation of related or supporting facilities currently authorized under the Site  
7 Certificate for CGS or BCP and the construction and operation of new minor infrastructure (see  
8 Section 5) will not alter the Council's basis for its previous findings that an exception to the  
9 statewide planning goal 3 is justified. The proposed changes in RFA2 do not require an  
10 exception to the goal, and therefore the Department recommends Council find that the Facility  
11 facility, with proposed RFA2 facility modifications, would ~~will~~ continue to comply with this  
12 standard if the Council approves the proposed RFA2. The Council may conclude that CGS ~~will~~  
13 would continue to comply with OAR 345-022-0030.

#### 14 15 **Conclusions of Law**

16 Based on the foregoing findings and the evidence in the record, and subject to the  
17 recommended conditions, the Department recommends the Council find that the proposed  
18 facility complies with the Council's Land Use standard.

#### 19 20 **III.A.6. Retirement and Financial Assurance: OAR 345-022-0050**

21  
22 *To issue a site certificate, the Council must find that:*

- 23  
24 (1) *The site, taking into account mitigation, can be restored adequately to a useful, non-*  
25 *hazardous condition following permanent cessation of construction or operation of*  
26 *the facility.*  
27 (2) *The applicant has a reasonable likelihood of obtaining a bond or letter of credit in a*  
28 *form and amount satisfactory to the Council to restore the site to a useful, non-*  
29 *hazardous condition.*

#### 30 31 **Findings of Fact**

32 The Retirement and Financial Assurance standard requires a finding that the facility site can be  
33 restored to a useful, non-hazardous condition at the end of the facility's useful life, should  
34 either the certificate holder stop construction or should the facility cease to operate.<sup>34</sup> In  
35 addition, it requires a demonstration that the certificate holder can obtain a bond or letter of  
36 credit in a form and amount satisfactory to the Council to restore the site to a useful, non-  
37 hazardous condition.

#### 38 39 *Restoration of the Site Following Cessation of Construction or Operation*

---

<sup>34</sup> OAR 345-022-0050(1).

OAR 345-022-0050(1) requires the Council to find that the site of the facility, with proposed changes, can be restored to a useful non-hazardous condition at the end of the facility's useful life, or if construction of the facility were to be halted prior to completion.

In RFA2, the certificate holder describes the methods and assumptions necessary to restore the site of proposed RFA2 facility components to a useful, nonhazardous condition. Summarized below are the methods and assumptions ~~for~~ associated with decommissioning specific RFA2 facility components:

*Carty Reservoir and intake structure*<sup>35</sup>

- Draining of reservoir over scheduled period using existing outlet works at a rate to minimize downstream flooding.
- Excavation of a 200-foot wide breach in the West Dam at lowest point, hauling of excavated material to the center of the reservoir area, and spreading of hauled material to promote drainage
- Seeding and mulching disturbed areas (including area of breach and area of the spread soil)
- Removal of the West Dam concrete spillway, and breaking and stockpiling concrete
- Removal of intake structure (including concrete wall and screen equipment), slab, wet well area, and inlet water channel concrete removal
- Fill wet well and inlet water channel with self-compacting fill
- Demolition, removal and disposal of pumps and other equipment materials including the intake building and circulating water pumphouse
- Asbestos abatement at intake building

*Discharge Structure and Channel*

- Demolition of existing rock channel
- Demolition of outlet structure and discharge apron
- Remove and dispose of 2,200 linear feet of 90-inch FRP discharge pipe from discharge channel to outlet structure
- Fill former channel with soil or fill
- Seed and mulch disturbed area

*Sanitary Sewer Lagoons*

- Stabilization of lagoon solids (6-inch layer of will require stabilization with fly ash or lime prior to disposal)
- Excavation of solids, liner, and underlying soils (1-foot thick layer will require excavation and disposal)

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<sup>35</sup> CGSAMD2 Complete RFA with Attachments 2020-10-02, Attachment 4.

- Disposal of soils, liner and underlying soils (1.2 tons/CY for transport/disposal at Columbia Ridge Landfill (35 miles one way))
- Fine grading of entire area of berms and lagoon area
- Fill (10 foot thickness) and grade 10 acre percolation pond
- Seed and mulch disturbed area

#### Evaporation Ponds and Wastewater Line

- Remove and dispose of residual solids (6-inch thick layer) in base of ponds, and liner system (also 6-inch in thickness). Transportation and disposal at Columbia Ridge Landfill
- Fine regrading evaporation ponds and berms
- Decommissioning (including grouting) of wastewater line

#### Other structures

- Removal of office and warehouse building, including excavation and disposal
- Removal of Carty substation, including distributor lines to raw water intake building
- Decommissioning and removal of irrigation pump station, including the filling of the wet well with soil or flowable fill, and the removal of the wet well concrete slab. Additionally, the intake line from the reservoir to the wet well will be grouted in place
- Removal of existing (and buried) 34.5 kV transmission line leading from the irrigation pump
- Remove and ~~dispose-decommission of~~ Boeing well and ~~dispose of~~ pump associated with the existing water pipeline. Additional removal and disposal of associated 12.5 kV transmission line from Boeing well to the construction substation
- Removal of 300,000-gallon carbon steel potable/fire water tank
- Removal and disposal of 230 kV Transmission line from Boardman Coal Plant to Dalreed substation. Removal and disposal includes both the 3 phase transmission line and transmission line towers
- Pump out and dispose sewer system (includes 3,000 gallon septic tank and 2,374 Linear feet of sewer lines)
- Removal and disposal of 3,000 gallon septic tank, backfilling and compacting with clean soil
- Backfilling and compacting large manholes and medium distribution drop boxes with clean soil
- Excavation of sewer lines and disposal of PVC
- Separate and dispose of filter fabric
- Load and dispose of trench fill drain media/gravel, and replace with gravel and clean fill
- Seed and mulch disturbed area
- Remove and dispose electrical equipment (including transformer, conduit and cable, sensor, and controller)

The Council previously found that the facility site could be restored adequately to a useful, non-hazardous condition following permanent cessation of construction or operation of the facility. The Council previously imposed several conditions to ensure the certificate holder could restore

the site to a useful, nonhazardous condition in accordance with the Retirement and Financial Assurance standard as summarized below:

- Condition 15.1, requires the certificate holder to submit a bond or letter of credit to the State of Oregon, through the Council, in a form and amount satisfactory to the Council to restore both Block 1 of the Carty Generating Station, and the Carty Solar Farm and its supporting facilities to a useful nonhazardous condition. [the certificate holder has provided a bond for \$9,114,000 (Q1 2020), in accordance with the site certificate, related to Block 1 of the Carty facility]
- Condition 15.2, requires the certificate holder to ensure that the surety is obligated to comply with the requirements of applicable statutes, Council rules, and the site certificate when the surety exercises any legal or contractual right it may have to assume construction, operation, or retirement of the facility, if a bond is used to meet the requirements of Condition 15.1.
- Condition 15.3, which mirrors the OAR 345-025-0006(7) Mandatory Condition, requires that the certificate holder prevent the development of any condition on the site that would preclude restoration of the site to a useful, non-hazardous condition
- Condition 15.4, which mirrors the OAR 345-025-0006(9) Mandatory Condition, requires the certificate holder to retire the facility in accordance with a Council-approved retirement plan
- Condition 15.5, which mirrors the OAR 345-025-0006(16) Mandatory Condition, obligates the certificate holder to retire the facility upon permanent cessation of construction or operation. Additionally, the condition provides the Department the authority to develop a retirement plan, for Council approval, in the event the certificate holder ceases operation of its facility and does not retire the facility in accordance with a Council approved retirement plan
- Condition 15.6, which also mirrors the OAR 345-025-0006(16) Mandatory Condition, allows Council the ability to draw on the bond or letter of credit per Condition 15.1
- Condition 15.7, which mirrors the OAR 345-026-0048 Mandatory Condition, requires the certificate holder to implement a compliance plan following receipt of the site certificate or an amended site certificate

#### *Estimated cost of Site Restoration*

OAR 345-022-0050(2) requires the Council to find that the certificate holder continues to have a reasonable likelihood of obtaining a bond or letter of credit in a form and amount necessary to restore the site of the facility, with proposed RFA2 facility components, to a useful non-hazardous condition.

**Table 2: Proposed RFA2 Decommissioning and Site Restoration Cost Estimate**

| Restoration Task or Activity                       | Quantity | Unit Cost | Unit | Estimate |
|----------------------------------------------------|----------|-----------|------|----------|
| Carty Reservoir and Intake Structure               |          |           |      |          |
| Development of Reservoir Decommissioning Work Plan | 1        | \$75,000  | Each | \$75,000 |

**Table 2: Proposed RFA2 Decommissioning and Site Restoration Cost Estimate**

| <b>Restoration Task or Activity</b>                                                                     | <b>Quantity</b> | <b>Unit Cost</b> | <b>Unit</b> | <b>Estimate</b>    |
|---------------------------------------------------------------------------------------------------------|-----------------|------------------|-------------|--------------------|
| Draining of reservoir                                                                                   | 308             | \$5,000          | Days        | \$1,540,000        |
| Excavate breach in West Dam                                                                             | 205,000         | \$10             | Cu. Yd      | \$2,050,000        |
| Haul excavated soil to center of reservoir area                                                         | 205,000         | \$2              | Cu. Yd      | \$410,000          |
| Spread and grade hauled soil                                                                            | 205,000         | \$2              | Cu. Yd      | \$410,000          |
| Seed and mulch disturbed area                                                                           | 44,444          | \$1              | Sq. Yd      | \$44,444           |
| Remove West Dam concrete spillway                                                                       | 3,765           | \$100            | Cu. Yd      | \$376,500          |
| Remove intake structure, concrete wall and foundations, wet well, equipment and demolish building       | 1               | \$350,000        | Lump Sum    | \$350,000          |
| Fill wet well and inlet water channel with self-compacting fill                                         | 1,000           | \$30             | Cu. Yd      | \$30,000           |
| Intake building asbestos abatement                                                                      | 1               | \$25,000         | Each        | \$25,000           |
| <i>Subtotal =</i>                                                                                       |                 |                  |             | <b>\$5,310,944</b> |
| <b>Discharge Structure and Channel</b>                                                                  |                 |                  |             |                    |
| Demolition of existing rock channel                                                                     | 1,667           | \$50             | Cu. Yd      | \$83,350           |
| Demolition of outlet structure and discharge apron                                                      | 245             | \$150            | Cu. Yd      | \$36,750           |
| Remove and dispose of 2,200 lf of 90-inch FRP discharge pipe from discharge channel to outlet structure | 1               | \$12,500         | Each        | \$12,500           |
| Fill former channel with soil or fill                                                                   | 4,500           | \$10             | Cu. Yd      | \$45,000           |
| Seed and mulch disturbed area                                                                           | 2,500           | \$1              | Sq. Yd      | \$2,500            |
| <i>Subtotal =</i>                                                                                       |                 |                  |             | <b>\$180,100</b>   |
| <b>Sanitary Sewer Lagoons</b>                                                                           |                 |                  |             |                    |
| Stabilization of lagoon solids (North, Middle and South)                                                | 6,023           | \$25             | Cu. Yd      | \$150,575          |



**Table 2: Proposed RFA2 Decommissioning and Site Restoration Cost Estimate**

| <b>Restoration Task or Activity</b>                                                   | <b>Quantity</b> | <b>Unit Cost</b> | <b>Unit</b> | <b>Estimate</b>    |
|---------------------------------------------------------------------------------------|-----------------|------------------|-------------|--------------------|
| Excavation of solids, liner, and underlying soils                                     | 12,047          | \$8              | Cu. Yd      | \$96,376           |
| Disposal of soils, liner and underlying soils                                         | 14,456          | \$40             | Ton         | \$578,240          |
| Grading of berms and lagoon area                                                      | 36,142          | \$2              | Sq. Yd      | \$72,284           |
| Placement of onsite fill                                                              | 161,000         | \$10             | Cu. Yd      | \$1,610,000        |
| Seeding and mulching of area                                                          | 36,142          | \$1              | Sq. Yd      | \$36,142           |
| <i>Subtotal =</i>                                                                     |                 |                  |             | <b>\$2,543,617</b> |
| <b>Evaporation Ponds and Wastewater Line</b>                                          |                 |                  |             |                    |
| Remove and Disposal Residual Solids and Liner System                                  | 1               | \$725,000        | Each        | \$725,000          |
| Regrading of Berms and Evaporation Pond Area                                          | 67,150          | \$2              | Sq. Yd      | \$134,000          |
| Decommissioning of Wastewater Line                                                    | 1               | \$7,200          | Each        | \$7,200            |
| <i>Subtotal =</i>                                                                     |                 |                  |             | <b>\$866,500</b>   |
| <b>Other Structures</b>                                                               |                 |                  |             |                    |
| New Office and Warehouse Building Demo CGS (60' x 100')                               | 6,000           | \$6              | Sq. Ft      | \$36,000           |
| Remove Carty Substation                                                               | 1               | \$72,000         | Each        | \$72,000           |
| Remove 7.2kV distributor lines from new Carty Substation to raw water intake building | 1               | \$5,000          | Each        | \$5,000            |
| Decommission/remove irrigation pump stations                                          | 1               | \$30,000         | Each        | \$30,000           |
| Remove 34.5 kV (existing, buried) leading from the irrigation pump                    | 1               | \$28,000         | Each        | \$28,000           |
| Boeing Well and pump associate existing water pipeline to Boeing Well                 | 1               | \$8,500          | Each        | \$8,500            |
| 300,000-gallon carbon steel potable /fire water tank                                  | 1               | \$19,500         | Each        | \$19,500           |
| 12.5kV transmission from construction sub to Boeing Well                              | 1               | \$20,000         | Each        | \$20,000           |

**Table 2: Proposed RFA2 Decommissioning and Site Restoration Cost Estimate**

| <b>Restoration Task or Activity</b>                                                                                       | <b>Quantity</b>   | <b>Unit Cost</b> | <b>Unit</b> | <b>Estimate</b> |
|---------------------------------------------------------------------------------------------------------------------------|-------------------|------------------|-------------|-----------------|
| 7.2 kV transmission from BCP to CGS                                                                                       | 1                 | \$20,000         | Each        | \$20,000        |
| 230 kV from BCP to Dalreed 16 miles                                                                                       | See Details Below |                  |             |                 |
| Remove and reel up 3 phase transmission line 16 miles x 3 wires = 48 miles (253,440ft) of wire                            | 48                | \$1,500          | Mile        | \$72,000        |
| Towers @ 80' apart = 1,048 supports x 2,096 tons . Disposal \$16 a ton special waste Finley Buttes Marrow County landfill | 2,096             | \$16             | Ton         | \$33,536        |
| 18 wheel tractor and flat-bed trailer, 80,000 pound capacity that costs \$125/hour                                        | 100               | \$1,500          | Hour        | \$150,000       |
| Backfill qty 2 pole holes with self compacting gravel and 12" topsoil at each of the 1,048 locations                      | 1,048             | \$50             | Each        | \$52,400        |
| Sanitary Drainage System                                                                                                  | See Details Below |                  |             |                 |
| Pump out & dispose sewer system                                                                                           | 1                 | \$4,500          | Each        | \$4,500         |
| 3,000 gallon septic tank remove and dispose                                                                               | 1                 | \$3,500          | Each        | \$3,500         |
| Large Manholes and medium Distribution Drop Boxes                                                                         | 7                 | \$350            | Each        | \$2,450         |
| Excavate Sewer lines and dispose of PVC                                                                                   | 2,374             | \$3              | Linear Ft   | \$7,122         |
| Separate and dispose of Filter Fabric                                                                                     | 222               | \$5              | Sq. Yd      | \$1,110         |
| Load and dispose of trench fill drain media/gravel                                                                        | 148               | \$38             | Cu. Yd      | \$5,624         |
| Replace gravel with clean fill                                                                                            | 148               | \$15             | Cu. Yd      | \$2,220         |
| Replace removed fill that was over gravel                                                                                 | 296               | \$15             | Cu. Yd      | \$4,440         |
| Seed and mulch disturbed area                                                                                             | 500               | \$1              | Sq. Yd      | \$500           |
| Remove and Dispose Electrical Equipment                                                                                   | 1                 | \$5,500          | Each        | \$5,500         |

**Table 2: Proposed RFA2 Decommissioning and Site Restoration Cost Estimate**

| Restoration Task or Activity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Quantity | Unit Cost        | Unit    | Estimate               |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|------------------|---------|------------------------|
| <i>Subtotal =</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |          |                  |         | <i>\$583,902</i>       |
| <b>General Costs</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |          |                  |         |                        |
| Overhead, Profit, Insurance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1        | \$1,902,134.56   |         | \$1,902,134.56         |
| <i>Subtotal =</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |          |                  |         | <i>\$1,902,134.56</i>  |
| <i>RFA2 Decommissioning Subtotal =</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |          |                  |         | <i>\$11,387,198</i>    |
| <b>Applied Contingencies</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |          |                  |         |                        |
| Performance Bond <sup>1</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          | 1                | Percent | \$113,871.98           |
| Administrative and Project Management <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          | 10 <sup>36</sup> | Percent | \$1,138,719.80         |
| Future Development Contingency <sup>3</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |          | 10               | Percent | \$1,138,719.80         |
| <b>ODOE Contingency Subtotal =</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |                  |         | <b>\$2,391,311.58</b>  |
| <b>Total RFA2 Decommissioning Cost Estimate, Adjusted with ODOE Contingencies (4<sup>th</sup> Qtr 2020 Dollars) =</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |          |                  |         | <b>\$13,778,509.58</b> |
| <p>*Notes: The Department recommends Council apply additional contingencies, consistent with those applied to the approved facility, as follows:</p> <ol style="list-style-type: none"> <li>1. 1% to account for the cost of a performance bond that would be posted by the contractor as assurance that the work will be completed as agreed.</li> <li>2. 10% for the Department's administrative and management expenses.</li> <li>3. 10% for future uncertainties such as changes in environmental standards or other legal requirements, availability of disposal sites, and the cost of labor and equipment.</li> </ol> |          |                  |         |                        |

As presented in Table 4, *Proposed RFA2 Decommissioning and Site Restoration Cost Estimate*, the Department recommends Council add contingency costs for future development, administration and project management cost, and cost for maintaining a performance bond. The 10 percent future development contingency accounts for uncertainty in the decommissioning estimate. If site restoration becomes necessary, it might be many years in the future where there is uncertainty of continued adequacy of the retirement cost estimate. Uncertainty factors include different environmental standards or other legal requirements; and, changes in cost of labor and equipment that increase at a rate exceeding the standard inflation adjustment. The 10 percent contingency for administrative and management expenses are the anticipated direct costs borne by the State in the course of managing site restoration and would include the preparation and approval of a final retirement plan, obtaining legal permission to proceed with demolition of the facility, legal expenses for protecting the State's interest,

<sup>36</sup> In the cost estimate provided as Attachment 4 of RFA2, the certificate holder did not include costs associated with Overhead, Profit, and Insurance when determining cost estimates for the Applied Contingencies. Additionally, the percentage value applied by the certificate holder for Administrative and Project management was 5 percent. The cost estimates of both the Final Order and Final Order on Amendment 1 of the Carty Generating Station included a 10 percent cost for Administration and Project Management. As such, the Department recommends that Council maintain a 10 percent Administrative and Project Management contingency for RFA2.

1 preparing specification bid documents and contracts for demolition work, managing the bidding  
2 process, negotiations of contracts, and other tasks. Based on the adjustments from  
3 contingencies, the Department recommends Council find that \$13.779 million (Q4 2020 dollars)  
4 is a reasonable estimate of an amount satisfactory to restore the site to a useful, nonhazardous  
5 condition. The Department, therefore, recommends the Council amend Condition 15.1 as  
6 follows:  
7

8 **Recommended Amended Condition 15.1:** Before beginning construction, the certificate  
9 holder shall submit to the State of Oregon through the Council a bond or letter of credit  
10 naming the State of Oregon, acting by and through the Council, as beneficiary or payee. The  
11 initial bond or letter of credit amount for Unit 1 is \$7.884 million (in 3rd Quarter 2011  
12 dollars), to be adjusted to the date of issuance, and adjusted on an annual basis thereafter,  
13 as described in sub-paragraph (a) of this condition. The initial bond or letter of credit  
14 amount for the Carty Solar Farm and its supporting facilities is \$2.713 million (in 3rd Quarter  
15 2016 dollars) to be adjusted to the date of issuance, and adjusted on an annual basis  
16 thereafter, as described in sub-paragraph (a) of this condition. The initial bond or letter of  
17 credit amount for the related or supporting facilities associated with Amendment 2 is  
18 \$13.779 million (in 4<sup>th</sup> Quarter 2020 dollars) to be adjusted to the date of issuance and  
19 submitted within 60 days of execution of the Second Amended Site Certificate, and adjusted  
20 on an annual basis thereafter, as described in sub-paragraph (b) of this condition.  
21

- 22 a. The certificate holder may adjust the amount of the bond or letter of credit based on  
23 the final design configuration of the facility and turbine types selected by applying the  
24 unit costs and general costs presented in Site Restoration Cost Estimate of the Final  
25 Order on ASC for Unit 1; Table 4 of the Final Order on RFA1 for Carty Solar Farm; and  
26 Table 2 of the Final Order on RFA2 for the approved related or supporting facilities. Any  
27 revision to the restoration costs should be adjusted to the date of issuance as described  
28 in (b), and is subject to review and approval by the Department.
- 29 b. The certificate holder shall adjust the amount of the bond or letter of credit, using the  
30 following calculation and subject to approval by the Department.
- 31 i. Adjust the amount of the bond or letter of credit amount for Unit 1 (expressed in 3<sup>rd</sup>  
32 Quarter 2011 dollars); ~~and~~ Carty Solar Farm (expressed in 3<sup>rd</sup> Quarter 2015 dollars)  
33 and related or supporting facilities approved in RFA2 (expressed in 4<sup>th</sup> Quarter 2020  
34 dollars) to present value, using the U.S. Gross Domestic Product Implicit Price  
35 Deflator, Chain-Weight, as published in the Oregon Department of Administrative  
36 Services' "Oregon Economic and Revenue Forecast" or by any successor agency (the  
37 "Index") and using the index value and the quarterly index value applicable to Unit 1,  
38 ~~and~~ Carty Solar Farm, and RFA2 facility components for the date of issuance of the  
39 new bond or letter of credit. If at any time the Index is no longer published, the  
40 Council shall select a comparable calculation to adjust to present value. [AMD1]
- 41 ii. Round the resulting total to the nearest \$1,000 to determine the financial assurance  
42 amount.
- 43 c. The certificate holder shall use a form of bond or letter of credit approved by the  
44 Council.

- 1 d. The certificate holder shall use an issuer of the bond or letter of credit approved by the  
2 Council.  
3 e. The certificate holder shall describe the status of the bond or letter of credit in the  
4 annual report submitted to the Council under Condition VI.4.  
5 f. The bond or letter of credit shall not be subject to revocation or reduction before  
6 retirement of the facility site.  
7 [Final Order IV.G.2.9] [Mandatory Condition OAR 345-025-0020(8)] [AMD1][AMD2]

8  
9 Based on compliance with recommended amended Condition 15.1, the Department  
10 recommends Council find that the retirement cost estimate, with applied contingencies, is a  
11 reasonable estimate of an amount satisfactory to restore the site of the Carty Generating  
12 Station, including the Carty Solar Farm and its supporting facilities to a useful, non-hazardous  
13 condition.

14  
15 *Ability of the Certificate Holder to Obtain a Bond or Letter of Credit*

16  
17 OAR 345-022-0050(2) requires the Council to find that the certificate holder has a reasonable  
18 likelihood of obtaining a bond or letter of credit in a *form* and amount necessary to restore the  
19 site to a useful non-hazardous condition [Emphasis added]. A bond or letter of credit provides a  
20 site restoration remedy to protect the state of Oregon and its citizens if the certificate holder  
21 fails to perform its obligation to restore the site. The bond or letter of credit must remain in  
22 force until the certificate holder has fully restored the site. OAR 345-025-0010(8) establishes a  
23 mandatory condition, imposed as Condition 15.1, which ensures compliance with this  
24 requirement.

25  
26 In accordance with site certificate Condition 15.1, a letter of credit for the existing facility is  
27 currently maintained and updated annually. In the most recent update, the letter of credit  
28 stood at \$9,114,000 in 1<sup>st</sup> Qtr. 2020 dollars.

29  
30 Based on the estimate shown in Table 2, *Proposed RFA2 Decommissioning and Site Restoration*  
31 *Cost Estimate*, the value of the financial assurance bond or letter of credit for restoring the site  
32 of the proposed RFA2 facility components would be approximately \$13.779 million (Q4 2020  
33 dollars), adjusted annually as described in the recommended amended condition above. To  
34 demonstrate its ability to receive an adequate bond or letter of credit, the certificate holder  
35 provided a September 14<sup>th</sup>, 2020 letter from Bank of the West, stating that it would be willing  
36 to furnish or arrange a letter of credit to the certificate holder in an amount up to \$25 million,  
37 which would exceed the sum of the existing letter of credit and the \$13.779 million retirement  
38 cost estimate for RFA2 facility components. The bank letter is intended solely to demonstrate,  
39 for Council's review of the amendment request and the certificate holder's ability to satisfy the  
40 requirements of the Retirement and Financial Assurance standard, that the certificate holder  
41 has a reasonable likelihood of obtaining a bond or letter of credit, prior to construction, in the  
42 amount necessary for site restoration. The Department recommends Council consider the bank  
43 letter sufficient for representing a reasonable likelihood of obtaining a bond or letter of credit  
44 in the amount necessary for site restoration. Additionally, as described above and in

1 accordance with amended Condition 15.1, construction cannot begin until the Department  
2 receives a satisfactory bond or letter of credit.

3  
4 In the Final Order on Amendment 1, the Council found that the certificate holder had a  
5 reasonable likelihood of obtaining a bond or letter of credit in a form and amount satisfactory  
6 to restore the site of the proposed Carty Solar Farm and its supporting facilities adequately to a  
7 useful, non-hazardous condition following permanent cessation of construction or operation.  
8 The Council found that the value of the financial assurance bond or letter of credit to restore  
9 the site of the proposed Carty Solar Farm and its supporting facilities would be approximately  
10 \$2.713 million (Q3 2016 dollars). In Request for Amendment 1, the certificate holder provided a  
11 January 2018 letter from JPMorgan Chase Bank, N.A., stating that it would be willing to issue a  
12 letter of credit to the certificate holder in an amount up to \$12 million, which exceeds the  
13 \$2.713 million retirement cost estimate for the proposed Carty Solar Farm and its supporting  
14 facilities.

15  
16 Subject to compliance with existing and recommended amended conditions, the Department  
17 recommends the Council find that the proposed RFA2 facility components can be restored  
18 adequately to a useful, non-hazardous condition following permanent cessation of construction  
19 or operation. Additionally, the Department recommends that the Council find that the  
20 certificate holder has a reasonable likelihood of obtaining a bond or letter of credit in a form  
21 and amount satisfactory to the Council to restore the site to a useful, non-hazardous condition.

### 22 23 **Conclusions of Law**

24 For the reasons describe above, and subject to the existing and recommended amended site  
25 certificate conditions, the Department recommends that the Council find that the facility, with  
26 proposed changes, would comply with the Council's Retirement and Financial Assurance  
27 standard.

### 28 29 **III.A.7. Fish and Wildlife Habitat: OAR 345-022-0060**

30  
31 *To issue a site certificate, the Council must find that the design, construction and operation of*  
32 *the facility, taking into account mitigation, are consistent with:*

33  
34 *(1) The general fish and wildlife habitat mitigation goals and standards of OAR 635-415-*  
35 *0025(1) through (6) in effect as of February 24, 2017*

36 \*\*\*

### 37 38 **Findings of Fact**

39 The Fish and Wildlife Habitat standard requires the Council to find that the design,  
40 construction, and operation of a facility is consistent with the Oregon Department of Fish and  
41 Wildlife's (ODFW) habitat mitigation goals and standards, as set forth in OAR 635-415-0025.  
42 This rule creates requirements for mitigating impacts to fish and wildlife habitat, based on the  
43 functional quantity and quality of the habitat impacted as well as the nature, extent, and

1 duration of the impact. The rule also establishes a habitat classification system based on the  
2 function and value of the habitat it would provide to a species or group of species likely to use  
3 it. ODFW policy identifies six habitat categories, with Category 1 being the most valuable, and  
4 Category 6 the least valuable.

5  
6 The analysis area for potential fish and wildlife habitat impacts used to evaluate RFA2, is the  
7 area within and extending ½-mile of areas that would be disturbed during construction of  
8 proposed new RFA2 facility infrastructure.<sup>37</sup> In the Final Order on the Application, Habitat  
9 Categories 1, 2, 3, 4, and 6 were found to occur within the analysis area as defined in the  
10 project order. These Habitat Categories occur within the analysis area of RFA2 proposed new  
11 facility components. The Council addressed the Fish and Wildlife Habitat standard in the *Final*  
12 *Order on the ASC, and Final Order on Amendment 1* and found that adoption of Conditions  
13 10.1-10.13 would ensure compliance with the general fish and wildlife habitat mitigation goals  
14 and standards.

15  
16 In *Request for Amendment 2*, the certificate holder proposes minor administrative amendments  
17 to Conditions 10.1, 10.4, 10.6, and 10.11, as presented in Attachment A of this order. Based on  
18 the administrative nature of the amendments to these five previously imposed conditions, the  
19 proposed changes are not presented in this section. The Department recommends that the  
20 Council find that the requested administrative condition amendments would not substantively  
21 change the intent of the previously imposed conditions and amend the conditions as requested.

22  
23 The proposed RFA2 facility modifications would result in permanent and temporary impacts to  
24 Category 4 habitat, including approximately 0.6 acres of permanent impacts and 1 acre of  
25 temporary impacts, as presented in Table 3 below. The mitigation goal for impacts to Category  
26 4 habitat is “no net loss in either existing habitat quantity or quality.” Consistent with the  
27 methodology for meeting the Category 4 habitat mitigation goal of “no net loss in existing  
28 habitat quantity” and as previously approved in the Wildlife and Habitat Mitigation and  
29 Monitoring Plan (Attachment C of this order), the certificate holder proposes an acreage ratio  
30 for the size of the habitat mitigation area (HMA) of 1 acre for every 1 acre permanently  
31 impacted, and 0.5 acres for every 1 acre temporarily impacted. Using the previously approved  
32 acreage ratio methodology, the HMA for permanent and temporary impacts to Category 4  
33 habitat from proposed RFA2 facility modifications is approximately 1.1 acres. As presented in  
34 Attachment C of this order, the certificate holder identifies that its existing 78-acre HMA  
35 secured to mitigate temporary and permanent impacts from construction of Unit 1 (operational  
36 450 MW natural gas combustion turbine generator and associated facilities) contained  
37 approximately 5 additional acres. The certificate holder proposes to use the 1.1 acres within the  
38 5 extra acres of their existing HMA, for which ODFW concurs.<sup>38</sup>

39  

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<sup>37</sup> CGSAMD2 Analysis Area adjustment Department EMAIL 2020-09-29.

<sup>38</sup> Personal communication on November 12, 2020 with Siting Division’s Senior Policy Advisor Sarah Esterson and  
ODFW’s Energy Coordinator Sarah Reif.

1 The Category 4 habitat mitigation goal of “no net loss in quality” is typically met by identifying  
2 site specific enhancement actions. Because the existing HMA has varied habitat quality, and in  
3 order to ensure that the enhancement actions selected meet the “no net loss in habitat quality”  
4 component of the Category 4 habitat mitigation goal, Department recommends Council amend  
5 Condition 10.2 as follows:<sup>39</sup>

7 **Recommended Amended Condition 10.2:**

8 The certificate holder shall:

- 9 a. Prior to construction, acquire the legal right to create, enhance, maintain and protect  
10 a habitat mitigation area as long as the facility is in operation and the site certificate  
11 is in effect by means of an outright purchase, conservation easement or similar  
12 conveyance and shall provide a copy of the documentation to the Department.
- 13 b. Prior to construction of the Carty Solar Farm and its supporting facilities, and facility  
14 components approved in the Final Order on RFA2, the certificate holder shall provide  
15 a habitat assessment of the habitat mitigation area, based on a protocol approved by  
16 the Department in consultation with ODFW, which includes methodology, habitat  
17 map, and available acres by habitat category and subtype in tabular format.
- 18 c. During operations, the certificate holder shall improve and monitor the habitat  
19 quality within the habitat mitigation area, in accordance with the Wildlife and Habitat  
20 Monitoring and Mitigation Plan approved by the Department per Condition 10.1.

21 [Final Order IV.H.2.2] [AMD1] [AMD2]

23 The Certificate Holder also proposes to eliminate the reference to the implementation of a fire  
24 control plan for wildfire suppression within the HMA, in accordance with the existing Boardman  
25 Wildfire Control Plan in Condition 10.5. This proposed modification corresponds to the  
26 December 2020 cease of operations at the BCP, and wouldn't change the intent of the  
27 condition. As such, the Department recommends Council amend Condition 10.5 as follows:

29 **Recommended Amended Condition 10.5:**

30 ~~The certificate holder shall implement a fire control plan for wildfire suppression within the~~  
31 ~~HMA in accordance with the existing Boardman Wildfire Control Plan. A copy of the fire~~  
32 ~~control plan shall be provided to the Department upon request. If vegetation in the HMA is~~  
33 ~~damaged from fire or from fire suppression efforts (e.g., vehicular disturbance), the area~~  
34 ~~shall be seeded as necessary with the appropriate seed mix using the appropriate methods~~  
35 ~~for the site, as described in the Revegetation and Noxious Weed Control Plan.~~

36 [Final Order IV.H.2.6] [AMD2]

38 *Potential Impacts to Fish and Wildlife Habitat*

---

<sup>39</sup> In comments on the record of the draft proposed order, certificate holder requests that the requirement to  
conduct a preconstruction habitat assessment of the HMA not be imposed due to the fact that the HMA is existing.  
The Department disagrees for the reasons explained above.



Construction and operation of the proposed new Facility components of RFA2 would result in both temporary and permanent habitat impacts to Category 4 (shrub-steppe); and Category 6 (developed areas). With the exception of the Carty Substation and associated distribution lines, disturbance areas associated with the new facility components would occur in areas of Category 4, shrub-steppe habitat. The Carty Substation and associated distribution lines would be sited in developed areas designated as Category 6 habitat.<sup>40</sup> As presented in Table 3, *Estimated Temporary and Permanent Habitat Impacts, by Category, for Facility, with Proposed Changes*, the proposed new Facility components of RFA2 would temporarily disturb 1, and 1.15 acres of Category 4 and 6 habitat, respectively, ~~resulting in temporary and temporal habitat impacts.~~ Proposed new Facility components of RFA2 would permanently disturb .6, and .85 acres of Category 4, and 6 habitat respectively.

**Table 3: Estimated Temporary and Permanent Habitat Impacts, by Category, for Facility, with Proposed Changes**

| Habitat Category                                                                           | Temporary Impacts <sup>1</sup> | Permanent Impact <sup>2</sup> | Calculated Mitigation Area (Temporal and |
|--------------------------------------------------------------------------------------------|--------------------------------|-------------------------------|------------------------------------------|
|                                                                                            | Acres                          |                               |                                          |
| Facility, as Approved/Operating: Unit 1 and Supporting Facilities <sup>3</sup>             |                                |                               |                                          |
| Category 4                                                                                 |                                |                               |                                          |
| Total Area =                                                                               | 55.40                          | 45.00                         | 72.75                                    |
| Proposed Changes: Proposed new Facility components of Request for Amendment 2 <sup>4</sup> |                                |                               |                                          |
| Category 4                                                                                 | 1.0                            | 0.6                           | 1.10                                     |
| Category 6                                                                                 | 1.15                           | 0.85                          | 0.0                                      |
| Total Area =                                                                               | 2.15                           | 1.45                          | 1.10                                     |
| Carty Solar Farm and Supporting Facilities <sup>5</sup>                                    |                                |                               |                                          |
| Category 2                                                                                 | 6.39                           | 259.32                        | 525.03                                   |
| Category 3                                                                                 | 7.66                           | 42.84                         | 46.67                                    |
| Category 4                                                                                 | 90.57                          | 18.79                         | 64.08                                    |
| Category 6                                                                                 | 2.81                           | 0.19                          | 0.00                                     |
| Total Area =                                                                               | 107.43                         | 321.14                        | 635.78                                   |
| Estimated Size of Habitat Mitigation Area Summary                                          |                                |                               |                                          |
| Size of Habitat Mitigation Area for Facility, as Approved/Operating =                      |                                |                               | 72.75                                    |
| Size of Habitat Mitigation Area Required under RFA1=                                       |                                |                               | 635.78                                   |
| Size of Habitat Mitigation Area Required under proposed RFA2 =                             |                                |                               | 1.10                                     |
| Size of Habitat Mitigation Area for Facility, with Proposed RFA2 Changes =                 |                                |                               | 73.85                                    |

<sup>40</sup> CGSAMD2 Complete RFA with Attachments 2020-10-02, Section 8.7.

**Table 3: Estimated Temporary and Permanent Habitat Impacts, by Category, for Facility, with Proposed Changes**

| Habitat Category | Temporary Impacts <sup>1</sup> | Permanent Impact <sup>2</sup> | Calculated Mitigation Area (Temporal and |
|------------------|--------------------------------|-------------------------------|------------------------------------------|
|                  | Acres                          |                               |                                          |

Notes:

In all cases impacts in a given area would only be mitigated once.

1. Temporal 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.
2. 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.
3. Facility, as approved and operating, includes Unit 1 and its related or supporting facilities.
4. New Facility components as proposed in RFA2 include the new security guard station, wastewater pipeline, septic system, water pipeline, and the Carty substation and associated distribution lines
5. The Carty Solar Farm and Supporting Facilities includes areas of disturbance within the proposed site boundary expansion areas, 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

In an April 10, 2020 comment letter provided to the Department during the completeness review of the pRFA, ODFW, in response to the certificate holder's proposal to modify the site boundary to include the Carty Reservoir, requested that the wildlife values of the Carty Reservoir and surrounding riparian vegetation be maintained into the future.<sup>41</sup> In response, the certificate holder proposed that a new Site Certificate Condition be imposed (Condition 10.40), which would commit PGE to operate the Carty Reservoir at an elevation no lower than an annual average of 665 feet mean sea level (MSL). After additional consultation with ODFW, the certificate holder explains that the Carty Reservoir is a wastewater facility constructed for the BCP. Furthermore, the elevation of the reservoir has been maintained at a consistent elevation between 667 and 668 feet MSL due to operational needs of the BCP. With BCP ceasing operations, the Carty reservoir does not need to be maintained at the same elevation, and certificate holder agrees to maintain the reservoir at a minimum annual average of 665 foot MSL. On August 31, 2020, in an email sent to both the Department and the certificate holder, ODFW agreed that the proposed condition language of Condition 10.40 was acceptable.<sup>42</sup> The Department recommends that Council impose Condition 10.40, to require the certificate holder to maintain the Carty reservoir at an annual average of 665 feet mean sea level (MSL).

**Recommended Condition 10.40 (New Condition):** The certificate holder shall maintain the reservoir at an elevation no lower than an annual average of 665 feet mean sea level (MSL). The certificate holder may operate the reservoir at a lower elevation without a site certificate amendment if the certificate holder consults with the Department and ODFW to determine that the lower elevation would not result in a net loss of habitat and, therefore,

<sup>41</sup> CGSAMD2 Reviewing Agency Comment ODFW\_Cherry 2020-04-10.

<sup>42</sup> CGSAMD2 ODFW Carty Reservoir Condition 2020-08-31.

1 does not warrant further analysis and potential mitigation through a site certificate  
2 amendment process. The certificate holder shall submit an Amendment Determination  
3 Request supporting a conclusion that a site certificate amendment is not required and  
4 receive concurrence with the conclusions of the ADR prior to operating the reservoir at a  
5 lower elevation.

6 [AMD2]

7  
8 *Proposed Habitat Mitigation*  
9

10 The mitigation goal for Category 2 habitat is no net loss of either habitat quantity or quality and  
11 provision of a net benefit of habitat quantity or quality. To achieve this goal, impacts must be  
12 avoided or unavoidable impacts must be mitigated through “reliable in-kind, in-proximity”  
13 habitat mitigation to achieve no net loss; and a net benefit of habitat quantity or quality must  
14 be provided. The mitigation goal for Category 3 habitat is no net loss of either habitat quantity  
15 or quality. The goal is achieved by avoidance of impacts or by mitigation of unavoidable impacts  
16 through “reliable in-kind, in-proximity” habitat mitigation. The mitigation goal for Category 4  
17 habitat, similar to the mitigation goal for Category 3 habitat impacts, is no net loss of either  
18 habitat quantity or quality. The Category 4 mitigation goal differs from the Category 3  
19 mitigation goal in that achievement may be reached through avoidance of impacts or by  
20 mitigation of unavoidable impacts through “reliable in-kind or out-of kind,” and “in- or off-of  
21 proximity” habitat mitigation.

22  
23 To mitigate the permanent and temporary habitat impacts, Council previously imposed  
24 Condition 10.2 requiring the certificate holder to, prior to construction, provide a habitat  
25 assessment including habitat (in acres) by habitat category and subtype of the proposed HMA  
26 along with the easement.

27  
28 An amended draft Wildlife and Habitat Monitoring and Mitigation Plan (WHMMP) was  
29 prepared by the certificate holder and evaluated by both the Department and ODFW for RFA2.  
30 The amended WHMMP is included in this order as Attachment C. Proposed updates made to  
31 the WHMMP were made to accurately describe the proposed amended facility. In the amended  
32 draft WHMMP, the certificate holder proposes to mitigate permanent impacts to Category 4  
33 habitat by including 1 acre for every 1 acre that is permanently impacted within its existing  
34 HMA (a 1:1 ratio to provide no net loss) and .5 acre for every 1 acre that is temporarily  
35 impacted. This approach is consistent with the ODFW Fish and Wildlife Habitat Mitigation Policy  
36 and the EFSC Fish and Wildlife Habitat standard. Based on this proposed methodology, the size  
37 of the Habitat Mitigation Area required to mitigate for habitat loss (both temporary and  
38 permanent) associated with RFA2 would be 1.10 acres.

39  
40 In RFA2, the certificate holder explains that the 78-acre parcel of land already approved by the  
41 Department and ODFW for the impacts associated with Unit 1 and supporting facilities, is 5.25  
42 acres larger than required. Therefore, the certificate holder proposes that the additional 1.10  
43 acres of mitigation required for the temporary and permanent impacts to Category 4 Habitat  
44 associated with the proposed new RFA2 facility infrastructure would be covered within this

1 HMA. The Department recommends that the Council find that 78-acre HMA associated with  
2 Unit 1 and supporting facilities contains sufficient land to provide the required compensatory  
3 mitigation for the RFA2 facility component impacts.

4  
5 *State Sensitive Species within Analysis Area*  
6

7 In *Request for Amendment 2*, the certificate holder relied upon previous surveys completed for  
8 both the 2011 Application for Site Certificate and 2018 Request for Amendment 1 to identify  
9 State Sensitive species with the potential to occur within the RFA2 analysis area. The certificate  
10 holder states that construction of the new Carty Substation would occur within approximately  
11 2,000 feet of an active red tailed hawk nest, identified on the north shore of the Carty Reservoir  
12 during field surveys conducted in 2016.<sup>43</sup>  
13

14 *Potential Impacts to State Sensitive Species*  
15

16 Council Previously imposed Conditions 10.1 through 10.13 under the Fish and Wildlife Habitat  
17 standard that would require that the certificate holder to implement measures and practices to  
18 avoid and minimize potential impacts to State Sensitive species. In *Request for Amendment 2*,  
19 the certificate holder explains that based on the continued operation of related and supporting  
20 facilities currently authorized under the Carty Generating Station Site Certificate and the BCP  
21 Site Certificate, and compliance with the existing and modified Site Certificate Conditions 10.1  
22 through 10.13, Council may conclude that the construction and operation of the new proposed  
23 RFA2 facility infrastructure would continue to comply with the requirements of the Fish and  
24 Wildlife Habitat Standard.  
25

26 **Conclusions of Law**

27 Based on the foregoing findings of fact and conclusions, and subject to compliance with existing  
28 and recommended amended site certificate conditions, the Department recommends the  
29 Council find that the facility, with proposed changes, would comply with the Council's Fish and  
30 Wildlife Habitat standard.

31 **III.A.8. Threatened and Endangered Species: OAR 345-022-0070**  
32

33 *To issue a site certificate, the Council, after consultation with appropriate state agencies,*  
34 *must find that:*  
35

36 *(1) For plant species that the Oregon Department of Agriculture has listed as*  
37 *threatened or endangered under ORS 564.105(2), the design, construction and*  
38 *operation of the proposed facility, taking into account mitigation:*  
39

---

<sup>43</sup> CGSAMD2 Complete RFA with Attachments 2020-10-02, Section 8.7.

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

3  
4                   (b) If the Oregon Department of Agriculture has not adopted a protection and  
5                   conservation program, are not likely to cause a significant reduction in the  
6                   likelihood of survival or recovery of the species; and

7  
8                   (2) For wildlife species that the Oregon Fish and Wildlife Commission has listed as  
9                   threatened or endangered under ORS 496.172(2), the design, construction and  
10                  operation of the proposed facility, taking into account mitigation, are not likely to  
11                  cause a significant reduction in the likelihood of survival or recovery of the species.  
12

### 13   **Findings of Fact**

14   The Threatened and Endangered Species standard requires the Council to find that the design,  
15   construction, and operation of the facility, with proposed changes, are not likely to cause a  
16   significant reduction in the likelihood of survival or recovery of a fish, wildlife, or plant species  
17   listed as threatened or endangered by Oregon Department of Fish and Wildlife (ODFW) or  
18   Oregon Department of Agriculture (ODA). For threatened and endangered plant species, the  
19   Council must also find that the facility, with proposed changes, is consistent with an adopted  
20   protection and conservation program from ODA. Threatened and endangered species are those  
21   listed under ORS 564.105(2) for plant species and ORS 496.172(2) for fish and wildlife species.  
22   For the purposes of this standard, threatened and endangered species are those identified as  
23   such by either the Oregon Department of Agriculture or the Oregon Fish and Wildlife  
24   Commission.<sup>44</sup>

25  
26   The analysis area for threatened or endangered plant and wildlife species used to evaluate  
27   RFA2, is the area within and extending ½-mile of areas that would be disturbed during  
28   construction of proposed new RFA2 facility infrastructure.<sup>45</sup>

### 29   *Potential Impacts to Identified Threatened and Endangered Species*

30  
31  
32   In *Request for Amendment 2*, based on available data including previous surveys completed in  
33   both 2011 and 2018 for the Carty Generating Station, the certificate holder determined that  
34   one state listed threatened wildlife species - Washington Ground Squirrel (WGS) – was the only  
35   state-listed wildlife species that could occur within the analysis area of RFA2. WGS habitat is  
36   Category 1 habitat, and includes the area within a 785-foot buffer of an active colony. In RFA2,  
37   the certificate holder explains that the areas of proposed ground disturbance associated with

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<sup>44</sup> Although the Council's standard does not address federally-listed threatened or endangered species, certificate holders must comply with all applicable federal laws, including laws protecting those species, independent of the site certificate.

<sup>45</sup> CGSAMD2 Analysis Area adjustment Department EMAIL 2020-09-29

1 the construction of the new security guard station and new water pipeline would occur within  
2 approximately 0.3 to 0.5 miles of the Category 1 WGS habitat. All other areas of proposed  
3 ground disturbance associated with RFA2 facilities would be more than 0.5 miles from Category  
4 1 Habitat.

5  
6 In the Final Order on the Application, the Council imposed numerous conditions (conditions  
7 10.1, 10.7, 10.14, 10.15, 10.17, 10.18, 10.20, and 10.21) to avoid and minimize potential direct  
8 and indirect impacts to WGS and to Category 1 WGS habitat. In Request for Amendment 1,  
9 Council administratively amended Conditions 10.18, 10.19, 10. 20, and 10.21, and found that  
10 the requested condition amendments did not substantively change the intent of the previously  
11 imposed conditions. Furthermore, Council found that the facility, with proposed changes would  
12 not be likely to cause a significant reduction in the likelihood of any wildlife species listed as  
13 threatened or endangered. In *Request for Amendment 2*, the Certificate Holder requests  
14 additional administrative amendments be made to Condition 10.1, 10.4, 10.6, 10.11, 10.21.  
15 Based on the administrative nature of the condition amendments, the proposed changes are  
16 not presented in this section.

17  
18 The Department recommends Council find that based upon compliance with previously  
19 imposed and recommended amended conditions, the facility with proposed changes would not  
20 be likely to cause a significant reduction in the likelihood of survival of any wildlife species listed  
21 as threatened or endangered.

## 22 23 **Conclusions of Law**

24 Based on the foregoing findings of fact and conclusions, and subject to compliance with the  
25 existing and recommended amended conditions, the Department recommends Council find  
26 that the facility, with proposed changes complies with the Council's Threatened and  
27 Endangered Species standard.

### 28 29 **III.A.9. Historic, Cultural, and Archaeological Resources: OAR 345-022-0090**

30  
31 *(1) Except for facilities described in sections (2) and (3), to issue a site certificate, the*  
32 *Council must find that the construction and operation of the facility, taking into account*  
33 *mitigation, are not likely to result in significant adverse impacts to:*

34  
35 *(a) Historic, cultural or archaeological resources that have been listed on, or would*  
36 *likely be listed on the National Register of Historic Places;*

37  
38 *(b) For a facility on private land, archaeological objects, as defined in ORS*  
39 *358.905(1)(a), or archaeological sites, as defined in ORS 358.905(1)(c); and*

40  
41 *(c) For a facility on public land, archaeological sites, as defined in ORS 358.905(1)(c).*  
42

(2) The Council may issue a site certificate for a facility that would produce power from wind, solar or geothermal energy without making the findings described in section (1). However, the Council may apply the requirements of section (1) to impose conditions on a site certificate issued for such a facility.

## **Findings of Fact**

Subsection (1) of the Historic, Cultural and Archaeological Resources standard, OAR 345-022-0090, requires the Council to find that the facility is not likely to result in significant adverse impacts to identified historic, cultural, or archaeological resources. Pursuant to OAR 345-022-0090(2), the Council may issue a site certificate for a facility that would produce power from wind energy without making findings regarding the Historic, Cultural and Archeological standard; however, the Council may impose site certificate conditions based upon the requirements of the standard.

The analysis area for the evaluation of potential impacts to identified historic, cultural or archeological resources from the proposed RFA2 facility modifications, as authorized by the Department under OAR 345-027-0360(3), is based on the sites of potential impact rather than the entirety of the amended Carty Generating facility site boundary.<sup>46</sup>~~as defined in the project order, is the area within the site boundary.~~

In RFA2, the certificate holder proposes to add and remove area from the existing site boundary. Most of the area within the proposed site boundary has been previously surveyed for cultural, historic and archeological resources; however, there are some areas that remain unsurveyed. The unsurveyed areas 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.~~<sup>47</sup> Council previously imposed Condition 11.3 requiring that, prior to construction in areas that lie outside of previously surveyed areas, cultural surveys be conducted. The requirements of this condition would continue to apply this condition and require that to the unsurveyed areas be properly surveyed prior to any ground disturbing activities.<sup>48</sup> On the record of the DPO, SHPO submitted comments to the Department recommending that the all disturbance areas, if not previously disturbed or only minimally disturbed, be surveyed prior to construction (even if previously surveyed in 2009).<sup>49</sup> In the CTUIR's comments on the record of the DPO, cultural monitoring

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<sup>46</sup> CGSAMD2 Analysis Area adjustment ODOE EMAIL 2020-09-29

<sup>47</sup> In comments received on the Record of the DPO, the certificate holder clarifies that the areas of the proposed security guard station and the new septic system have been previously surveyed. CGSAMD2 DPO Comments (PGE) Letter 2020-11-02

<sup>48</sup> CGSAMD2 Reviewing Agency Comment CTUIR Farrow Ferman 2020-04-09. CTUIR Cultural Resources Protection Manager, Teara Farrow Ferman, commented on pRFA2 and recommended archeological resource monitoring for ground disturbing portions of work proposed under this Request for Amendment 2.

<sup>49</sup> CGSAMD2 DPO Comments (SHPO) Case No. 10-0046 Letter 2020-11-03

1 was recommended during ground disturbing activities.<sup>50</sup> The CTUIR further clarified that the  
2 surveying should be conducted prior to ground disturbing activities, and that the project's  
3 ground disturbing activities be monitored.<sup>51</sup> However, the CTUIR indicates that if the certificate  
4 holder can demonstrate that areas associated with RFA2 construction have been disturbed by  
5 past activities, and that the new construction would not exceed the previous disturbance, the  
6 CTUIR would consider those areas possibly exempt from the need for monitoring. The  
7 Department recommends Council ~~continue~~ amend Condition 11.3 to require the certificate  
8 holder both conduct a field investigation of all areas not previously disturbed or minimally  
9 disturbed, and also to require the certificate holder to consult with the CTUIR to determine if  
10 there are any areas of ground disturbance that would not require monitoring. The  
11 recommended CTUIR consultation would occur after the field investigation. The Department  
12 recommends Condition 11.3 be amended as follows:

13  
14 **Recommended Amended Condition 11.3:**

15 The certificate holder shall:

- 16 a) Use qualified personnel to conduct field investigation of all areas to be disturbed  
17 during construction that lie outside the previously-surveyed areas. The certificate  
18 holder shall provide a written report of the field investigation to the Department  
19 and to the Oregon State Historic Preservation Office (SHPO). If any potentially  
20 significant historic, cultural, or archaeological resource sites are found during the  
21 field investigation, the certificate holder shall instruct all construction personnel to  
22 avoid the identified sites and shall implement appropriate measures to protect the  
23 sites, including the measures described in Condition 11.5.
- 24 b) Prior to construction of facility components approved in the Final Order on RFA2,  
25 use qualified personnel to conduct field investigation of all areas to not previously  
26 disturbed or minimally disturbed. The certificate holder shall provide a written  
27 report of the field investigation to the Department and to the Oregon State Historic  
28 Preservation Office (SHPO), and shall consult with the CTUIR on whether any areas  
29 would require a cultural monitor during construction. If any potentially significant  
30 historic, cultural, or archaeological resource sites are found during the field  
31 investigation, the certificate holder shall instruct all construction personnel to avoid  
32 the identified sites and shall implement appropriate measures to protect the sites,  
33 including the measures described in Condition 11.5.

34 [Final Order IV.K.2.3][AMD2]

35  
36 The locations of the proposed new Carty Substation, septic system, security guard station,  
37 water pipeline, wastewater pipeline, and office/warehouse building have been previously  
38 surveyed. The certificate holder describes completion of cultural surveys in 2009 and 2016.  
39 Through these survey efforts, more than 120 shovel probes were excavated within and in close

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<sup>50</sup> CGSAMD2 DPO Comments (CTUIR) Letter 2020-11-04

<sup>51</sup> CGSAMD2 DPO Comments (CTUIR) Clarification 2020-11-12



proximity to the project area, rendering a complete understanding of landforms, resource types, and resource densities. Results of these various studies conducted at the facility suggest that precontact site 35MW15 is outside of areas identified for new construction as part of RFA2, and therefore would not be impacted by any actions proposed. Intensive survey-level work was conducted to identify and assess site 35MW19 in 2016 and no evidence of the site was found. SHPO concurred with this finding.

### **Conclusions of Law**

Based on the foregoing analysis, and subject to compliance with existing conditions, the Department recommends the Council find that the facility, with proposed changes, would continue to comply with the Council's Historic, Cultural, and Archaeological Resources Standard.

#### **III.A.10. Public Services: OAR 345-022-0110**

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

*(2) The Council may issue a site certificate for a facility that would produce power from wind, solar or geothermal energy without making the findings described in section (1). However, the Council may apply the requirements of section (1) to impose conditions on a site certificate issued for such a facility.*

\*\*\*

### **Findings of Fact**

The Public Services standard requires the Council to evaluate the likelihood of a facility or facility, with proposed changes, to result in significant adverse impacts to the ability of public and private service providers to supply sewer and sewage treatment, water, stormwater drainage, solid waste management, housing, traffic safety, police and fire protection, health care, and schools.

For Council reference, the certificate holder must commence construction of the Carty Solar Farm, approved in *Final Order on RFA1*, by February 2022; and, complete construction of the Carty Solar Farm by February 2025. If not constructed by the established deadline (Conditions 4.1 and 4.2), approval to construct and operate these components would effectively expire, unless the certificate holder receives approval from Council of an extension to the construction commencement deadline. As described in recommended amended Conditions 4.1 and 4.2 in Section III.A.1. *General Standard of Review* of this order, the Department recommends Council establish a construction commencement and completion deadline for proposed RFA2 facility

1 components three and six years, respectively, from the effective date of the amended site  
2 certificate, if approved. Based on the potential for overlapping construction timeframes of  
3 previously approved and proposed facility components, the evaluation provided below is based  
4 on the maximum number of workers from construction of Carty Solar Farm (100 to 130) and  
5 RFA2 facility components (44 to 51), or 180 construction workers and 23 operational workers.

6  
7 In accordance with OAR 345-001-0010(59)(b) and consistent with the study area boundary, the  
8 analysis area for potential impacts to public services from construction and operation of the  
9 ~~facility, with proposed changes, is~~ proposed RFA2 facility modifications, as authorized by the  
10 Department under OAR 345-027-0360(3), is based on the sites of potential impact rather than  
11 the entirety of the amended Carty Generating facility site boundary.<sup>52</sup> ~~defined as the area~~  
12 ~~within and extending 10 miles from the site boundary.~~

#### 13 14 *Sewer and Sewage Treatment; Stormwater Drainage*

15  
16 The facility, with proposed RFA2 modifications, would generate sewage during construction  
17 from portable toilets. Council previously imposed Condition 6.2 requiring that the certificate  
18 holder, during construction, provide portable toilets and ensure a licensed contractor properly  
19 cleans and pumps the toilets. The Department recommends Council continue to rely upon the  
20 existing condition to find that construction would not be likely to impact sewage service  
21 providers.

22  
23 Facility modifications proposed in RFA2 would not generate sewage but does include a new  
24 septic system, which would provide additional onsite sewage treatment of sewage generated at  
25 the facility. The septic system would be sized in accordance with state and county standards  
26 and the Umatilla County Public Health Department requirements and in a location deemed  
27 acceptable for a standard, non-residential septic system (see recommended amended  
28 Condition 10.29(a) in Attachment A of this order).<sup>53</sup> Because sewage generated during plant  
29 operations would continue to be managed onsite, in accordance with applicable state and local  
30 permit requirements, the Department recommends Council find that operation of related or  
31 supporting facilities proposed in RFA2 would not be likely to impact sewage service providers.

32  
33 In RFA2, the certificate holder describes that stormwater would be minimized through site  
34 grading and would infiltrate into the ground. The facility modifications proposed in RFA2 would  
35 not require new or expanded stormwater drainage systems provided by existing systems. For  
36 these reasons, the Department recommends Council find that construction and operation of

---

<sup>52</sup> CGSAMD2 Analysis Area adjustment ODOE EMAIL 2020-09-29

<sup>53</sup> In comments received on the record of the Draft Proposed Order, the certificate holder clarified that the North Lagoon is an existing sewage lagoon constructed as part of BCP, and is not part of the proposed new septic system for CGS. As such, the certificate holder requests that the Condition 10.29 be amended to remove the North Lagoon reference. CGSAMD2 DPO Comments (PGE) Letter 2020-11-02

1 related or supporting facilities proposed in RFA2 would not be likely to impact stormwater  
2 service providers.

### 3 4 *Water*

5  
6 Facility modifications proposed in RFA2 would require up to 220,000 gallons of water during  
7 construction for dust suppression; and, service and fire water during operations. Construction  
8 and operational water needs would be served by the Carty Reservoir, which withdraws water  
9 from the Columbia River, and the onsite Boeing Well. The facility modifications proposed in  
10 RFA2 would not require offsite water from any service providers and therefore the Department  
11 recommends Council find that construction and operation of the proposed facility modifications  
12 would not be likely to result in impacts to water service providers.

### 13 14 *Solid Waste Management*

15  
16 Construction activities associated with facility modifications proposed in RFA2 are anticipated  
17 to generate small quantities of solid waste, including domestic refuse, office waste, packaging  
18 materials, and various types of common construction materials, such as concrete waste, wood,  
19 plastic, glass, and used erosion control materials. This waste may also include hazardous  
20 materials, such as oil rags and depleted batteries. The certificate holder describes that the  
21 anticipated solid waste quantities are “well within the handling capacities” of the Sanitary  
22 Disposal Inc.

23  
24 During operation, the certificate holder expects to generate “negligible” solid waste, consisting  
25 primarily of office and maintenance waste. Waste generated during operations would be  
26 disposed through its existing CGS plant services building. The certificate holder anticipates  
27 being a “Conditionally Exempt Generator,” which is a classification reserved for organizations  
28 that generate less than 220 pounds of hazardous waste per month.<sup>54</sup>

29  
30 Council previously imposed Condition 6.3 and 10.22 requiring that the certificate holder, during  
31 construction and operation, develop Waste Management Plans that would implement waste  
32 reducing measures including training employees to segregate and recycle recyclable materials.  
33 These conditions would continue to apply to the facility, with proposed changes. Therefore, the  
34 Department recommends Council find that waste generating during construction and operation  
35 of the proposed Carty Solar Farm would not result in significant adverse impacts on the ability  
36 of public or private providers to provide solid waste management services.

---

<sup>54</sup> CGSAMD2 Complete RFA with Attachments 2020-10-02, Section 8.2.

## *Housing, Health Care and Schools*

Construction and operation of the facility modifications proposed in RFA2 would result in approximately 51 temporary workers for up to 10 months and CGS would continue to have up to 20 permanent workers on average per day. In RFA2, the certificate holder relies on the experience of Unit 1 construction (existing operational facility) to assert that most construction workers would be either permanent residents of the City of Boardman area or temporary residents who commute from the Tri-Cities area in Washington. Therefore, given the relatively low number of onsite workers anticipated and the assumption that most would be local, the Department recommends Council find that the facility modifications proposed in RFA2 would not be likely to impact providers of housing or schools.

Health care services for Trauma III level would be provided, if necessary, in Hermiston and Trauma I level in Portland. Emergency medical transport would be provided by the Morrow County Health District Emergency Medical Services, which maintains ambulances in Boardman and Irrigon. Council previously imposed Conditions 8.2 and 8.3, requiring that the certificate holder implement a site health and safety plan, which would continue to apply and would minimize potential onsite risks resulting in the use of local health care providers.

Based on the short-term duration of construction, relatively low number of workers (an average of 44 to 51 construction workers per day if all new construction occurred simultaneously), and the existing availability of health care facilities, the Department recommends Council find that the facility modifications proposed in RFA2 would not be likely to result in significant adverse impacts to health care service providers.

## *Traffic Safety*

The facility modifications proposed in RFA2 could result in up to 26 one-way trips (assumes two workers per vehicle) and up to 17 one-way truck trips, or a total of 86 round trips, over a 10 to 12 month construction period. The primary transportation route used would be I-84.

Potential traffic-related impacts on surrounding roadways would be limited to Tower Road. Council previously imposed Condition 6.17 requiring that, during construction, the certificate holder implement measures expected to reduce passenger car equivalent trips per day including carpooling, staggering worker start times, installation of temporary traffic controls, funding for overtime to provide additional traffic patrols along Tower Road, coordination of random patrols along Tower Road, and/or frequency coordination with the Morrow County Sheriff's office to inform them of periods of increased traffic to the site. Based on continued compliance with this existing condition, the Department recommends Council find that the facility modifications proposed in RFA2 would not be likely to result in a significant adverse impact on the ability of public or private traffic safety (road) providers to provide services.

## *Fire Services*

1  
2 Construction and operation of facility modifications proposed in RFA2 could result in increased  
3 fire risk at the site, resulting in increased demand for fire protection services. Council previously  
4 imposed Condition 8.7, requiring that, during construction and operation of the facility, the  
5 certificate holder develop and implement fire safety plans in consultation with the Boardman  
6 Rural Fire Protection District. In developing the fire safety plans, the existing condition requires  
7 that the certificate holder consider the dry nature of the region and address risks on a seasonal  
8 basis. The existing condition also requires that the certificate holder meet annually with local  
9 fire protection agency personnel to discuss emergency planning and invite local fire protection  
10 agency personnel to observe any emergency drill conducted at the facility. Based on continued  
11 compliance with this existing condition, the Department recommends Council find that that the  
12 facility modifications proposed in RFA2 would not be likely to result in a significant adverse  
13 impact on the ability of public or private fire service providers to provide services.

#### 14 15 *Police Protection*

16  
17 Construction and operation of facility modifications proposed in RFA2 could result in increased  
18 activity at the site, resulting in increased demand for law enforcement. Law enforcement  
19 services in the analysis area are provided by Morrow County Sherriff's Office. Council previously  
20 imposed Condition 8.1 requiring that, during construction, the certificate holder provide for on-  
21 site security and establish good communication with Morrow County Sheriff's Office. Based on  
22 continued compliance with this existing condition, the Department recommends Council find  
23 that the facility modifications proposed in RFA2 would not be likely to result in a significant  
24 adverse impact on the ability of public or private police protection service providers to provide  
25 services.

#### 26 27 **Conclusions of Law**

28 Based on the foregoing analysis, and subject to existing conditions, the Department  
29 recommends that the Council find that the facility, with proposed changes, would continue to  
30 comply with the Council's Public Services standard.

#### 31 32 **III.A.11. Waste Minimization: OAR 345-022-0120**

33  
34 *(1) Except for facilities described in sections (2) and (3), to issue a site certificate, the*  
35 *Council must find that, to the extent reasonably practicable:*

36  
37 *(a) The applicant's solid waste and wastewater plans are likely to minimize*  
38 *generation of solid waste and wastewater in the construction and operation of the*  
39 *facility, and when solid waste or wastewater is generated, to result in recycling and*  
40 *reuse of such wastes;*  
41

1                   (b) The applicant's plans to manage the accumulation, storage, disposal and  
2                   transportation of waste generated by the construction and operation of the facility  
3                   are likely to result in minimal adverse impact on surrounding and adjacent areas.  
4

5                   (2) The Council may issue a site certificate for a facility that would produce power from  
6                   wind, solar or geothermal energy without making the findings described in section (1).  
7                   However, the Council may apply the requirements of section (1) to impose conditions on  
8                   a site certificate issued for such a facility.

9                   \*\*\*

10  
11                   **Findings of Fact**

12  
13                   The Waste Minimization standard requires the Council to find that the certificate holder will  
14                   minimize the generation of solid waste and wastewater, and that the waste generated would  
15                   be managed to minimally impact surrounding and adjacent areas.  
16

17                   *Solid Waste*

18  
19                   Construction activities associated with the new Carty Substation and associated distribution  
20                   lines, septic system, water pipeline, wastewater pipeline, security guard station, and  
21                   office/warehouse building are anticipated to generate small quantities of solid waste, including  
22                   domestic refuse, office waste, packaging materials, and various types of common construction  
23                   materials, such as concrete waste, wood, plastic, glass, and used erosion control materials. This  
24                   waste may also include hazardous materials, such as oil rags and depleted batteries. The  
25                   certificate holder describes that the anticipated solid waste quantities are "well within the  
26                   handling capacities" of the Sanitary Disposal Inc.  
27

28                   During operation, the certificate holder expects to generate "negligible" solid waste, consisting  
29                   primarily of office and maintenance waste. Waste generated during operations would be  
30                   disposed through its existing CGS plant services building. The certificate holder anticipates  
31                   being a "Conditionally Exempt Generator," which is a classification reserved for organizations  
32                   that generate less than 220 pounds of hazardous waste per month.  
33

34                   Council previously imposed Condition 6.3 and 10.22 requiring that the certificate holder, during  
35                   construction and operation, develop Waste Management Plans that would implement waste  
36                   reducing measures including training employees to segregate and recycle recyclable materials.  
37                   These conditions would continue to apply to the facility, with proposed changes. Therefore, the  
38                   Department recommends Council find that the facility, with proposed changes, would continue  
39                   to minimize and manage solid waste, resulting in minimal adverse impacts on surrounding and  
40                   adjacent areas from construction of the proposed RFA2 facility components.  
41

42                   *Wastewater*

1 Construction and operation of the proposed RFA2 facility components would generate  
2 wastewater for disposal. During construction, wastewater would be generated from washing  
3 equipment and vehicles, washing concrete trucks after delivery of concrete loads, and fire  
4 suppression. The certificate holder maintains an existing Water Pollution Control Facilities  
5 (WPCF) permit, issued by Oregon Department of Environmental Quality but governed and  
6 incorporated into the site certificate. The existing WPCF authorizes wastewater disposal  
7 through evaporation and seepage from construction-related wastewater. During operations,  
8 approximately 800 gallons of wastewater would be generated per year from turbine  
9 compressor blade washing. Based on analytical testing, the certificate holder seeks approval to  
10 discharge the turbine rinse water (wastewater) into the Carty Reservoir, which is not currently  
11 authorized by the WPCF permit. Based on DEQ's review of the WPCF permit modification  
12 request, as provided in Attachment E of this order, the Department recommends Council  
13 amend Condition 10.28 to authorize the requested wastewater discharge, as described in  
14 Section III.A.13.2 *Water Pollution Control Facility Permit* of this order.

15  
16 Therefore, based on compliance with the WPCF, as amended, the Department recommends  
17 Council find that the facility, with proposed changes, would continue to minimize and manage  
18 wastewater, resulting in minimal adverse impacts on surrounding and adjacent areas from  
19 construction of the proposed RFA2 facility components.

#### 20 21 **Conclusions of Law**

22 Based on the foregoing analysis, and subject to existing and recommended amended  
23 conditions, the Department recommends that the Council find that that facility, with proposed  
24 changes, would continue to comply with the Council's Waste Minimization standard.

#### 25 26 **III.A.12. Division 24 Standards**

27  
28 The Council's Division 24 standards include specific standards for siting facilities including wind,  
29 underground gas storage reservoirs, transmission lines, and facilities that emit carbon dioxide.  
30 The only applicable Division 24 specific standard to the components included in the  
31 amendment request is Siting Standards for Transmission Lines (OAR 345-024-0090).

32  
33 It is noted that OAR 345-024-0550 through -0600 applies to the Carty Generating Station, for  
34 which the certificate holder has complied. The facility components included in the amendment  
35 request would not emit carbon dioxide emissions regulated under the Council's standard.  
36 Therefore, the proposed facility components are not required to demonstrate compliance with  
37 the Council's Carbon Dioxide Standard and is not evaluated in this order.

#### 38 39 **III.A.12.1. Siting Standards for Transmission Lines: OAR 345-024-0090**

40  
41 *To issue a site certificate for a facility that includes any transmission line under Council*  
42 *jurisdiction, the Council must find that the applicant:*  
43

(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

## **Findings of Fact**

The Siting Standards for Transmission Lines address issues associated with alternating current electric fields and induced currents generated by high-voltage transmission lines. OAR 345-024-0090(1) sets a limit for electric fields from transmission lines of not more than 9 kV per meter at one meter above the ground surface in areas that are accessible to the public. Section (2) requires the certificate holder design, construct and operate the line in a manner that reduces the risk posed by induced current.

### *Electric Fields*

Electric fields around transmission lines are produced by the presence of an electric charge, measured as voltage, on the energized conductor. Electric field strength is directly proportional to the line's voltage; increased voltage produces a stronger electric field. In the Final Order on the ASC, the council found that the certificate holder could design, construct, and operate the proposed 500 kV transmission line so that alternating current electric fields do not exceed 9kV per meter at one meter above the ground surface in areas accessible to the public.

In RFA2, the certificate holder ~~modeled~~ measured electric fields and magnetic fields within the boundaries of the existing 230 kV BCP to Dalreed substation transmission line. The ~~model~~ measurements showed that the highest electric field measurement collected was 1.36kV per meter (kV/m) at one meter above ground. With a ~~modeled~~ measured maximum of 1.36 kV/m, the proposed transmission would remain below the 9-kV per meter threshold set forth in OAR 345-024-0090(1). Therefore, based on the certificate holder's modelingmeasurements, the Department recommends that Council find that the existing 230-kV BCP to Dalreed transmission line would not exceed 9-kV per meter at one meter above ground level. The second existing transmission line proposed to be incorporated into the site certificate is the 500 kV BCP to Slatt substation transmission line. The 500 kV transmission line was previously evaluated in Exhibit AA of the 2011 ASC. In the Final Order, Council imposed Condition V.D.2.1 as a Public Health and Safety condition. Condition V.D.2.1 was imposed to address reasonable steps that the certificate holder ~~to~~ must take to reduce or manage human exposure to electric and magnetic fields. In RFA2, the certificate holder proposes to amend Condition 7.1(b) to include a date (June 29, 2012), clarifying the requirements apply only to transmission lines constructed after the date of the Final Order. The Department recommends that Council amend Condition 7.1 to incorporate the proposed amendment to Condition 7.1(b) as represented in Attachment A of this Order. In the Final Order of the ASC, Council found that subject to



conditions adopted in Section IV.O.2,<sup>55</sup> the certificate holder could design, construct, and operate the proposed 500 kV transmission line so that alternating current electric fields do not exceed 9kV per meter at one meter above the ground.

#### *Induced Voltage and Current*

The Siting Standards for Transmission Lines requires the Council to find that the certificate holder “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.”

In the Final Order on the ASC, Final Order on Amendment 1, the Council found that the certificate holder could construct, and operate the proposed transmission lines so that induced currents resulting from the transmission lines would be as low as reasonably achievable. Council imposed Condition 6.5 into the site certificate, which reflected the requirements of Mandatory Condition OAR 345-0027-0023(4). Condition 6.5 requires the certificate holder design, construct and operate transmission lines in accordance with requirements of the National Electrical Safety Code. In RFA2, the Certificate holder proposes an administrative change to Condition 6.5, as represented in Attachment A, to clarify that as proposed, multiple transmission lines would be operated and would be subject to Condition 6.5.

#### **Conclusions of Law**

For the reasons discussed above, and subject to compliance with the existing and recommended amended conditions, the Department recommends Council find that the facility, with proposed changes, would comply with the Council’s Siting Standards for Transmission Lines.

#### **III.A.13. Other Applicable Regulatory Requirements Under Council Jurisdiction**

Under ORS 469.503(3) and under the Council’s General Standard of Review (OAR 345-022-0000), the Council must determine whether the components proposed in the amendment request would comply with “all other Oregon statutes and administrative rules...,” as applicable to the issuance of an amended site certificate. This section addresses the applicable Oregon statutes and administrative rules that are not otherwise addressed in Council standards, including noise control regulations, regulations for removal or fill of material affecting waters of the state, water pollution control facility permits and regulations for appropriating ground water.

#### **III.A.13.1. Noise Control Regulations: OAR 340-035-0035**

---

<sup>55</sup> The conditions adopted in Section IV.O.2. of the Final Order (conditions IV.C.2.1, and IV.O.2.2) are represented in the Site Certificate as conditions 6.5 and 7.9 respectively.

1  
2 (1) Standards and Regulations:

3 \*\*\*

4 (b) New Noise Sources:

5 \*\*\*

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

14 \*\*\*

15 **Findings of Fact**

16 The Department of Environmental Quality (DEQ) noise control regulations at OAR 340-035-0035  
17 have been adopted by Council as the compliance requirements for EFSC-jurisdiction energy  
18 facilities. OAR 340-035-0035 provides the DEQ noise regulations for industry and commerce.  
19 The DEQ noise rules set noise limits for new industrial or commercial noise sources based upon  
20 whether those sources would be developed on a previously used or previously unused site.<sup>56</sup>

21 **Table 4: Statistical Noise Limits for Industrial and Commercial Noise Sources**

| Statistical<br>Descriptor <sup>1</sup>                                                                                                                                                                            | Maximum Permissible Hourly Statistical Noise Levels<br>(dBA) |                                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|-----------------------------------|
|                                                                                                                                                                                                                   | Daytime<br>(7:00 AM - 10:00 PM)                              | Nighttime<br>(10:00 PM - 7:00 AM) |
| L50                                                                                                                                                                                                               | 55                                                           | 50                                |
| L10                                                                                                                                                                                                               | 60                                                           | 55                                |
| L1                                                                                                                                                                                                                | 75                                                           | 60                                |
| Notes:<br>1. The hourly L50, L10 and L1 noise levels are defined as the noise levels equaled or<br>exceeded 50 percent, 10 percent, and 1 percent of the hour, respectively.<br>Source: OAR 340-035-0035, Table 8 |                                                              |                                   |

22  
23 In the Final Order on the Application, the Council found the facility met the DEQ noise standard  
24 and imposed Site Certificate Conditions V.A.2.1 through V.A.2.3 to address noise from the  
25 facility.  
26

---

<sup>56</sup> A “previously unused industrial or commercial site” is defined in OAR 340-035-0015(47) as property which has not been used by any industrial or commercial noise source during the 20 years immediately preceding commencement of construction of a new industrial or commercial source on that property.

## *Potential Construction Noise*

OAR 340-035-0035(5) outlines exemptions to the DEQ noise rules including exemptions for emergency equipment, warning devices not operating continuously for more than 5 minutes, and sounds created in construction or maintenance of capital equipment. OAR 340-035-0035(5)(g) specifically exempts noise that originates on construction sites. Therefore, construction related noise is not required to be evaluated to demonstrate compliance with this rule.

In section 9.1 of RFA2, the certificate holder explains that the construction of the new proposed RFA2 facility components would not alter the Council's basis for its previous findings that the Facility complies with the standard. The certificate holder indicates that ~~no~~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.

## *Potential Operational Noise*

The certificate holder proposes that operation of the Carty Substation is not considered a new noise source because the only noise-emitting component, the transformer, is currently in operation at a location immediately adjacent to the proposed construction location and will be reused as part of this action.

## **Conclusions of Law**

Based on the foregoing findings, the Department recommends Council finds that the facility, with proposed RFA2 facility modifications, would comply with the Noise Control Regulations in OAR 340-035-0035(1)(b)(A).

## **III.A.13.2. Water Pollution Control Facility Permit**

Water Pollution Control Facility (WPCF) Permits are issued by Oregon Department of Environmental Quality (DEQ), but for facilities under EFSC jurisdiction, WPCF permits are incorporated and governed by the site certificate. In circumstances where an EFSC-jurisdictional energy facility needs another state agency permit that is governed by the site certificate, both agencies retain compliance and enforcement responsibility of the applicable conditions and requirements.

As authorized in the *Final Order on the Application*, the certificate holder maintains WPCF Permit 100189 for the management and disposal of wastewater streams generated by the facility. WPCF Permit 100189 includes requirements that apply to both CGS and BCP. For the CGS site certificate, Conditions 10.28 – 10.36 were imposed to incorporate the requirements of the WPCF Permit.

In RFA2, the certificate holder requests to modify WPCF Permit 100189 to allow the addition of turbine rinse water as an allowed discharge to Carty Reservoir, which had been previously

1 approved for discrete discharge events based on submitted analytical results. Additionally, the  
2 certificate holder requests several WPCF Permit language changes due to the scheduled BCP  
3 shutdown. The modified language would allow the facility to continue operation with oversight of  
4 the WPCF Permit for management of industrial and domestic wastewater, ~~domestic wastewater,~~  
5 ~~and for the closure of the coal ash landfill~~. The modification also includes required language for  
6 proper closure of the sanitary lagoons once taken out of service during the permit term.

## 8 Findings of Fact

10 In RFA2, the certificate holder describes that routine operations and maintenance include  
11 washing of combustion turbine generator compressor blades. Compressor blade washing occurs  
12 approximately two times per year, to remove fouling, and includes use of up to 1,000 mL of a  
13 non-phosphate, biodegradable detergent (Product Name: ZOK 27, manufactured by ZOK  
14 International Group) to aid in cleaning. Compressor blade washing results in approximately up to  
15 800 gallons of wastewater each washing, which the certificate holder requests authorization to  
16 discharge into the Carty Reservoir via existing holding ponds. The certificate holder submitted  
17 analytical testing results of four batches of turbine rinse water to DEQ for the parameters listed in  
18 Schedule A, Condition 7 of the WPCF Permit with reported results within the sample maximum  
19 limits specified in the WPCF Permit. Based on review of the analytical results, as described in  
20 DEQ's technical analysis provided in Attachment E of this order, the Department recommends  
21 Council approve the certificate holder's request to discharge turbine rinse water into Carty  
22 Reservoir and approve the WPCF Permit modification.<sup>57</sup>

24 The certificate holder requests several other permit modifications, as follows:

- 26 • A change to language regarding the recirculation line for the Carty Generating Station and  
27 Boardman Power Plant. This was corrected to state "intake structure" rather than  
28 "recirculation line" to better address intake for the Boardman and Carty facilities.
- 29 • Removal of language for submittal of a hydrogeologic characterization report (already  
30 submitted during permit term).
- 31 • Clarification regarding the facility lined evaporation ponds and to reflect that the ~~previous~~  
32 existing clay lined sewage lagoons were relined in 2014. The facility also has stated that  
33 while the sanitary sewage lagoons will remain operational for a period of time, there is a  
34 possibility that sewage flows will be routed to a newly constructed septic system with  
35 flows <2500 gpd. This system would be separately permitted through Umatilla County  
36 Public Health. The permit modification has included added language to Schedule C for  
37 required steps to properly decommission the sewage lagoons and evaporative ponds.

---

<sup>57</sup> CGSAMD2 Reviewing Agency Comment ODEQ\_Moore 2020-04-13. See also Attachment E: Oregon Department of Environmental Quality Technical Analysis and Proposed Findings for Water Pollution Control Facilities Permit Modification (Addendum 2).

- The facility is working on a final cover system for the ash disposal landfill, which will be reviewed by DEQ solid waste and water quality staff as part of the ash landfill closure plan. Schedule A, Condition 20 requires an Ash Disposal Plan. Per PGE description, storm water from the final cover system will be collected and dissipated to sheet flow in the direction of Carty Reservoir following natural terrain. It is unlikely that stormwater flow from the cover system will reach the reservoir.
- Condition 22 of Schedule A was added regarding groundwater limitations at the compliance points established in the groundwater monitoring plan. This language was added because any change to the compliance limitations in the plan would not require an EFSC site certificate amendment but still ensures limitations are enforceable under the WPCF permit.
- PGE proposed to replace composite sampling requirements for influent into the sanitary lagoons due to mixing in the lift station. This change was not included in the permit modification draft as requested. This is because while the lift station will allow mixing, the purpose of composite sampling is to collect a representative 24 hour period sample each quarter which may not be achieved by a discrete grab sample from the lift station.
- PGE requested to reduce perimeter inspection of the sanitary lagoon and lined evaporation ponds from daily to weekly due to the presence of staff at the site during business hours. This change was incorporated into Schedule B, Condition 1a and 1b of the permit modification based on history of inspections and presence of staff at the site as opposed to a remote un-staffed location.
- Schedule B, Condition 1c was updated to accurately describe flow meter configuration at the facility. Flow metering exists at the irrigation withdrawal without flow metering for cycling of Carty Reservoir water withdrawal that is used for industrial uses.
- The language “unless otherwise approved in writing by the Department” was added to Schedule B, Condition 4 to allow flexibility in resampling schedule upon DEQ approval. This is warranted due to the remote nature of the location and during poor weather months.
- The permittee requested to change language in reference to the formerly named “Boardman Power Plant Water Quality Management Program” to the “Wastewater Water Quality Management Program” and this language was updated.
- Schedule C, Condition 10 was added to require a closure plan ~~to document a closure plan~~ for DEQ review for the sanitary lagoons and Boardman evaporation ponds. For the sanitary lagoons, the closure plan must be submitted by June 31, 2022. For evaporation ponds, the plan must be submitted at least 6 months before planned closure.

Based on the above-described analysis, and technical evaluation provided by DEQ and included in Attachment E of this order, the Department recommends Council amend Condition 10.28 as follows:

**Recommended Amended Condition 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:

- 1
- 2 i. Prior to operation of Unit 1, a Water Pollution Control Facilities Permit substantially in
- 3 the form of Exhibit 4 of the *Final Order on the Application*, allowing for wastewater
- 4 discharge from the Carty Generating Station.
- 5 [Final Order V.E.2.1]
- 6 ii. Prior to operation of the Carty Solar Farm, Addendum 1 of the modified Water
- 7 Pollution Control Facilities Permit 100189 with the following additional condition,
- 8 allowing discharge of solar panel washwater:
- 9 a. Solar panel wash water is permitted to be discharged through evaporation or
- 10 infiltration into the ground at the point of application. The use of chemicals, soaps,
- 11 detergents and heated water is prohibited. Pressure washing is allowed, so long as
- 12 it does not remove paint or other finishes. Soil erosion and runoff from the Carty
- 13 Solar Farm is prohibited. Soil erosion must be repaired within 30 days of
- 14 occurrence.
- 15 [AMD1]
- 16 iii. Prior to operation of facility components authorized by the Final Order on Request for
- 17 Amendment 2, Addendum 2 of the modified Water Pollution Control Facilities Permit
- 18 100189, substantially in the form of Attachment E of the *Final Order on Request for*
- 19 *Amendment 2.*
- 20 [AMD2]
- 21

## 22 **Conclusions of Law**

23 The Department recommends Council find, based on the analysis presented above and in

24 Attachment E of this order, subject to compliance with the site certificate conditions and

25 conditions contained in WPCF Permit 100189 Addendum 2, the facility, with proposed changes,

26 meets the requirements of the WPCF Permit for wastewater discharges. The Department

27 recommends Council authorize DEQ to issue the certificate holder Addendum 2 of the WPCF

28 Permit substantially in the form of Attachment E of this order, pursuant to ORS 469.401

29

## 30 **III.A.13.3. Water Rights**

31

32 Under ORS Chapters 537 and 540 and OAR Chapter 690, the Oregon Water Resources

33 Department (OWRD) administers water rights for appropriation and use of the water resources

34 of the state. Under OAR 345-022-0000(1)(b), the Council must determine whether the facility,

35 with proposed changes, would comply with the statutes and administrative rules identified in

36 the project order. The project order identifies OAR 690, Divisions 310 and 380 (Water

37 Resources Department permitting requirements) as the administrative rules governing use of

38 water resources and water rights as applicable to the facility.

39

## 40 **Findings of Fact**

41

42 OAR 690 establishes the procedures and standards which shall be applied by the OWRD in the

43 evaluation of applications for a permit to appropriate surface water, ground water, to construct

1 a reservoir and store water, to use reserved water, or to use water stored in a reservoir. The  
2 certificate holder is not requesting a groundwater permit, a surface water permit, or a water  
3 rights transfer during the construction and operation of the proposed related and supporting  
4 facilities described in RFA2.

5  
6 Construction and operation of the proposed related and supporting facilities described in RFA2  
7 would result in water use. Approximately 222,000 gallons of water would be used during  
8 construction for dust abatement, obtained from either the onsite Boeing Well or Carty  
9 Reservoir. Other facility operational water would be obtained from the Carty Reservoir, which  
10 withdraws water from the Columbia River.

11  
12 Based on the certificate holder's assessment, the Department recommends Council concur that  
13 it can obtain adequate water for construction and operation of the proposed related and  
14 supporting facilities described in RFA2, and does not need a new groundwater permit, surface  
15 water permit, or water right transfer. If such a permit or transfer is required at a later time, a  
16 site certificate amendment would be required to review and consider such a permit application.

#### 17 18 **Conclusions of Law**

19 Based on the foregoing findings of fact, the Council concludes that the facility, with proposed  
20 changes, does not need a new groundwater permit, surface water permit, or water right  
21 transfer.

#### 22 23 **III.A.13.4. Removal-Fill**

24  
25 The Oregon Removal-Fill Law (ORS 196.795 through 196.990) and Department of State Lands  
26 (DSL) regulations (OAR 141-085-0500 through 141-085-0785) require a removal-fill permit if 50  
27 cubic yards or more of material is removed, filled, or altered within any "waters of the state."<sup>58</sup>  
28 The Council, in consultation with DSL, must determine whether a removal-fill permit is needed  
29 and if so, whether a removal-fill permit should be issued. The analysis area for wetlands and  
30 other waters of the state is the area within the site boundary.

#### 31 32 **Findings of Fact**

33 The certificate holder states that a removal-fill permit is not required because construction and  
34 operation of the proposed RFA2 facility components would not require removal of materials  
35 from or placement of materials in any wetland or waterbody features. Information regarding  
36 wetlands and other waters of the state was previously provided in the 2011 ASC, where based  
37 on the information, Council concluded that a removal-fill permit would not be required. Council  
38 previously imposed Condition 10.26 and 10.13 requiring that the certificate holder provide final  
39 design maps to the Department demonstrating that proposed facility components would be

---

<sup>58</sup> ORS 196.800(15) defines "Waters of this state." The term includes wetlands and certain other waterbodies.

sited to avoid jurisdictional waters, and requiring that the certificate holder avoid disturbance to delineated wetlands during construction, respectively.

Because the proposed RFA2 facility modifications resulting in construction (or new ground disturbance) would be located within previously approved site boundary, the Department recommends Council rely on the 2011 ASC wetland delineation data and ~~continue to~~ find that ~~the a~~ removal-fill permit would not be required for construction or operation of proposed RFA2 facility components.

### **Conclusions of Law**

Based on the foregoing analysis, and in accordance with Oregon Removal-Fill Law (ORS 196.795 through 196.990) and regulations (OAR 141-085-0500 through 141-085-0785), the Department recommends Council find that a removal-fill permit is not needed for the proposed RFA2 facility modifications.

### **III.B. Standards Not Likely to Be Impacted by Request for Amendment 2**

RFA2, as described throughout this order, requests the incorporation of existing infrastructure shared by BCP and CGS into the Second Amended Site certificate for CGS, authorization to construct and operate new related or supporting facility components, and a site boundary modification. The Department recommends Council find that the Council's findings on the record of the EFSC proceedings for the Carty Generating Facility from 2010-2019 would not be impacted for the standards listed below.

Sections III.B.1 through III.B.4 present the language of the identified standards and other applicable laws and regulations not likely to be impacted by RFA2, for reference purposes only.

#### **III.B.1. Division 23 Standards**

The Division 23 standards apply only to "nongenerating facilities" as defined in ORS 469.503(2)(e)(K), except nongenerating facilities that are related or supporting facilities. The facility is not a nongenerating facility as defined in statute, and therefore Division 23 is inapplicable to the requested amendment.

#### **III.B.2. Protected Areas: OAR 345-022-0040**

*(1) Except as provided in sections (2) and (3), the Council shall not issue a site certificate for a proposed facility located in the areas listed below. To issue a site certificate for a proposed facility located outside the areas listed below, the Council must find that, taking into account mitigation, the design, construction and operation of the facility are not likely to result in significant adverse impact to the areas listed below. 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:*



1  
2 *(a) National parks, including but not limited to Crater Lake National Park and Fort*  
3 *Clatsop National Memorial;*

4  
5 *(b) National monuments, including but not limited to John Day Fossil Bed National*  
6 *Monument, Newberry National Volcanic Monument and Oregon Caves National*  
7 *Monument;*

8  
9 *(c) Wilderness areas established pursuant to The Wilderness Act, 16 U.S.C. 1131 et*  
10 *seq. and areas recommended for designation as wilderness areas pursuant to 43*  
11 *U.S.C. 1782;*

12  
13 *(d) National and state wildlife refuges, including but not limited to Ankeny, Bandon*  
14 *Marsh, Baskett Slough, Bear Valley, Cape Meares, Cold Springs, Deer Flat, Hart*  
15 *Mountain, Julia Butler Hansen, Klamath Forest, Lewis and Clark, Lower Klamath,*  
16 *Malheur, McKay Creek, Oregon Islands, Sheldon, Three Arch Rocks, Umatilla, Upper*  
17 *Klamath, and William L. Finley;*

18  
19 *(e) National coordination areas, including but not limited to Government Island,*  
20 *Ochoco and Summer Lake;*

21  
22 *(f) National and state fish hatcheries, including but not limited to Eagle Creek and*  
23 *Warm Springs;*

24  
25 *(g) National recreation and scenic areas, including but not limited to Oregon Dunes*  
26 *National Recreation Area, Hell's Canyon National Recreation Area, and the Oregon*  
27 *Cascades Recreation Area, and Columbia River Gorge National Scenic Area;*

28  
29 *(h) State parks and waysides as listed by the Oregon Department of Parks and*  
30 *Recreation and the Willamette River Greenway;*

31  
32 *(i) State natural heritage areas listed in the Oregon Register of Natural Heritage*  
33 *Areas pursuant to ORS 273.581;*

34  
35 *(j) State estuarine sanctuaries, including but not limited to South Slough Estuarine*  
36 *Sanctuary, OAR Chapter 142;*

37  
38 *(k) Scenic waterways designated pursuant to ORS 390.826, wild or scenic rivers*  
39 *designated pursuant to 16 U.S.C. 1271 et seq., and those waterways and rivers listed*  
40 *as potentials for designation;*

41  
42 *(l) Experimental areas established by the Rangeland Resources Program, College of*  
43 *Agriculture, Oregon State University: the Prineville site, the Burns (Squaw Butte) site,*  
44 *the Starkey site and the Union site;*

1           (m) Agricultural experimental stations established by the College of Agriculture,  
2           Oregon State University, including but not limited to: Coastal Oregon Marine  
3           Experiment Station, Astoria Mid-Columbia Agriculture Research and Extension  
4           Center, Hood River Agriculture Research and Extension Center, Hermiston Columbia  
5           Basin Agriculture Research Center, Pendleton Columbia Basin Agriculture Research  
6           Center, Moro North Willamette Research and Extension Center, Aurora East Oregon  
7           Agriculture Research Center, Union Malheur Experiment Station, Ontario Eastern  
8           Oregon Agriculture Research Center, Burns Eastern Oregon Agriculture Research  
9           Center, Squaw Butte Central Oregon Experiment Station, Madras Central Oregon  
10          Experiment Station, Powell Butte Central Oregon Experiment Station, Redmond  
11          Central Station, Corvallis Coastal Oregon Marine Experiment Station, Newport  
12          Southern Oregon Experiment Station, Medford Klamath Experiment Station, Klamath  
13          Falls;

14  
15          (n) Research forests established by the College of Forestry, Oregon State University,  
16          including but not limited to McDonald Forest, Paul M. Dunn Forest, the Blodgett  
17          Tract in Columbia County, the Spaulding Tract in the Mary's Peak area and the  
18          Marchel Tract;

19  
20          (o) Bureau of Land Management areas of critical environmental concern,  
21          outstanding natural areas and research natural areas;

22  
23          (p) State wildlife areas and management areas identified in OAR chapter 635,  
24          Division 8.

25  
26       III.B.3. Scenic Resources: OAR 345-022-0080

27  
28       (3) Except for facilities described in section (2), to issue a site certificate, the Council  
29       must find that the design, construction and operation of the facility, taking into  
30       account mitigation, are not likely to result in significant adverse impact to scenic  
31       resources and values identified as significant or important in local land use plans,  
32       tribal land management plans and federal land management plans for any lands  
33       located within the analysis area described in the project order.

34       \*\*\*

35  
36       III.B.4. Recreation: OAR 345-022-0100

37  
38       (1) Except for facilities described in section (2), to issue a site certificate, the Council must  
39       find that the design, construction and operation of a facility, taking into account  
40       mitigation, are not likely to result in a significant adverse impact to important  
41       recreational opportunities in the analysis area as described in the project order. The  
42       Council shall consider the following factors in judging the importance of a recreational  
43       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.

\*\*\*59

#### **IV. PROPOSED CONCLUSIONS AND ORDER**

Based on the recommended findings and conclusions included in this order, the Department recommends that Council make the following findings:

1. The proposed facility modifications included in Request for Amendment 2 of the Carty Generating Station site certificate complies-comply with the requirements of the Oregon Energy Facility Siting Statutes, ORS 469.300 to 469.520.
2. The proposed facility modifications included in Request for Amendment 2 of the Carty Generating Station site certificate complies-comply with the standards adopted by the Council pursuant to ORS 469.501.
3. The proposed facility modifications included in Request for Amendment 2 of the Carty Generating Station site certificate complies-comply with all other Oregon statutes and administrative rules identified in the project order as applicable to the issuance of a site certificate for the proposed facility.

Accordingly, the Department recommends that the Council find that the proposed facility modifications included in Request for Amendment 2 of the Carty Generating Station site certificate complies-comply with the General Standard of Review (OAR 345-022-0000). The Department recommends that the Council find, based on a preponderance of the evidence on the record, that the site certificate may be amended as requested.

---

<sup>59</sup> The facility is not a special criteria facility under OAR 345-0015-0310; therefore, OAR 345-022-0100(2) is not applicable.

1 **Proposed Order**

2  
3 The Department recommends Council approve Amendment 2 of the Carty Generating Station  
4 site certificate.

5  
6 Issued this 12<sup>th</sup> day of November, 2020

7  
8 The Oregon Department of Energy  
9

By:   
Todd Cornett, Assistant Director  
Oregon Department of Energy, Energy Facility Siting Division

15  
16 **Attachments:**

17 Attachment A: Proposed Amended Site Certificate (red-line)

18 Attachment B-1: Reviewing Agency Comments and Documents Referenced in Order

19 Attachment B-2: DPO Comments and Comment Index

20 Attachment C: Draft Amended Wildlife and Habitat Monitoring and Mitigation Plan

21 Attachment D: Draft Amended Revegetation and Noxious Weed Control Plan

22 Attachment E: Oregon Department of Environmental Quality Technical Analysis and Proposed  
23 Findings for Water Pollution Control Facilities Permit Modification (Addendum 2)

1  
2  
3  
4  
5  
6

**Notice of the Right to Appeal**  
[Text to be added to Final Order]

**Attachment A: Proposed Amended Site Certificate (red-line) Cover**

ENERGY FACILITY SITING COUNCIL

OF THE

STATE OF OREGON

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

[Tracked changes version:

All changes from Draft Proposed Order to Proposed Order presented in **hi-lite**, red-line; changes presented in red-line without hi-lite are changes as proposed in the Draft Proposed Order]

**ISSUE DATE**S

Site Certificate July 2, 2012

First Amended Site Certificate December 14, 2018

Second Amended Site Certificate TBD



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# CARTY GENERATING STATION SITE CERTIFICATE

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## Acronyms and Abbreviations

|              |                                                                                |
|--------------|--------------------------------------------------------------------------------|
| <u>AC</u>    | <u>alternating current</u>                                                     |
| ACEC         | Area of Critical Environmental Concern                                         |
| ADA          | Americans with Disabilities Act                                                |
| <u>AMD1</u>  | <u>Final Order on Amendment No. 1</u>                                          |
| <u>AMD2</u>  | <u>Final Order on Amendment No. 2</u>                                          |
| Btu          | British Thermal Unit                                                           |
| <u>BCP</u>   | <u>Boardman Coal Plant</u>                                                     |
| Carty        | Carty Generating Station                                                       |
| CERCLA       | Comprehensive Environmental Response, Compensation, and Liability Act          |
| <u>CFR</u>   | <u>Code of Federal Regulations</u>                                             |
| Council      | Oregon Energy Facility Siting Council                                          |
| CTG          | Combustion <u>combustion</u> Turbine <u>turbine</u> Generator <u>generator</u> |
| <u>CTUIR</u> | <u>Confederated Tribes of the Umatilla Indian Reservation</u>                  |
| <u>DC</u>    | <u>direct current</u>                                                          |
| Department   | Oregon Department of Energy                                                    |
| DEQ          | Oregon Department of Environmental Quality                                     |
| DOGAMI       | Oregon Department of Geology and Mineral Industries                            |
| DPO          | Draft Proposed Order                                                           |
| 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         | Heat Recovery Steam Generator                                                  |
| kV           | Kilovolt <u>kilovolt</u>                                                       |
| MCZO         | Morrow County Zoning Ordinance                                                 |

MOU Memorandum of Understanding

MSL mean sea level

MW megawatt

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

OSSC Oregon Structural Specialty Code

PGE Portland General Electric Company

PV photovoltaic

SHPO Oregon State Historic Preservation Office

SPCC Spill Prevention, Control, and Countermeasure

STG Steam Turbine Generator

USFWS United States Fish and Wildlife Service

Unit 1 450 megawatt natural gas-fueled, combined-cycle, combustion turbine generator

WGS Washington Ground Squirrel

WPCF Water Pollution Control Facilities

## 1.0 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, (6) the Final Order on the Application, and (57) 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. 2~~.—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.

## **2.0 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~~ 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-~~027025-00200006~~(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 345-027025-00200006(1)] [AMD2]

- 2.14 The certificate holder must:

- a. 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.
- b. 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]

### 3.0 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 (BCP). The BCP has a December 31, 2020 deadline to cease operations.—

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 1,5814,997 acres.

#### THE ENERGY FACILITY

The Carty Generating Station includes a natural gas-fueled combined-cycle unit and a solar PV electric power generating unit.—The Carty Generating Station is capable of generating up to



500 megawatt (MW) of electrical power (up to 450 MW from the natural gas-fueled combined-cycle unit [Unit 1], and up to 50 MW from the solar PV generating unit).

Unit 1 of The-the Carty Generating Station ~~has includes~~ one natural-gas-fueled generating unit consisting 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 provides space for plant controls and offices for plant personnel for all units.

~~Carty is interconnected with the Boardman Coal Plant to obtain potable water and to utilize the existing sanitary waste infrastructure.—The Carty Generating Station is also connected to the Carty Reservoir for water withdrawal and water discharge purposes.—Under the Agreement for Construction, Ownership, and Operation of the Number One Boardman Station on Carty Reservoir dated as of October 15, 1976, between PGE, Idaho Power Company, and Pacific Northwest Generating Company, PGE has the right to construct and operate additional~~

~~generating units on Carty Reservoir and to utilize facilities of the Boardman plant that may be used in common with such new generating units, including, but not limited to, the reservoir, pumping facilities, pipelines from the Columbia river, roads, railroad spurs, docks, parking lots, fencing and transmission facilities.~~

~~In addition to Unit 1, The the~~ Carty Generating Station also includes a 50MW PV solar power generating unit, the Carty Solar Farm, occupying a 315-acre site located south of the Carty Reservoir. ~~The Carty Solar Farm which was permitted through the First Amended Site Certificate, and~~ consists 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. Ultimately, the collector circuits are combined at the solar farm substation and transmitted to the grid via the transmission line.

~~A control and administrative building provides space for plant controls and offices for plant personnel for all units.~~ The Carty Generating Station includes the following related or supporting facilities:

- Carty Reservoir and portions of the raw water intake system and associated electrical connection
- Grassland Switchyard
- On-site 500-kV transmission line from Unit 1 to the Grassland Switchyard
- 500-kV transmission line from Grassland Switchyard to the Slatt Substation
- 230-kV transmission line from the Carty Substation to the Dalreed substation
- On-site 34.5-kV Grassland backup station transmission line
- 34.5-kV construction substation to railroad crossing transmission line
- 34.5-kV Carty Solar Farm transmission line
- 7.2-kV Carty Generating Station backup transmission line
- 4.2-kV Grassland substation service line

- Interconnecting water pipelines
- Well (Boeing Well) / pump house and associated 12.5-kV power line
- Cooling tower
- Liquid storage facilities
- Sanitary sewer (sewer lagoons and septic system)
- Accessory buildings
- Utility and communication lines
- Access Roads
- Additional temporary construction areas
- Water Discharge Channel
- Construction Substation
- 300,000-gallon water storage tank, adjacent pumphouse, and associated water pipeline
- Evaporation Ponds
- Irrigation Pump Station and 34.5 kV transmission line
- Septic system
- Water pipeline connecting BCP's 300,000-gallon water tank
- Security guard station
- Office and warehouse building
- Carty Substation and associated distribution lines

Two control and administrative buildings provides space for plant controls and offices for plant personnel for Unit 1 and the Carty Solar Farm. 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, withdrawals for irrigation, 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. There is an irrigation pump station located on the southwest arm shore of Carty Reservoir within an approximately 0.2 acre fenced area; the irrigation pump station is used to pump water out of Carty Reservoir for irrigation of nearby agricultural fields. There is a 2,600 foot-long underground 34.5 kV transmission line that powers the pump station from a PacifiCorp transmission line.

## **On-Site Transmission Lines**

### **500 kV Unit 1 to Grassland Switchyard Transmission Line On-Site**

An approximate 1-mile long 500-kV transmission line, mounted on four steel lattice towers, 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.~~ These towers are between 100 and 150 feet tall and are spaced approximately between 800 feet and 1,700 feet apart.

### **4.2 kV Grassland Station Service Line**

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.

### **7.2 kV Carty Generating Station Backup Power Line**

A 7.2 kV above ground backup power line extends approximately 0.5 mile from BCP or the Carty substation once constructed 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. Once the Carty substation is constructed the line will be entirely above ground.

### **34.5 kV Grassland Backup Station Service Line**

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.

### **34.5 Carty Solar Farm Transmission Line**

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.

### **Connecting Off-Site Transmission Lines**

#### **500 kV BCP to Slatt Transmission Line**

To access the grid, ~~PGE certificate holder~~ 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 or the Carty substation once built. It is used to provide power to Carty Generating Station via the 7.2 kV Carty Generating Station back up transmission line and provide power to the construction substation.

#### **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. The power for this line is provided via the construction substation.

### **Grassland Switchyard**

A 500-kV, alternating current, open-air switchyard is located west of the Carty Generating Station.—The switchyard consists of an 8.5-acre leveled and graveled area surrounded by a security fence. The switchyard was approved—up to approximately 15 acres in size in the original Site Certificate, and may be expanded to that size depending on the interconnection needs of the Carty Solar Farm~~surrounded by a security fence.~~—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.—Steel take-off towers terminate 500-kV overhead transmission lines that connect the switchyard with the plant generator step-up transformers and outgoing transmission lines.—An additional small

building provides a controlled environment for the protective relaying and communication equipment.

### **Carty Substation**

Carty Substation is a 7.2 kV open box structure substation, with control house for relay, SCADA, communications, and DC system, dead-end structure for the existing 230 kV Boardman to Dalreed transmission line, and surrounding fence that would be located southeast of the construction substation. It will provide backup power to Carty Generating Station via an above ground distribution line that connects to the 7.2 kV Carty Generating Station backup transmission line, and power to the construction substation via an underground distribution line.

### **Construction Substation**

The Construction Substation is located within a 40-foot by 80-foot fenced area that contains three wooden H-frame structures, transformers and associated electrical equipment, including a 6-foot by 8-foot control house. It was built originally to provide construction power during construction of BCP and continues to be used as part of the onsite electrical distribution system. This facility is located approximately 0.3 miles south of CGS. The construction substation is powered by an underground distribution line from Carty substation.

### **Interconnecting Water Pipelines Water Sources and Discharges**

~~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. Power is provided to the intake building via an underground distribution line from Carty Generating Station to the intake building.

### **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 or to evaporation ponds located northeast of Carty Generating Station (formerly Boardman PlantBCP evaporation ponds).

### **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 underground 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 and 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 the Carty Generating Station 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 which pulls air under and through the water-cooling medium. The cooling tower is approximately 50 feet in height. The mechanical-draft wet cooling tower serves the combined cycle unit of the Carty facility.

## **Liquid Storage Facilities**

Liquid fuel is not stored on the Carty facility site.— Anhydrous ammonia, a Chemicals-chemical used for emissions control, are-is stored in steel horizontal sealed storage tanks with secondary containment. Other liquid chemicals such as anhydrous ammonia, 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 chemicals such as cleaners and lubricants are stored within on-site accessory buildings.

## **Accessory Buildings**

Accessory buildings at on the Carty Generating 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.

## **Utility 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 the 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 the Carty facility.~~

### **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 the Carty Solar Farm. The Carty Solar Farm would contain ~~s~~ 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.

## 4.0 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)]

i.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 facility components authorized by the Final Order on Request for Amendment 2 within three years after the effective date of the amended site certificate, or [TBD]. 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 facility components authorized by the Final Order on Request for Amendment 2 within six years of the effective date of the amended site certificate, or [TBD]. 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-~~027025-00200006~~(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]

## 5.0 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~~ Unit 1, 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 of Unit 1 and Carty Solar Farm, 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.

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]

- 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 and obtain Department approval of the investigation report per Condition 5.4.i.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] [\[AMD2\]](#)

- 5.5 Prior to beginning construction of Unit 1, facility components approved in Final Order on RFA1, or facility components approved in Final Order on RFA2, 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 as Attachment D of the Final Order on Amendment 12, for approval prior to the start of construction. 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 Weed Control Ordinances, as determined

by the Morrow County Weed Control Supervisor and the Gilliam County Weed Control Officer.

[Final Order IV.D.2.6] [AMD1] [AMD2]

- 5.5. Before beginning construction of Unit 1, 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]
- 5.6. 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)]
- 5.7. 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).

## **6.0 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)] [A](#) [\[AMD2\]](#)

- 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~~must design, engineer and construct the facility to avoid dangers to human safety and the environment presented by seismic hazards affecting the site that are expected to result from all maximum probable seismic events.— As used in this rule - “Seismic-seismic hazard” includes ground shaking, ground failure, landslide, liquefaction, triggering and consequences (including flow failure, settlement buoyancy, and lateral spreading), cyclic softening of clays and silts, fault rupture, directivity effects and soil-structure interaction. For coastal sites, this also includes tsunami ~~inundation hazards, and seismically-induced coastal fault displacement and~~ subsidence. [Final Order IV.C.2.5] [Mandatory Condition OAR 345-~~027025-00200006~~(12)] [~~AMD1~~]AMD2]
- 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 and implement corrective or mitigation actions. [Final Order IV.C.2.2] [Mandatory Condition OAR 345-~~027025-00200006~~(13)] [~~AMD1~~]AMD2]
- 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. After the Department receives notice, the Council may require the certificate holder to consult with the Department of Geology and Mineral Industries and the Building Codes Division to propose and implement corrective or mitigation actions.



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 the 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.

- 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 watershed.

[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 Second Amended Site Certificate for 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]

## 7.0 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) For any transmission lines constructed after June 29, 2012; Providing 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 or substations with appropriate fencing and locked gates.
- [Final Order V.D.2.2] [\[AMD2\]](#)
- 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)]

## **8.0 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~~ Unit 1, facility components approved in Final Order on RFA1 or facility components approved in Final Order on RFA2, 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]

## 9.0 PROTECTION OF SOIL

- 9.1 The certificate holder must conduct all construction work of Unit 1 and Carty Solar Farm 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 During construction ~~of the facility~~ Unit 1 and Carty Solar Farm, 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 reseeding 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 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] [AMD2]
- 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]

## **10.0 PROTECTION OF NATURAL RESOURCES**

- 10.1. Prior to construction, the certificate holder shall:
- 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 ~~12~~. 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.

[AMD1] [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, ~~and facility components approved in the Final Order on RFA2~~, 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] ~~[AMD2]~~

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] [AMD2]

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 Boeing 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] [AMD2]

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 or county 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~~The certificate holder shall demonstrate that the Oregon Department of Environmental Quality has issued to the certificate holder:

- i. ~~Prior to operation of Unit 1, a~~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. ~~Prior to operation of the Carty Solar Farm, Addendum 1 of the~~A modified Water Pollution Control Facilities Permit 100189 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]
- iii. ~~Prior to operation of facility components authorized by the Final Order on Request for Amendment 2, Addendum 2 of the modified Water Pollution Control Facilities Permit 100189, substantially in the form of Attachment E of the Final Order on Request for Amendment 2.~~[AMD2]

10.29. a. 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.

b. The certificate holder shall obtain and comply with a Umatilla County Public Health construction permit for the North Lagoon (unlined) septic system.

[Final Order V.E.2.2] [AMD2]

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]

10.40. The certificate holder shall maintain the reservoir at an elevation no lower than an annual average of 665 feet mean sea level (MSL). The certificate holder may operate the reservoir at a lower elevation without a site certificate amendment if the certificate holder consults with the Department and ODFW to determine that the lower elevation would not result in a net loss of habitat and, therefore, does not warrant further analysis and potential mitigation through a site certificate amendment process. The certificate holder shall submit an Amendment Determination Request supporting a conclusion that a site certificate amendment is not required and receive concurrence with the conclusions of the ADR prior to operating the reservoir at a lower elevation.

[AMD2]

## 11.0 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~~Final Order on the ASC or that have been subsequently surveyed. [Final Order IV.K.2.2] [AMD1]
- 11.3. The certificate holder shall:
- a. 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.
  - b. Prior to construction of facility components approved in the Final Order on RFA2, use qualified personnel to conduct field investigation of all areas to not previously disturbed or minimally disturbed. The certificate holder shall provide a written report of the field investigation to the Department and to the Oregon State Historic Preservation Office (SHPO), and shall consult with the CTUIR on whether any areas would require a cultural monitor during construction. 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; AMD2]

- 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]

## **12.0 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~~Unit 1, 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~~Unit 1, 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~~Unit 1, 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]

### **13.0 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]

#### **14.0 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]

## **15.0 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 (ab) of this condition.—The initial bond or letter of credit amount for the Carty Solar Farm and its supporting facilities is \$2.7~~13~~ 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 (ab) of this condition. The initial bond or letter of credit amount for the related or supporting facilities approved in Final Order on RFA2 is \$13.779 million (in 4<sup>th</sup> Quarter 2020 dollars) to be adjusted to the date of issuance and submitted within 60 days of execution of the Second Amended Site Certificate, and adjusted on an annual basis thereafter, as described in sub-paragraph (b) 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 by applying the unit costs and general costs presented in Site Restoration Cost Estimate of the Final Order on ASC for Unit 1; Table 4 of the Final Order on RFA1 for Carty Solar Farm; and Table 2 of the Final Order on RFA2 for the approved related or supporting facilities.—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) and related or supporting facilities approved in Final Order on RFA2 (expressed in 4<sup>th</sup> Quarter 2020 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, and RFA2 facility components 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.

[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: \_\_\_\_\_

~~Barry Beyeler~~Hanley Jenkins III, Chair  
Oregon Energy Facility Siting Council

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

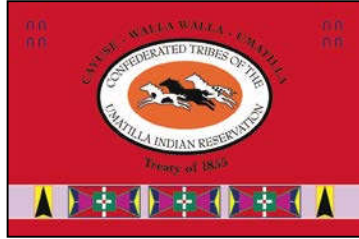
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Date: \_\_\_\_\_

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**Attachment B: Reviewing Agency Comments and Documents Referenced in Order**



**Confederated Tribes *of the*  
Umatilla Indian Reservation**  
**Department of Natural Resources**

46411 Timine Way, Pendleton, Oregon 97801

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## MEMORANDUM

To: Chase McVeigh-Walker, Senior Siting Analyst  
Oregon Department of Energy  
Sent via email to: chase.mcveigh-walker@oregon.gov

From: Teara Farrow Ferman, Cultural Resources Protection Program Manager *Teara Farrow Ferman*  
Confederated Tribes of the Umatilla Indian Reservation  
46411 Timine Way, Pendleton, OR 97801  
TearaFarrowFerman@ctuir.org  
541-276-3447

Date: April 9, 2020

RE: Confederated Tribes of the Umatilla Indian Reservation's Comments on the preliminary Request for Amendment 2 (pRFA2) for the Carty Generating Station in Morrow County

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### General Comments:

Thank you for contacting the Confederated Tribes of the Umatilla Indian Reservation (CTUIR) regarding the Carty Generating Station's pRFA2. The CTUIR offers the following concerns with the project.

### Specific Comments:

This project is located within the CTUIR's ceded lands and traditional use area in which the CTUIR retains reserved treaty rights as well as cultural resources protected under federal and state laws.

It is the understanding of the CTUIR that the coal fired power plant is outside the current boundary of the Carty Generating Station site certificate but Amendment 2 would bring it into the Carty certificate boundaries. If bringing the coal fired power plant into the Carty certificate boundary would allow PGE to generate power, even less than 25MW, at the existing coal fired power plant with some other fuel source and without additional amendments, the CTUIR believes further analysis should be conducted regarding potential emissions and impacts. If, however there is no regulatory limitation on the generation of less than 25MW by the existing coal fired power plant, then this concern is not present regarding emissions.

### Cultural Resources:

Past archaeological surveys have documented two pre-contact sites in the area, 35MW15 and 35MW19, and one pre-contact isolated find. This along with CTUIR oral histories informs us about past use by our tribal people in the Carty Generating Station area. It is recommended by

the CTUIR that ground disturbing portions of the work proposed under this Request for Amendment 2 be monitored for archaeological resources due to the possibility that buried archaeological resources could be encountered. Specifically the area described as new construction of infrastructure including the new sewer line, a new backup water pipeline, new potable water line, and a new office and warehouse space.

The proposed amendment would also increase the facility site boundary from 1,581 acres to 4,611 acres as the CRPP understands this would be to incorporate existing areas of the Boardman Coal Facility within the existing site boundary of the Carty Generating Station only and would not require any additional archaeological work at this time.

## MCVEIGH-WALKER Chase \* ODOE

---

**From:** WANG Yumei \* DGMI  
**Sent:** Wednesday, April 15, 2020 12:51 PM  
**To:** MCVEIGH-WALKER Chase \* ODOE  
**Cc:** WANG Yumei \* DGMI  
**Subject:** yumei pFRA2 comments RE: Carty Generating Station Revised AMD1 Exhibit H Review

That's great. Glad that you found that I reviewed the 2018 exhibit H in 2018. As such, no need to review it again.

Based on my 2018 review comments (in the email to Sarah) and our recent conversations, my comments for pFRA2 are:

1. the Applicant needs to use the latest building codes
2. the Applicant needs to conduct site specific Geotech work that involves borings

(they have stated that they plan to do both so, from my understanding, it's really just you re-stating these as conditions)

Good luck!

---

**From:** MCVEIGH-WALKER Chase \* ODOE <Chase.McVeigh-Walker@oregon.gov>  
**Sent:** Wednesday, April 15, 2020 11:48 AM  
**To:** WANG Yumei \* DGMI <Yumei.WANG@oregon.gov>  
**Subject:** Carty Generating Station Revised AMD1 Exhibit H Review

Yumei,

I looked back through our records and found the attached email, which includes correspondence between you and Sarah regarding review of Exhibit H from 2018.

I do very much appreciate your review, and look forward to your comments on Amendment #2.

Regards,

-Chase



**Chase McVeigh-Walker**  
Senior Siting Analyst  
550 Capitol St. NE | Salem, OR 97301  
P: 503-934-1582  
P (In Oregon): 800-221-8035



Stay connected!

## MCVEIGH-WALKER Chase \* ODOE

---

**From:** THOMPSON Seth <Seth.THOMPSON@aviation.state.or.us>  
**Sent:** Wednesday, March 25, 2020 2:54 PM  
**To:** MCVEIGH-WALKER Chase \* ODOE  
**Subject:** RE: Carty Generating Station preliminary Request for Amendment Notice  
**Attachments:** FAA\_Form\_7460-1.pdf

Good afternoon,

Thank you for providing the opportunity for the Oregon Department of Aviation (ODA) to comment on the Request for Amendment (pRFA) for the Carty Generating station and an Amendment Determination Request (ADR).

This project may require airspace review by the FAA and ODA subject to the standards in Code of Federal Regulations: Title 14. Aeronautics and Space: PART 77—Safe, Efficient Use, and Preservation of the Navigable Space.

All project elements are subject to compliance with FAA Part 77.9 Construction or alteration requiring notice (a-d), FAA Part 77.17 Obstruction standards (a-b) and Obstruction Standards of OAR 738-70-0100 if they exceed 200 feet in height or are:

within 20,000 ft of a public use or military airport which exceeds a 100:1 surface from any point on the runway of each airport with at least one runway more than 3,200 ft.

- within 10,000 ft of a public use or military airport which exceeds a 50:1 surface from any point on the runway of each airport with its longest runway no more than 3,200 ft.
- 
- within 5,000 ft of a public use heliport which exceeds a 25:1 surface

To make this determination, all project elements more than 200 feet in height or within the distances provided above must undergo airspace analysis through submittal of a completed FAA Form 7460-1, attached for reference.

Please let me know if you have any questions or need assistance.

Thank you,

**Seth Thompson**  
OREGON DEPARTMENT OF AVIATION  
AVIATION PLANNER



**OFFICE** 503-378-2529 **CELL** 503-507-6965

**EMAIL** [seth.thompson@aviation.state.or.us](mailto:seth.thompson@aviation.state.or.us)

**3040 25<sup>TH</sup> STREET SE, SALEM, OR 97302**

**[WWW.OREGON.GOV/AVIATION](http://WWW.OREGON.GOV/AVIATION)**

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**From:** MCVEIGH-WALKER Chase \* ODOE <[Chase.McVeigh-Walker@oregon.gov](mailto:Chase.McVeigh-Walker@oregon.gov)>

**Sent:** Friday, March 13, 2020 3:20 PM

**To:** BLEAKNEY Leann <[bleakney@nwcouncil.org](mailto:bleakney@nwcouncil.org)>; SHEERAN Kristen \* GOV <[Kristen.SHEERAN@oregon.gov](mailto:Kristen.SHEERAN@oregon.gov)>; MINER Jason \* GOV <[jason.MINER@oregon.gov](mailto:jason.MINER@oregon.gov)>; CANE Jason <[jason.cane@state.or.us](mailto:jason.cane@state.or.us)>; MILLS David <[david.mills@state.or.us](mailto:david.mills@state.or.us)>; JOHNSON Jim \* ODA <[jjohnson@oda.state.or.us](mailto:jjohnson@oda.state.or.us)>; BAILEY Mark <[Mark.Bailey@state.or.us](mailto:Mark.Bailey@state.or.us)>; Hesse.todd@deq.state.or.us; Brownj@science.oregonstate.edu; LAWYER Matthew A <[Matthew.A.LAWYER@aviation.state.or.us](mailto:Matthew.A.LAWYER@aviation.state.or.us)>; jeff.caines@aviation.state.or.us; PECK Heather <[heather.peck@aviation.state.or.us](mailto:heather.peck@aviation.state.or.us)>; svelund.greg@deq.state.or.us; HAYES-GORMAN Linda <[Linda.HAYES-GORMAN@state.or.us](mailto:Linda.HAYES-GORMAN@state.or.us)>; WANG Yumei \* DGMI <[Yumei.WANG@oregon.gov](mailto:Yumei.WANG@oregon.gov)>; HALLYBURTON Rob <IMCEAEX-



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**Subject:** Carty Generating Station preliminary Request for Amendment Notice

Good afternoon,

The Oregon Department of Energy (ODOE) received a preliminary Request for Amendment (pRFA) for the Carty Generating station and an Amendment Determination Request (ADR) requesting the proposed amendment be processed under the "Type B" review process and on February 28, 2020. This notice is intended to make you aware of the request, but we are not specifically asking for your review at this time. ODOE is currently reviewing the pRFA for completeness and may reach out to specific agencies to assist us. While we are not requesting your review at this time, you are welcome to review the pRFA, provide us comments and that time is reimbursable if you have a cost reimbursement agreement with us.

The preliminary Request for Amendment seeks to incorporate of shared infrastructure and existing facilities (shared by the Boardman Coal Plant and Carty Generating Station) into the Carty Generating Station site certificate; modify the Site Boundary of the Carty Generating Station; and construction new infrastructure including but not limited to a new sewer line, a new backup water pipeline, new potable water line, and a new office and warehouse space. The proposed amendment would increase the facility site boundary from 1,581 acres to 4,611 acres (an increase of approximately 3,030 acres) by almost entirely incorporating existing areas within the existing site boundary of the boundary from the Boardman Coal Facility only. The amendment is related to the pending shutdown of the Boardman Coal Facility, which is scheduled to occur by end of 2020. The Boardman Coal facility and the Carty Generating Station are located adjacent to each other.

An electronic copy of both the ADR and pRFA are available to download and view from the Department website at:

<https://www.oregon.gov/energy/facilities-safety/facilities/Pages/CGS.aspx>

Thank you, and please do not hesitate to contact me with any questions.

-Chase



**Chase McVeigh-Walker**

Senior Siting Analyst

550 Capitol St. NE | Salem, OR 97301

P: 503-934-1582

P (In Oregon): 800-221-8035



Stay connected!

## MCVEIGH-WALKER Chase \* ODOE

---

**From:** MOORE Fredrick <Fredrick.MOORE@state.or.us>  
**Sent:** Monday, April 13, 2020 9:33 AM  
**To:** MCVEIGH-WALKER Chase \* ODOE  
**Cc:** GUBALA Chad; NIGG Eric; STERGER Justin  
**Subject:** Work at Carty Reservoir

Hi Chase, I work along with Justin in the Bend office. As the Eastern Region 1200-C stormwater permit writer, the work described to me seems to me to warrant the need for a 1200-C stormwater construction permit. Carty Reservoir is a water of the state. Cheers, Fredrick

Fredrick Moore  
DEQ Eastern Region  
475 NE Bellevue Dr. Suite 110  
Bend, OR 97701

541.633.2011  
[moore.fredrick@deq.state.or.us](mailto:moore.fredrick@deq.state.or.us)



# MEMORANDUM

Department of Fish and Wildlife  
Wildlife Division  
Intra Departmental

**Date:** April 10, 2020  
**To:** Chase McVeigh -Walker - Oregon Department of Energy  
**From:** Steve Cherry –District Biologist, Sarah Reif – Energy Coordinator  
**Subject:** ODFW Comments on the preliminary Request for Amendment #2 on the Carty Generating Station

---

Oregon Department of Energy (ODOE) has requested comments from the Oregon Department of Fish and Wildlife (ODFW) on the preliminary Request for Amendment #2 for the Carty Generating Station. This Memo contains: (1) ODFW contact information for the project; and (2) ODFW's comments on the Application.

## **Contacts**

Steve Cherry will be the main contact person for ODFW for the Energy Facility Siting Council (EFSC) permitting process and his contact information is: Steve Cherry, District Biologist, PO Box 363, Heppner, OR 97836. His phone number is (541) 676-5230. He will also be coordinating with Sarah Reif, Energy Coordinator, 4034 Fairview Industrial Drive SE, Salem, OR 97302. ODFW requests hard copies of project documents be sent to Steve Cherry; please send digital copies of project documents to Sarah Reif at [sarah.j.reif@state.or.us](mailto:sarah.j.reif@state.or.us).

## **General Comments**

ODFW reviews and makes recommendations for the proposed project based on the following applicable Oregon Revised Statutes (ORS), Oregon Administrative Rules (OAR), and associated plans.

### **Applicable Statutes, Rules, and Plans**

- Energy Facility Siting Council Siting Standards – Fish and Wildlife Habitat (OAR 345-022-0060)  
This standard requires that the design, construction, and operation of a proposed facility (including mitigation) be consistent with the habitat mitigation goals and standards in OAR chapter 635, division 415. Oregon's Energy Facility Siting Council (EFSC) must determine

whether the applicant has done appropriate site-specific studies to characterize the fish and wildlife habitat at the site and nearby. If impacts cannot be avoided, the applicant must provide a habitat mitigation plan. The plan must provide for appropriate mitigation measures, depending on the habitat categories affected by the proposed facility. The plan may require setting aside and improving other land for fish and wildlife habitat to make up for the habitat removed by the facility.

- Energy Facility Siting Council Siting Standards – Threatened and Endangered Species (OAR 345-022-0070)

To issue a site certificate, EFSC must (after consultation with ODFW) determine that 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 a species listed under the Oregon Endangered Species Act. This standard seeks to avoid harmful impacts to plant and animal species identified as threatened or endangered under state law. In practice, this means that the applicant must provide appropriate studies of the site to identify threatened or endangered species that the proposed facility could affect. ODFW determines the state-listed threatened or endangered wildlife species. If a potential risk to the survival or recovery of a threatened or endangered species exists, the applicant must redesign or relocate the facility to avoid that risk or propose appropriate mitigation measures.

- Wildlife Policy (ORS 496.012)

Establishes wildlife management policy to prevent serious depletion of any indigenous species and maintain all species of fish and wildlife at optimum levels for future generations.

- State Endangered Species Act (ORS 496.171-182)

Requires conservation and recovery of wildlife species that are classified as endangered or threatened. Authorizes ODFW to develop conservation and recovery plans for listed wildlife species. At ORS 498.026(1), prohibits “taking” of any listed species. Illegal take is a violation of the wildlife laws, subject to criminal prosecution as a Class A misdemeanor or violation pursuant to ORS 496.992.

- Prohibition of harassment, etc. of wildlife (ORS 498.006)

Prohibits chasing, harassment, molestation, worrying or disturbing any wildlife, except as the Fish and Wildlife Commission may allow by rule.

- Criminal penalties for wildlife violations (ORS 496.992)

Makes violation of any wildlife statute or Fish and Wildlife Commission rule subject to prosecution as a Class A misdemeanor or violation.

- Fish and Wildlife Habitat Mitigation Rule (OAR 635-415-0000-0025)

Governs ODFW’s provision of biological advice and recommendations concerning mitigation for losses of fish and wildlife habitat caused by development actions. Based on standards in the rule, ODFW determines the appropriate category to apply to land where a development action is proposed. If ODFW determines that such land is Category 1, ODFW must recommend that impacts to the habitat be avoided. If impacts cannot be avoided, ODFW must recommend against the development action. If ODFW determines that such

land is Category 2, ODFW must recommend that impacts to the habitat be avoided. If impacts cannot be avoided, ODFW must recommend a high level of mitigation (as specified in more detail in the rule). If such mitigation is not required, ODFW must recommend against the development action.

- Wildlife Diversity Plan (OAR 635-100-0001 through 0030)  
Establishes a plan to maintain Oregon's wildlife diversity by protecting and enhancing populations and habitats of native wildlife at self-sustaining levels throughout natural geographic ranges. Defines lists for state sensitive, threatened, and endangered species.
- Oregon Conservation Strategy Plan (Adopted by Commission)  
A blueprint for conservation of the state's native fish and wildlife and their habitats, the Strategy provides information on at-risk species and habitats, identifies key issues affecting them, and recommends actions. The Conservation Strategy emphasizes proactively conserving declining species and habitats to reduce the possibility of future federal or state listings.
- Oregon Plan for Salmon and Watersheds (ORS 541.405)  
Establishes plan to restore native fish populations and the aquatic systems that support them to productive and sustainable levels that will provide environmental, cultural, and economic benefits.
- ODFW's Fish Passage Law (ORS 509.580 - 509.645)  
Requires upstream and downstream passage at all artificial obstructions in those Oregon waters in which migratory native fish are currently or have historically been present.
- General Fish Management Goals (OAR 635-007-0510)  
Establishes the goals that fish be managed to take full advantage of the productive capacity of natural habitats, and that ODFW address losses in fish productivity due to habitat degradation through habitat restoration.
- Native Fish Conservation Policy (OAR 635-007-0502-0535)  
Protects and promotes natural production of indigenous fishes.
- Trout Management (OAR 635-500-0100-0120)  
Requires maintenance of genetic diversity and integrity of wild trout stocks, and the protection, restoration, and enhancement of trout habitat.
- Oregon's Mule Deer Management Plan (OAR 635-190-0000-0030)  
Establishes a plan to protect and enhance mule deer populations in Oregon to provide optimum balance among recreational uses, habitat availability, primary land uses, and other wildlife species.
- Oregon's Elk Management Plan (OAR 635-160-0000-0030)

Establishes a plan to protect and enhance elk populations in Oregon, to provide optimum recreational benefits to the public, and be compatible with habitat capability and primary land uses.

- Oregon's Wolf Conservation and Management Plan (OAR 635-110-0000-0040)  
Establishes measures ODFW will take to conserve and manage the species. This includes actions that could be taken to protect livestock from wolf depredation and address human safety concerns.
- Recommendations for Greater Sage-Grouse Habitat Classification Under Oregon Department of Fish and Wildlife's Fish and Wildlife Habitat Mitigation Policy (OAR 635-140-0000)  
This document provides policy direction, consistent recommendations, and supporting rationale to guide ODFW habitat mitigation recommendations associated with impacts to greater sage-grouse habitat from energy development, its associated infrastructure, or other industrial/commercial development.

### **Specific Comments**

#### Comment 1

The proposed amendment requests to transfer the authorization of Carty Reservoir, including the operation and maintenance, to the site certificate for the Carty Generating Station. ODFW does not have any concern with transferring the authorization and operation of Carty Reservoir to the Carty Generating Station. However, ODFW does want to ensure that the wildlife values that this body of water and the surrounding riparian vegetation provide are maintained into the future. Carty Reservoir serves as an important roosting area for wintering waterfowl in the Columbia Basin. ODFW no longer conducts a complete waterfowl survey on Carty Reservoir but the last survey conducted in 2014 counted a total of 43,363 waterfowl using the reservoir. In the late 1990's that number was closer 60,000 birds. In 2019 ODFW conducted a white goose survey on Carty Reservoir and counted 65,993 snow geese. That number does not include any of the other waterfowl using the reservoir. The riparian vegetation surrounding the reservoir also provides valuable wildlife habitat to nesting raptors including a nesting pair of bald eagles. The trees and vegetation also provide nesting structures to many other bird species as well. ODFW would recommend that the reservoir be operated in a similar manner under the Carty site certificate as it has been under the Boardman Coal plant site certificate. In attachment one of the request for amendment two it states that since 1990 the average elevation of the reservoir has been approximately 667 to 668 feet above MSL (mean sea level), is approximately 1,100 acres and contains approximately 26,000 acre feet of water. ODFW would recommend that as a condition of this proposed amendment that the Applicant maintain Carty Reservoir as it has since 1990. ODFW also recommends that if the Applicant desires to change the operation or size of Carty Reservoir that the certificate holder should work with ODOE and ODFW to mitigate for any loss in acres of wildlife habitat associated with the change in management.

ODFW appreciates the opportunity to comment on this preliminary application for amendment and look forward to working with the Applicant and ODOE on this project. Please feel free to contact me at any time if you have questions regarding ODFW's comments.





## PLANNING DEPARTMENT

PO Box 40 • 205 Third Street NE  
Irrigon, Oregon 97844  
(541) 922-4624

April 10, 2020

Chase McVeigh-Walker, Senior Siting Analyst  
Oregon Department of Energy  
550 Capitol Street NE, 1<sup>st</sup> Floor  
Salem, OR 97301

Dear Mr. McVeigh-Walker,

Morrow County appreciates the opportunity to comment on the Carty Generating Station's Request for Amendment 2 (RFA2). It is the understanding of Morrow County that Amendment 2 would incorporate existing infrastructure shared between the Carty Generating Station and Boardman Coal Plant into the Carty Generating Station's site certificate. Specifically, RFA2 would incorporate an existing 500kV Transmission Line, shared infrastructure, and existing facilities under the exiting Carty Generating Station Site Certificate. Additionally, RFA2 would allow for the construction of new infrastructure including, but not limited to, new sewer and water lines as well as new office and warehouse space. The proposed amendment will increase the facility site boundary by approximately 3,030 acres by almost entirely incorporating the existing site boundary of the Boardman Coal Facility.

As the components required for the project will need to utilize the Morrow County road network, I would defer to Matt Scrivner, Morrow County Public Works Director to assess the need for implementation of a Road Use Agreement before the start of any construction or demolition.

Any structures larger than 100/ft<sup>2</sup> would require local land use approval. This approval would be required prior to construction and/or placement. Any structure, regardless of size, will need to meet setback standards as set forth in the Morrow County Zoning Ordinance.

As always, the opportunity to comment is very much appreciated. It has been a pleasure working with you and other Department staff to date, and I anticipate that will continue. Should you have any questions about this comment letter, or need additional information, please do not hesitate to contact me or our office.

Regards,

A handwritten signature in blue ink, appearing to read "Stephen Wrecsics", written over a blue circular stamp or seal.

Stephen Wrecsics  
GIS Planning Technician

Cc: Stephanie Case, Interim Morrow County Planning Director  
Matt Scrivner and Sandra Pointer, Morrow County Public Works

Page 1 of 1



**Attachment B: Documents Referenced in Order**

**From:** [MCVEIGH-WALKER Chase \\* ODOE](#)  
**Sent:** Tuesday, September 29, 2020 11:22 AM  
**To:** [Arya Behbehani](#); [Lenna Cope](#)  
**Cc:** [CORNETT Todd \\* ODOE](#)  
**Subject:** Carty Generating Station RFA2, analysis area

---

Ms. Behbehani,

As follow up to discussions with Ms. Lenna Cope in June 2020, and again yesterday (9/28/20), this email memorializes that:

- The current project order requires an analysis around the entire site boundary, which does not include either of the transmission lines or Carty reservoir; however
- The Department approves, consistent with OAR 345-027-0360(3), that the analysis areas for the proposed request for amendment shall utilize the study areas as defined in OAR 345-001-0000(59), and be based on the sites of potential project impact, as opposed to the entire amended Carty Generating facility site boundary. Currently, the Department understands that proposed project impacts, with the exception of the Carty Substation, would occur entirely within the portion of the current Site Boundary located in Morrow County.

Regards,  
-Chase



**Chase McVeigh-Walker**  
Senior Siting Analyst  
550 Capitol St. NE | Salem, OR 97301  
P: 503-934-1582  
P (In Oregon): 800-221-8035



Stay connected!

**From:** [Steve Cherry](#)

**Sent:** Monday, August 31, 2020 9:49 AM

**To:** [Lenna Cope](#); [CHERRY Steve P](#); [REIF Sarah J](#); [MCVEIGH-WALKER Chase](#) \* [ODOE](#); [WOODS Maxwell](#) \* [ODOE](#)

**Cc:** [Andrew Bidwell](#); [Kling, Louise](#); [Newell, Emily](#)

**Subject:**

RE: Carty Reservoir Operational Levels

---

Lena thanks for the update. The language in condition 10.40 is acceptable to ODFW. I appreciate you working with us on this issue. Please let me know if you need anything further from me.  
Thanks

Steve

---

**From:** Lenna Cope <[Lenna.Cope@pgn.com](mailto:Lenna.Cope@pgn.com)>

**Sent:** Friday, August 28, 2020 10:49 AM

**To:** Steve Cherry ([steve.p.cherry@state.or.us](mailto:steve.p.cherry@state.or.us)) <[steve.p.cherry@state.or.us](mailto:steve.p.cherry@state.or.us)>; Sarah J Reif <[Sarah.J.Reif@state.or.us](mailto:Sarah.J.Reif@state.or.us)>; MCVEIGH-WALKER Chase \* ODOE <[Chase.McVeigh-Walker@oregon.gov](mailto:Chase.McVeigh-Walker@oregon.gov)>; WOODS Maxwell \* ODOE <[Maxwell.Woods@oregon.gov](mailto:Maxwell.Woods@oregon.gov)>

**Cc:** Andrew Bidwell <[Andrew.Bidwell@pgn.com](mailto:Andrew.Bidwell@pgn.com)>; Kling, Louise <[louise.kling@aecom.com](mailto:louise.kling@aecom.com)>; Newell, Emily <[emily.newell@aecom.com](mailto:emily.newell@aecom.com)>

**Subject:** FW: Carty Reservoir Operational Levels

Steve -

I am reaching out to notify you that PGE has submitted our revised RFA2 to ODOE. The revised RFA2 addresses ODFW's comment on the reservoir elevation, and a new site certificate condition committing PGE to operating the reservoir at an elevation no lower than 665 MSL. The specific language in the RFA2 and the Site certificate Condition is provided below. I would like to draw your attention to this language as it is a little different than what we discussed in that:

- We modeled condition language to more closely match the terminology in the habitat mitigation rule.
- We specified operating the reservoir at an elevation of 665 feet, rather than 665.5 feet because including half-foot increments seemed overly specific when talking about annual average elevations.

Please also note that the statements we make about the potential to lower the elevation of the reservoir in the future does not change our agreement to operate at a minimum 665 foot elevation until we go through the steps (in coordination with ODFW) to determine any potential impacts of operating at a lower elevation.

Please engage with Chase and PGE if you have any concerns with the proposed language of the condition.

Thank you,  
Lenna

.....

Condition 10.40

The certificate holder shall maintain the reservoir at an elevation no lower than an annual average of 665 feet mean sea level (MSL). The certificate holder may operate the reservoir at a lower elevation without a site certificate amendment if the certificate holder consults with the Department and ODFW to determine that

the lower elevation would not result in a net loss of habitat and, therefore, does not warrant further analysis and potential mitigation through a site certificate amendment process. The certificate holder shall submit an Amendment Determination Request supporting a conclusion that a site certificate amendment is not required and receive concurrence with the conclusions of the ADR prior to operating the reservoir at a lower elevation. [AMD2]

Language in RFA:

ODFW provided comments to ODOE on the preliminary RFA2 recommending that as a condition of the proposed amendment that the "Applicant maintain Carty Reservoir as it has since 1990." ODFW also recommended that if the Applicant desired to "change the operation or size of Carty Reservoir, that the certificate holder should work with ODOE and ODFW to mitigate for any loss in acres of wildlife habitat associated with the change in management." In assuming operation of Carty Reservoir, PGE agrees to maintain the reservoir at a minimum annual average of a 665-foot elevation level (See Figure 3 and Site Certificate Condition 10.40, as modified in this RFA2). Incorporating Carty Reservoir into the Site Certificate for CGS would alter the operations of CGS in a manner different from the description in the current site certificate and could, as defined in OAR 345-027-0350(4)(c), require a new condition or a change to a condition in the site certificate.

Note that Carty Reservoir is a wastewater facility constructed for the BCP. The elevation of the reservoir has been maintained at a consistent elevation of about 667 to 668 feet mean sea level due to operational needs of the BCP. With BCP ceasing operations, CGS does not have the same need to maintain the reservoir elevation at that level. To reduce operation and maintenance cost associated with CGS and minimize impact to rate payers, PGE will be evaluating ways to lower the level of the pumps or other modifications to Carty Reservoir to operate the reservoir at lower water levels. Per the modified Condition 10.40, PGE will consult with ODOE and ODFW to determine if an amendment would be required depending on the desired reduction in water levels. Future discussions will need to address the implications of requirements to maintain related or supporting facilities that would otherwise be required to be decommissioned when CGS is decommissioned.

---

**From:** Steve Cherry <[Steve.P.Cherry@state.or.us](mailto:Steve.P.Cherry@state.or.us)>

**Sent:** Wednesday, June 17, 2020 10:22 AM

**To:** Lenna Cope <[Lenna.Cope@pgn.com](mailto:Lenna.Cope@pgn.com)>; Sarah J Reif <[Sarah.J.Reif@state.or.us](mailto:Sarah.J.Reif@state.or.us)>; Steve Cherry ([steve.p.cherry@state.or.us](mailto:steve.p.cherry@state.or.us)) <[steve.p.cherry@state.or.us](mailto:steve.p.cherry@state.or.us)>; MCVEIGH-WALKER Chase \* ODOE <[Chase.McVeigh-Walker@oregon.gov](mailto:Chase.McVeigh-Walker@oregon.gov)>; WOODS Maxwell \* ODOE <[Maxwell.Woods@oregon.gov](mailto:Maxwell.Woods@oregon.gov)>

**Cc:** Andrew Bidwell <[Andrew.Bidwell@pgn.com](mailto:Andrew.Bidwell@pgn.com)>; Kling, Louise <[louise.kling@aecom.com](mailto:louise.kling@aecom.com)>;

Newell, Emily <[emily.newell@aecom.com](mailto:emily.newell@aecom.com)>

**Subject:** RE: Carty Reservoir Operational Levels

**\*\*\*Please take care when opening links, attachments or responding to this email as it originated outside of PGE.\*\*\***

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Lena,

I appreciate the map it helps show the potential impacts with different water levels. However, this proposed condition is different from what we talked about on the phone. If I remember correctly we discussed that the water level would be maintained at a minimum of 665.5 since that was the

level of the pump intake. If there were going to be any changes to the water level below that then it would trigger consultation between ODFW, ODOE and PGE. The proposal you have here is to keep the water level above 660. While that doesn't make a lot of change in most of the reservoir in certain shallow areas that reduces the surface water area quite a bit. I would recommend that we change the condition language to 665.5 feet and if PGE decides they want to extend the water intake to lower the level below that then it would require consultation between everyone to discuss impacts and any potential mitigation that might be appropriate. Thanks

Steve

---

**From:** Lenna Cope <[Lenna.Cope@pgn.com](mailto:Lenna.Cope@pgn.com)>  
**Sent:** Monday, June 15, 2020 11:51 AM  
**To:** Sarah J Reif <[Sarah.J.Reif@state.or.us](mailto:Sarah.J.Reif@state.or.us)>; Steve Cherry ([steve.p.cherry@state.or.us](mailto:steve.p.cherry@state.or.us)) <[steve.p.cherry@state.or.us](mailto:steve.p.cherry@state.or.us)>; MCVEIGH-WALKER Chase \* ODOE <[Chase.McVeigh-Walker@oregon.gov](mailto:Chase.McVeigh-Walker@oregon.gov)>; WOODS Maxwell \* ODOE <[Maxwell.Woods@oregon.gov](mailto:Maxwell.Woods@oregon.gov)>  
**Cc:** Andrew Bidwell <[Andrew.Bidwell@pgn.com](mailto:Andrew.Bidwell@pgn.com)>; Kling, Louise <[louise.kling@aecom.com](mailto:louise.kling@aecom.com)>; Newell, Emily <[emily.newell@aecom.com](mailto:emily.newell@aecom.com)>  
**Subject:** Carty Reservoir Operational Levels

Sarah, Steve, Chase, and Max:

In response to the comments ODFW provided and as a follow-up to the discussion between ODOE and ODFW on May 14<sup>th</sup> PGE is providing the following information and proposed site certificate condition language. Please review the information and let us know if you have any suggested edits to the condition language. Once we have agreement on the condition language PGE will incorporate the additional information into the pRFA2 and redline the site certificate accordingly for resubmittal to ODOE.

In the comment letter ODFW recommended "as a condition of this proposed amendment that the Applicant maintain Carty Reservoir as it has since 1990. ODFW also recommends that if the Applicant desires to change the operation or size of Carty Reservoir that the certificate holder should work with ODOE and ODFW to mitigate for any loss in acres of wildlife habitat associated with the change in management". ODFW references information in RFA2 regarding the Reservoir, which is being added as a related or supporting facility, that states since 1990 the average elevation of the reservoir has been approximately 667 to 668 feet above mean sea level (MSL), is approximately 1,100 acres and contains approximately 26,000-acre feet of water.

During the May 14<sup>th</sup> meeting PGE discussed that PGE currently requires a minimum reservoir depth of 665.5 feet MSL to operate Carty Generating Station because below that level we would lose pump suction. Therefore, the minimum water elevation PGE would be able to allow in the reservoir is 665.5 feet. Since the call on May 14<sup>th</sup> PGE has prepared an additional figure that shows the potential changes to the reservoir shoreline that could result from decreasing reservoir elevations down to 660 feet (see attached figure). For a scenario considering the maximum decrease in reservoir elevation (660 feet), there would be a negligible impact to waterfowl habitat as changes in the surface area would be distributed across a narrow band associated with the reservoir perimeter. It is further expected that riparian habitat would shift concurrently with any sustained change in water elevation, thereby resulting in no net loss of riparian habitat. Should decrease in water level caused stress or mortality to trees in the outer riparian area, dead or dying trees would contribute additional habitat value for foraging birds and nesting raptors.

PGE has no plans at this time to modify the pump placement; however, there is potential that PGE could make minor modifications to the existing pumps (extending the pump shafts within the existing pump pits) to allow for operation at lower reservoir levels. An elevation of 660 feet would

meet the intent of protecting habitat for waterfowl and vegetation along the reservoir shoreline; while giving PGE flexibility to make these minor modifications to equipment that would not otherwise trigger an amendment requirement.

**Draft Condition:**

*The certificate holder shall maintain the reservoir at an elevation no lower than an annual average of 660 feet mean sea level (MSL). The certificate holder may operate the reservoir at a lower elevation without a site certificate amendment if the certificate holder consults with the Department and ODFW to identify if the lower elevation would impact wildlife use of the reservoir and surrounding riparian vegetation. The certificate holder shall submit an Amendment Determination Request supporting a conclusion that a site certificate amendment is not required and receive concurrence with the conclusions of the ADR prior to operating the reservoir at a lower elevation.*



**Lenna Cope**

Environmental Compliance and Permitting  
Senior Environmental Specialist  
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# Oregon

Kate Brown, Governor



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March 20, 2020

Arya Behbehani  
Carty Generating Station  
Portland General Electric Company  
121 SW Salmon Street, 3WTC0403  
Portland, OR 97204

*Sent via email: Arya Behbehani; Lenna Cope; Chris Bozzini*

RE: Review of the preliminary Request for Amendment #2 of the Carty Generating Station Site Certificate

Dear Ms. Behbehani,

On February 28, 2020, the Oregon Department of Energy (Department or ODOE) received the Amendment Determination Request and the preliminary Request for Amendment (pRFA) #2 to the Carty Generating Station Site Certificate from Portland General Electric Company (Certificate Holder). In accordance with Oregon Administrative Rule (OAR) 345-027-0363(2), this letter serves to notify you that the Department has determined that the pRFA is incomplete and additional information is necessary in order for the Department to complete its evaluation of the pRFA and prepare the draft proposed order. Please see the Request for Additional Information (RAI) Table, that supplements this letter, for the Department's requests for additional information (RAI).

OAR 345-027-0363(4) requires the Department to notify the certificate holder (within 60 days after receiving a pRFA for Amendments under Type A review, and within 21 days for amendments under Type B review), whether the request for amendment is complete. However, the Department may submit follow-up requests for additional information, and specify dates by which the certificate holder must submit the information. If the certificate holder does not submit the information by the deadline specified by the Department, including any allowed extension, the Council may reject the preliminary request for amendment. The rejection of a preliminary request for amendment is subject to appeal under ORS 469.403(3).

Responses to the RAIs identified and included with this Determination Letter, should be submitted as red-line edits to the pRFA. Transmittal of the revised pRFA may occur in electronic format for the Department's review of responses to the RAIs. Please submit responses by **April 3, 2020** (14 days from date of this letter). If additional time is necessary to respond to the RAIs, please contact the Department. Once responses to the RAI's are provided to the Department, staff will review the additional information and within a week make a determination of completeness. Additionally, the Department is currently reviewing the Type B review request, and is planning to issue its determination soon.

If you have any questions, please do not hesitate to call or email.

Chase McVeigh-Walker, Senior Siting Analyst  
Oregon Department of Energy  
E: [chase.mcveigh-walker@oregon.gov](mailto:chase.mcveigh-walker@oregon.gov)  
P: (503) 934-1582

**CC via e-mail distribution:**

Todd Cornett, Oregon Department of Energy  
Maxwell Woods, Oregon Department of Energy  
Patrick Rowe, Oregon Department of Justice

**Carty Generating Station Preliminary Request for Amendment (pRFA) – Request for Additional Information (RAI) #1**

## General Comment(s):

1. Please either provide the revised WPCF (indicated in the pRFA to be included as Attachment 2), or an update for when the Department should expect to receive the revised WPCF.
2. Please either provide the Final decommissioning costs associated with RFA2 (identified in the pRFA to be included as Attachment 4), or an update for when the Department should expect to receive the final decommissioning costs.

| Description of Proposed Change |                                                                                                                                                                                                     |                |                              |                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                |                    |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| Related Rule (OAR)             | OAR Text                                                                                                                                                                                            | Request Number | pASC Page(s)/Exhibit Section | RAI                                                                                                                                              | Comments                                                                                                                                                                                                                                                                                                                                                       | Applicant Response |
| 345-027-0360(1)(b)(C)          | <i>A detailed description of the proposed change, including... The specific location of the proposed change, and any updated maps and/or geospatial data layers relevant to the proposed change</i> | RAI-1          | ADR Section 4.2.2, pg. 10    | <i>Please clarify who made this determination, and their qualifications, as they relate to fish and wildlife use.</i>                            | Section 4.2.2 of the ADR states that “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.”                                                                                                |                    |
|                                |                                                                                                                                                                                                     | RAI-2          | pRFA Section 5.1.1, pg. 10   | <i>Please confirm/clarify that the site boundary modification of RFA2 would result in an increase to the approved Carty Generation Facility.</i> | Section 5.1.1 of the pRFA states that “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.” |                    |



| Public Services    |                                                                                                                                                                                                                                                                                                                                        |                |                              |                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                      |                    |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| Related Rule (OAR) | OAR Text                                                                                                                                                                                                                                                                                                                               | Request Number | pASC Page(s)/Exhibit Section | RAI                                                                                                                                                                                                                                              | Comments                                                                                                                                                                                                                                                                                                             | Applicant Response |
| 345-022-0110(1)    | <i>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 ...traffic safety, police and fire protection, health care and schools.</i> | RAI-3          | pRFA Section 8.12, pg. 58    | <i>Please provide an estimate for the number of construction workers, truck trips, and construction duration required for construction activities associated with RFA2. How do these estimates compare to amounts during facility operation?</i> | Section 8.12 of pRFA2 states that the activities associated with the construction of the new facility infrastructure “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.” |                    |

**From:** [Lenna Cope](#)

**Sent:** Friday, September 18, 2020 11:21 AM

**To:** [MCVEIGH-WALKER Chase](#) \* ODOE

**Subject:**

PGE Responses to Carty pRFA2 Questions

---

Chase,

Below you will find responses to various questions discussed during phone calls. Please let me know if you have any questions regarding our responses. Thank you.

**Dimensions associated with the Carty Substation**

The substation will be contained within a fence line with dimensions of approximately 170 feet by 180 feet. The fence will be 8 feet tall with an additional 1 foot of barbed wire. Within the fence line PGE will utilize the existing 27.5 mVA power transformer and oil containment. The transformer contains a total of 13,995 gallons of mineral oil and the Carty SPCC will be updated as required by condition 5.9 of the site certificate. Note that the transformer is an existing noise source; therefore, the substation is not considered a new noise source because the only noise-emitting component, the transformer, is currently in operation at the location of the new substation (e.g. the new substation is being built around the existing transformer so that it can be reused).

New equipment will include the following:

- Box Structure – Box frame structure is a metal frame structure (not enclosed) that will be approximately 16 feet wide by 36 feet long and 24 feet high.
- 230 kV Disconnect Switch – The switch will be approximately 16 feet by 16 feet and 6 feet tall. It will be mounted on a 9 foot structure (overall height of about 15 feet).
- Capacitive voltage transformer (CVT) – These look kind of like insulators and are tall cylinder shape. The Carty one will be about 7 feet tall mounted on an 8 foot structure (overall height of 15 feet).
- Dead end structure – This will be one of the tallest features, it will be 53 feet tall up to the conductors, plus another 20 feet to carry the shield wires for lightning protection (overall height of about 75 feet).
- Lightning Mast – In addition to the shield wires on the Dead end structure there will also be a 2 to 4 lightning masts installed. Single pole construction about 75 feet tall.
- Circuit Switcher – looks similar to the CVT, The circuit switcher will be 15.5 feet tall and will be mounted on a base 8 to 12 feet tall (overall height of 23.5 feet to 27.5 feet).
- Circuit Breakers – will be located underneath the box structure so the dimensions of the box structure of the dominating dimensions
- Light poles – Lights will be installed and will be approximately 35 feet tall.
- Control House – Approximately 15 feet by 35 feet and 12 feet tall.
- Distribution line – the distribution line from Carty Substation to the existing aboveground Carty backup power line will be mounted on single wood poles approximately 50 feet tall; PGE anticipates needing 4 to 5 poles, two of which will have down guys and anchors.

You had also asked about the description of “A new 7.2 kV open box structure substation” at the same time as us calling it a 230 kV Substation. The substation will be taking 230 kV power and converting it to 7.2 kV power so either description is valid. Another way we could have said it would be to call it a 230 kV to 7.2 kV Substation. Not all substations use

open box structures so including that description provides just a little bit more insight into the setup of the substation.

**Questions posed during September 4<sup>th</sup> call** (note, since this was a phone call I've summarized the questions).

1. Question regarding bullet #3 in the Introduction section about including "Carty substation and associated distribution lines" under this bullet, or if it should only be listed under bullet #4?

0. **Answer:** Items listed in Bullet #3 indicate rationale for a modified site boundary, whereas Bullet #4 lists new infrastructure to be constructed; therefore, it is correct to list Carty substation at both locations. Bullet #3 will be modified as follows since the Carty Substation is not a "existing facilities currently authorized under...":

"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 Second Amended Site Certificate for BCP **and the new Carty Substation:**"

2. Table 1 – PGE listed 22.9 acres for "Addition of 7.2 kV transmission line, new Carty Substation, and associated distribution lines", during the call we noted that this number might seem high.

0. **Answer:** PGE's consultant confirmed the number is correct. The acreage includes most of the area around the Boardman Coal Plant power block which is why the number was higher than expected solely for the transmission infrastructure listed. See screen shot below.



3. In the land use section you asked for a breakdown of existing components in each zone versus new components in each zone.

0. **Answer:** Please see the table below.

| County | Zone | Acres within Amended Site Boundary | Acres of New Disturbance |
|--------|------|------------------------------------|--------------------------|
| Morrow | EFU  | 3,892                              | 1.0                      |
|        | MG   | 348                                | 1.1                      |
|        | SAI  | 11                                 | ---                      |

|         |     |       |     |
|---------|-----|-------|-----|
| Gilliam | EFU | 748   | --- |
| Total   | --- | 4,997 | 2.1 |

4. Second paragraph after Table 3 states “Of those facilities, all but the Carty Substation and associated distribution lines will be constructed within EFU zone”. However, a similar statement on p. 50 seems to contradict what is on page 31 (Applicable Substantive Criteria – Morrow county Ordinances)

0. **Answer:** The text in the second paragraph after Table 3 will be revised to indicate that the security guard station is also outside of EFU, as follows:

“The new Carty Substation and associated distribution lines, septic system, water pipeline, wastewater pipeline, security guard station, and office/warehouse building are considered “accessory use or accessory structure” as defined in MCZO 1.030. Of those facilities, all but the Carty Substation and associated distribution lines **and the security guard station** will be constructed within the EFU zone.”

5. You requested additional information about water use during construction.

0. **Answer:** PGE estimates approximately 220,000 gallons of water would be used for dust control during construction of the new related or supporting facilities. This estimate was calculated by determining the area of disturbance and depth of disturbance then assuming 30 gallons of water use per cubic yard per day of disturbance.



### Lenna Cope

Environmental Compliance and Permitting  
Senior Environmental Specialist  
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**Attachment 2: Comments Received on the Record of the Draft Proposed Order**

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**From:** [Teara Farrow Ferman](#)

**Sent:** Tuesday, October 27, 2020 4:01 PM

**To:** [MCVEIGH-WALKER Chase \\* ODOE](#)

**Cc:** [Shawn Steinmetz](#)

**Subject:** CTUIR comments on Carty Generating Station's Request for Amendment 2 and Draft Proposed Order

**Attachments:** CTUIR Comments Memo\_Carty Generating Station Amendment 2 & Draft Proposed Order.pdf

---

Chase,

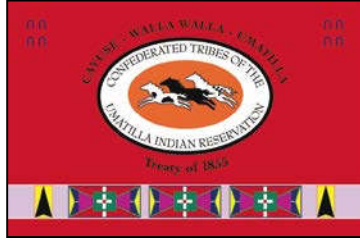
Please find attached the CTUIR's comments on Carty Generating Station's Request for Comments on the Complete Request for Amendment 2 and Draft Proposed Order.

**TEARA FARROW FERMAN**

Manager | Cultural Resources Protection Program  
Confederated Tribes of the Umatilla Indian Reservation  
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**Confederated Tribes *of the*  
Umatilla Indian Reservation**

**Department of Natural Resources**

46411 Timine Way, Pendleton, Oregon 97801

---

## MEMORANDUM

To: Chase McVeigh-Walker, Senior Siting Analyst  
Oregon Department of Energy  
Sent via email to: chase.mcveigh-walker@oregon.gov

From: Teara Farrow Ferman, Cultural Resources Protection Program Manager  
Confederated Tribes of the Umatilla Indian Reservation  
46411 Timine Way, Pendleton, OR 97801  
TearaFarrowFerman@ctuir.org  
541-276-3447

*Teara Farrow Ferman*

Date: October 27, 2020

RE: Confederated Tribes of the Umatilla Indian Reservation's Comments on Request for  
Comments on the Complete Request for Amendment 2 and Draft Proposed Order

---

General Comments:

Thank you for contacting the Confederated Tribes of the Umatilla Indian Reservation (CTUIR) regarding the Carty Generating Station's Request for Comments on the Complete Request for Amendment 2 and Draft Proposed Order. The CTUIR offers the following concerns with the project.

Specific Comments:

This amendment does not appear to have any ground disturbing activities associated with it as presented in the Notice dated October 2, 2020. It does not appear that the Request for Amendment 2 will have any effect to archaeological resources.



**From:** [Teara Farrow Ferman](#)

**Sent:** Wednesday, November 4, 2020 12:08 PM

**To:** [MCVEIGH-WALKER Chase \\* ODOE](#)

**Cc:** [Shawn Steinmetz](#)

**Subject:**

RE: CTUIR comments on Carty Generating  
Station's Request for Amendment 2 and Draft  
Proposed Order

**Attachments:** 2020 11 04 CTUIR Revised Comments Memo\_Carty Generating Station Amendment  
2 & Draft Proposed Order.pdf

---

Good afternoon Chase,

Attached are the CTUIR's revised comments based on the new information you provided to us.

Thank you,

**TEARA FARROW FERMAN**

The information in this e-mail may be confidential and intended only for the use and protection of the Confederated Tribes of the Umatilla Indian Reservation. If you have received this email in error, please immediately notify me by return e-mail and delete this from your system. If you are not an authorized recipient for this information, then you are prohibited from any review, dissemination, forwarding or copying of this e-mail and its attachments. Thank you.

---

**From:** MCVEIGH-WALKER Chase \* ODOE [mailto:[Chase.McVeigh-Walker@oregon.gov](mailto:Chase.McVeigh-Walker@oregon.gov)]

**Sent:** Wednesday, October 28, 2020 2:27 PM

**To:** Teara Farrow Ferman <[TearaFarrowFerman@ctuir.org](mailto:TearaFarrowFerman@ctuir.org)>

**Cc:** Shawn Steinmetz <[ShawnSteinmetz@ctuir.org](mailto:ShawnSteinmetz@ctuir.org)>

**Subject:** RE: CTUIR comments on Carty Generating Station's Request for Amendment 2 and Draft Proposed Order

**EXTERNAL EMAIL: Please use caution when clicking links or opening attachments.**

Teara,

Thank you for your comment letter. Attached to this email please find a few Figures 2a through 4 (extracted from the Complete Request for Amendment) to aid in the identification of proposed new facility components. As always, don't hesitate to reach out if you have any additional questions.

Regards,

-Chase



**Chase McVeigh-Walker**

Senior Siting Analyst

550 Capitol St. NE | Salem, OR 97301

P: 503-934-1582

P (In Oregon): 800-221-8035



Stay connected!

---

**From:** Teara Farrow Ferman <[TearaFarrowFerman@ctuir.org](mailto:TearaFarrowFerman@ctuir.org)>  
**Sent:** Tuesday, October 27, 2020 4:01 PM  
**To:** MCVEIGH-WALKER Chase \* ODOE <[Chase.McVeigh-Walker@oregon.gov](mailto:Chase.McVeigh-Walker@oregon.gov)>  
**Cc:** Shawn Steinmetz <[ShawnSteinmetz@ctuir.org](mailto:ShawnSteinmetz@ctuir.org)>  
**Subject:** CTUIR comments on Carty Generating Station's Request for Amendment 2 and Draft Proposed Order

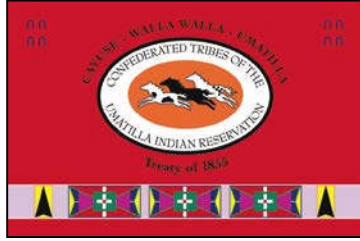
Chase,  
Please find attached the CTUIR's comments on Carty Generating Station's Request for Comments on the Complete Request for Amendment 2 and Draft Proposed Order.

**TEARA FARROW FERMAN**

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**Confederated Tribes *of the*  
Umatilla Indian Reservation**  
**Department of Natural Resources**

46411 Timine Way, Pendleton, Oregon 97801

---

## MEMORANDUM

To: Chase McVeigh-Walker, Senior Siting Analyst  
Oregon Department of Energy  
Sent via email to: chase.mcveigh-walker@oregon.gov

From: Teara Farrow Ferman, Cultural Resources Protection Program Manager *TEARA FARROW FERMAN*  
Confederated Tribes of the Umatilla Indian Reservation  
46411 Timine Way, Pendleton, OR 97801  
TearaFarrowFerman@ctuir.org  
541-276-3447

Date: November 4, 2020

RE: Confederated Tribes of the Umatilla Indian Reservation's Revised Comments on Request for Comments on the Complete Request for Amendment 2 and Draft Proposed Order

---

### General Comments:

Thank you for contacting the Confederated Tribes of the Umatilla Indian Reservation (CTUIR) regarding the Carty Generating Station's Request for Comments on the Complete Request for Amendment 2 and Draft Proposed Order. The CTUIR offers the following concerns with the project.

### Specific Comments:

After reviewing the details for the Carty Generation Station proposed developments sent to us by you on October 28, 2020. The CTUIR provides these revised comments. Five pre-contact archaeological sites have been documented round Carty Reservoir and are adjacent to existing or newly proposed project infrastructure. The Carty Solar area and Solar Farm Transmission line are adjacent to two of these documented sites.

In the area near the proposed septic drain field there is another pre-contact archaeological site, but it is outside of the site boundaries. In 1977, when David Cole recorded the sites in this area he collected the archaeological materials that he found on the surface of the sites in addition to subsurface testing that was conducted at the sites. Cole (1977) suggests that the area had multiple occupations that date between 2500 to 9000 years ago base on the artifact assemblages.

This project location is also located near the Sand Hollow Battle site and is another more recent use of the area by the CTUIR. With such a long span of use and occupation in this area and the

close proximity to multiple archaeological sites the CRPP request that ground disturbing activities be monitored for this project.

Reference:

Cole, David L.

1977 Archaeological Research in the Carty and Pebble Springs Reservoir Areas in the Columbia Plateau of Oregon. Report completed for Portland General Electric Company. University of Oregon Museum of Natural History, Eugene, OR.

**From:** [Nathan Baker](#)

**Sent:** Monday, November 2, 2020 2:08 PM

**To:** [MCVEIGH-WALKER Chase](#) \* [ODOE](#)

**Cc:** [Erin Saylor](#); [Amelia Reiver Schlusser](#)

**Subject:** Comments on Carty Generating Station Site Certificate – Request for Amendment 2

**Attachments:** 2020.11.02 Comments on Carty RFA2 & DPO.pdf

---

Dear Mr. McVeigh-Walker:

Please find attached the comments of Friends of the Columbia Gorge, Columbia Riverkeeper, and the Green Energy Institute at Lewis & Clark Law School on the Request for Amendment 2 of the Site Certificate for the Carty Generating Station and the corresponding Draft Proposed Order. Thank you.

Nathan Baker, Senior Staff Attorney  
Friends of the Columbia Gorge  
[nathan@gorgefriends.org](mailto:nathan@gorgefriends.org)  
333 SW 5th Ave., Suite 300  
Portland, OR 97204-1717  
(503) 241-3762 x101



GREEN ENERGY  
INSTITUTE  
AT LEWIS & CLARK LAW SCHOOL

*SUBMITTED VIA E-MAIL*

November 2, 2020

Energy Facility Siting Council  
c/o Chase McVeigh-Walker, Oregon Department of Energy  
*Via email to chase.mcveigh-walker@oregon.gov*

**Re: Carty Generating Station Site Certificate – Request for Amendment 2**

Dear Chair Jenkins and Members of the Council:

Friends of the Columbia Gorge (“Friends”), Columbia Riverkeeper (“Riverkeeper”), and the Green Energy Institute at Lewis & Clark Law School (“Green Energy Institute”) (collectively, “Commenters”) have reviewed the Request for Amendment 2 (“RFA2”) of the Site Certificate for the Carty Generating Station (“Site Certificate”) submitted by Portland General Electric (“PGE”), as well as the Draft Proposed Order (“DPO”) on the RFA2. On March 5, 2020, Friends and Riverkeeper wrote to the Oregon Department of Energy (“ODOE”) and raised many of the same points covered below. However, we received no response to our March 5 letter, nor are we able to locate any review of these issues in the application materials submitted by PGE, in the DPO, or in the proposed Second Amended Site Certificate. We therefore repeat many of the points from our March 5 letter below.

As a threshold issue, ODOE erred in granting PGE’s request to process the RFA2 pursuant to the “Type B” process. This request is far more controversial than PGE suggested in its application materials, and warrants the increased stakeholder involvement provided by the “Type A” process. The Council’s review of the RFA2 deserves a public hearing and an opportunity for interested persons to pursue a contested case pursuant to the “Type A” process. ODOE violated the Council’s rules and frustrated public participation by instead unilaterally narrowing the review to the truncated “Type B” process.

As will be detailed below, PGE omitted numerous key elements from its request for amendment. The RFA2 is therefore incomplete and cannot be approved as submitted. Pursuant to OAR 345-027-0363, ODOE was required to deem the RFA2 incomplete and to notify PGE that additional information was needed to complete the RFA2. However, despite ODOE's failure to timely notify PGE that the RFA2 was incomplete, the ultimate responsibility for submitting a complete application lies with PGE. Here, Friends and Riverkeeper put PGE on notice of the incompleteness of its RFA2 by copying PGE on our March 5, 2020 letter to ODOE. Because PGE failed to submit a complete application, the Council should deny the RFA2.

PGE is required to submit, as part of the RFA2, "[f]or any federally-delegated permits that are needed for construction or operation of the proposed facility, . . . one copy of each federally-delegated permit application." OAR 345-021-0000(7). Despite this express requirement, PGE failed to disclose within the RFA2 that the existing Site Certificate no longer accurately covers PGE's current or intended future operation of the facility, and specifically that PGE is currently seeking permitting approval from the Oregon Department of Environmental Quality ("DEQ") for substantial increases in the air pollutant emissions generated by the Carty plant, including a more than threefold increase in carbon monoxide emissions (from 99 tons per year to 324 tons per year), and a more than eightfold increase in emissions of volatile organic compounds ("VOCs") (from 24 tons per year to 194 tons per year). Attached hereto is a copy of DEQ's public notice and accompanying Draft Standard Air Contaminant Discharge Permit ("ACDP") for these emissions increases. Although DEQ issued this public notice more than two and a half years ago, PGE's corresponding application has not been approved and remains pending with DEQ. PGE was required by OAR 345-021-0000(7) to submit to ODOE and EFSC as part of the RFA2 a copy of its application currently pending with DEQ.

PGE must also explain whether it has already exceeded the previously authorized maximum pollutant levels for CO and/or VOCs (or any other pollutants, for that matter) and/or is seeking to increase and exceed those levels in the future. This information is vital to the Council's review of the RFA2; without it, the Council will be unable to determine whether "the facility, with the proposed change, complies with the applicable laws or Council standards that protect a resource or interest that could be affected by the proposed change." OAR 345-027-0375(2)(c).

In addition, PGE was required to submit an analysis of the visual impacts of the proposed increases in VOCs emissions on designated Protected Areas. VOCs are smog-forming chemicals that produce haze and other adverse impacts to visibility. Pursuant to OAR 345-022-0040, the Council must ensure that "the design, construction and operation of the [Carty] facility are not likely to result in significant adverse impact to [protected] areas." This includes potential impacts to visibility within protected areas that may be caused by the facility's air emissions. (See Final Order in the matter of the Application for a Site Certificate for the Carty Generating Station (June 29, 2012) ("2012 Final Order") at § IV.F.1.d.) At least eleven Protected Areas are located within 20 miles of the Carty facility. (*Id.* at § IV.F.1.) PGE is required by EFSC's rules to submit an analysis of impacts to protected areas, including the visual impacts of plumes and air emissions, caused by the proposed increases in emissions of VOCs and any other visibility-impairing pollutants. OAR 345-021-0010(L)(C)(v), (vi). EFSC must then evaluate the proposed emissions increases and determine whether they will comply with all applicable laws, including

EFSC's rules for ensuring the protection of visibility within Protected Areas. Despite these requirements, PGE has failed to even mention within the RFA2 the proposed emissions increases—let alone supply the mandatory analysis of impacts to visibility.

PGE may argue that it can choose whether to seek EFSC approval of its proposed increases in emissions of air pollutants. This argument would fail. PGE is required to apply to EFSC for a certificate amendment in order to “[d]esign, construct, or operate [the Carty] facility in a manner different from the description in the site certificate, if the proposed change . . . [c]ould 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 an applicable law or Council standard . . . or . . . [c]ould require a new condition or a change to a condition in the site certificate.” OAR 345-027-0350(4) (emphasis added). Under these rules, PGE must apply to EFSC for a review and approval of the proposed increases in pollution emissions, given that EFSC previously reviewed and approved PGE's application for a site certificate based on specific levels of pollution emissions, and analyzed and determined the impacts to visibility and Protected Areas thereof.

Specifically, the 2012 Final Order expressly describes and analyzes the facility's potential impacts to visibility in Protected Areas, and the Council's findings and conclusions in that Order are based on the air pollutant emissions that PGE originally proposed and sought approval for. (2012 Final Order at §§ IV.F.1, IV.F.1.d.) The Site Certificate, in turn, expressly incorporates the Council's findings and conclusions in the 2012 Final Order as express terms of the Site Certificate. (See First Amended Site Certificate for the Carty Generating Station (Dec. 14, 2018) (“2018 Amended Site Certificate”) at § 1.0.) Thus, the Site Certificate describes and approves impacts and air emissions at the levels represented and proposed by PGE. Any new increases in these emissions have neither been reviewed for compliance with the applicable law nor approved by EFSC. PGE is not authorized to operate the Carty facility in excess of the pollutant limits that EFSC previously reviewed and approved, and any increase in these limits requires EFSC's approval in the form of an amendment to the Site Certificate. See ORS 469.401(1), 469.405(1). As part of its review of the proposed emissions increases, EFSC must determine whether increasing the pollutant levels will comply with the applicable law, including the Council's standards and requirements for protecting visibility within designated Protected Areas.

In addition, as Oregon state agencies, EFSC and ODOE are required by federal, interstate, and state law to protect and enhance air quality within the Columbia River Gorge National Scenic Area (“National Scenic Area”). 16 U.S.C. § 544a(1) (primary purpose of the Columbia River Gorge National Scenic Area Act is “to establish a national scenic area to protect and provide for the enhancement of the scenic, cultural, recreational, and natural resources of the Columbia River Gorge”); ORS 196.150 (The bistate Columbia River Gorge Compact is ratified and “declared to be the law of this state.”); Management Plan for the Columbia River Gorge National Scenic Area (2016) at I-3-34 (“Air quality shall be protected and enhanced, consistent with the purposes of the Scenic Area Act.”); ORS 196.155 (“[A]ll state agencies . . . are hereby directed and provided authority to carry out their respective functions and responsibilities in accordance with the [Columbia River Gorge Compact] and the Columbia River Gorge National Scenic Area Act.”). Because increased VOCs emissions from the Carty facility have the potential



to harm air quality and, in turn, harm the scenic, natural, cultural, and recreational resources of the National Scenic Area, PGE must supply an analysis of these potential impacts.

Commenters are aware of the statement in the 2012 Final Order that “[t]he Council is not authorized to determine compliance with regulatory programs that have been delegated to another state agency by the federal government (ORS 469.503(3)). Air quality issues are under the jurisdiction of the Oregon Department of Environmental Quality and cannot be decided on by the Council.” (2012 Final Order at § IV.J.1.c.) While the first sentence in this quotation from the Final Order is accurate, the second sentence is overbroad and inaccurate. EFSC and ODOE have jurisdiction and authority—and indeed, a mandate—under federal, state, and interstate law to determine the air quality impacts of proposed energy facilities on the resources of the National Scenic Area, and to ensure the protection and enhancement of these resources. In addition, the Council has jurisdiction and authority (independent of and separate from DEQ’s authority) to adopt its own rules regulating air quality impacts, which the Council has in fact done—including its rules requiring the protection of visibility within designated Protected Areas. This latter point is exactly why the 2012 Final Order went on to analyze and determine the potential visibility impacts of the proposed Carty facility within Protected Areas. (See 2012 Final Order at § IV.F.1.d.) An updated analysis and determination is necessary for the proposed increases in VOCs emissions (and any increases in any other visibility-impairing pollutants).

In summary, PGE is required to submit to ODOE a copy of its permit application currently pending with DEQ; a detailed explanation of its proposed increases in air pollutant emissions levels; an explanation of whether its operations of the facility have already exceeded the current maximum permitted emissions levels; an analysis of potential impacts to visibility within Protected Areas of the proposed increases in pollutants; and an analysis of potential impacts to air quality and the scenic, natural, cultural, and recreational resources of the Columbia River Gorge National Scenic Area. Given PGE’s failure to submit this required information, the RFA2 must be rejected as incomplete. In the absence of the required information described above, the Council cannot approve the RFA2, which fails to accurately represent the true proposed design and operation of the Carty facility and its potential impacts.

In conclusion, Commenters respectfully request that the Council deny the RFA2 for the above-stated reasons. Thank you very much for your attention to this important matter.

Sincerely,



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Enclosure (2018 DEQ Public Notice and Draft Standard ACDP)

# Public Notice EXTENSION

## Comment Period Extension for PGE - Carty Plant's Proposed Air Quality Permit Modification: April 30, 2018

DEQ invites the public to submit written comment on the Portland General Electric, Carty Plant's proposed air quality permit, known officially as a Standard Air Contaminant Discharge Permit. The comment period has been extended to April 30, 2018. A public hearing was held at the Port of Morrow on Thursday, February 22, 2018.

### Summary

The proposed permit is a modification of the Carty Plant's PSD permit. It is required to update the Carbon monoxide and Volatile Organic Compound emission factors to reflect the manufacturer's estimates of emissions during startup. The expiration date of the permit is being extended in order to allow additional information pertaining to the BACT determination.

Send written comments by mail, fax or email to:

Nancy Swofford, Permit Coordinator  
475 NE Bellevue Dr., Suite 110  
Bend, OR 97701  
**Fax:** 541-388-8283  
**Email:** [Nancy.Swofford](mailto:Nancy.Swofford@deq.state.or.us)

Written comments are due by 5 p.m., **Monday, April 30, 2018.**

### About the facility

This is a modification to a Standard Permit for Portland General Electric's facility located at 73334 Tower Road in Boardman, Oregon.

PGE owns and operates an electric power generation facility located near Boardman, Oregon. The facility includes coal-fired steam generating boiler and a natural gas-fired combined cycle turbine.

### What air pollutants does the permit regulate?

This permit regulates emissions of the pollutants listed in the table at the end of this document.

### How does DEQ determine permit requirements?

DEQ evaluates types and amounts of pollutants and the facility's location, and determines permit requirements according to state and federal regulations.

### How does DEQ monitor compliance with the permit requirements?

This permit would require the facility to monitor pollutants using federally-approved monitoring practices and standards.

Formulas to calculate emissions are contained in the permit. The permittee is required to calculate facility-wide emissions and submit an emissions report semi-annually. Onsite inspections will be conducted to assure compliance with emission limitations.

### What happens after the public comment period ends?

DEQ will consider and provide responses to all comments received at the close of the comment period. In addition to soliciting public comments, DEQ is also communicating with groups and individuals to determine whether the proposed facility would cause disproportionate impacts to any particular group of people. DEQ is committed to the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income. DEQ may modify provisions in the proposed permit, but the permit writers can only modify conditions of the permit in accordance with the rules and statutes under the authority of DEQ. Participation in the rulemaking or the legislative process is the only way to change the rules or statutes.

After the public comment period, DEQ sends the proposed permit to EPA. EPA has 45 days to review it and submit objections to DEQ. If EPA has no objections, anyone may petition EPA with an objection during the following 60 days. A petition may be based only on objections already raised during the public comment period, unless the person submitting the petition can demonstrate it was impossible or impractical to do so, or that new information is now available to justify a new objection.

### Where can I get more information?

Find out more and view the draft documents online at DEQ's "[Public Notices](#)" page, or contact Nancy Swofford, Permit Coordinator:



State of Oregon  
Department of  
Environmental  
Quality

**Eastern Region  
Air Quality Program**  
475 NE Bellevue Dr., #110  
Bend, OR 97701  
Phone: 541-388-6146  
866-863-6668  
Fax: 541-388-8283  
Contact: Doug Welch  
Permit Writer

[www.oregon.gov/DEQ](http://www.oregon.gov/DEQ)

Search for "PGE, Portland General Electric, Boardman, Standard, ACDP, Title V)"

***DEQ is a leader in restoring, maintaining and enhancing the quality of Oregon's air, land and water.***

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Please include your full name and mailing address so that we can remove you from our print mailing list.

Date Issued: 2/23/2018  
By: Nancy Swofford  
Permit No: 25-0016

**Phone:** 541-633-2021 or 866-863-6668

**Fax:** 541-388-8283

**Email:** [Nancy Swofford](#)

View the draft permit and related documents in person at the Oregon Trail Library District at 200 S Main Street in Boardman or at the DEQ office in Pendleton. For a review appointment, call Bobbi DeMauro at 541-278-4614.

### **Accessibility information**

Documents can be provided upon request in an alternate format for individuals with disabilities or in a language other than English for people with limited English skills. To request a document in another format or language, call DEQ in Portland at 503-229-5696, or toll-free in Oregon at 1-800-452-4011, ext. 5696; or email [deqinfo@deq.state.or.us](mailto:deqinfo@deq.state.or.us).

## Emissions Limits

**Criteria Pollutants:** Table 1 below presents maximum allowable emissions of criteria pollutants for the facility. The current emission limit reflects maximum emissions the facility can emit under the existing permit. The proposed emission limit reflects maximum emissions the facility (the combined coal-fired boiler and the natural gas-fired Carty plant) would be able to emit under the proposed permit. Typically, a facility's actual emissions are less than maximum limits established in a permit; however, actual emissions can increase up to the permitted limit.

**Table 1**

| Criteria Pollutants                          | Current Limit<br>(tons/yr) | Proposed Limit<br>(tons/yr) |
|----------------------------------------------|----------------------------|-----------------------------|
| Particulate matter                           | 1101                       | 1101                        |
| Small particulate matter (PM <sub>10</sub> ) | 1086                       | 1086                        |
| Fine particulate matter                      | 847                        | 847                         |
| Nitrogen oxides)                             | 5961                       | 5961                        |
| Sulfur dioxide                               | 9525                       | 8525                        |
| Carbon monoxide                              | 8980                       | 9202                        |
| Volatile organic compounds                   | 116                        | 286                         |
| Greenhouse gases                             | 6,796,100                  | 6,796,000                   |

For more information about criteria pollutants, go to EPA's ["Criteria Air Pollutants"](#) page.

**Hazardous Air Pollutants:** Portland General Electric, Boardman is a major source of hazardous air pollutants. As a major source, it is subject to the following National Emission Standards for Hazardous Air Pollutants : 40 CFR Part 63, Subparts YYYY (Stationary Combustion Turbines), ZZZZ (Stationary Reciprocating Internal Combustion Engines), DDDDD (Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters), UUUUU (Coal- and Oil-Fired Electric Utility Steam Generating Units). Table 2 summarizes significant hazardous air pollutants which the source emits. More detailed information can be found in the review report.

**Table 2**

| Hazardous Air Pollutants | Potential Emissions<br>(tons/yr) |
|--------------------------|----------------------------------|
| Hydrogen chloride        | 18.40                            |
| Selenium                 | 9.00                             |
| Formaldehyde             | 8.37                             |
| Cyanide compounds        | 3.83                             |
| Hydrogen fluoride        | 3.07                             |
| Various other HAPs       | 18.03                            |
| <b>Total HAPs</b>        | <b>60.70</b>                     |

For more information about hazardous air pollutants, go to:  
[Health Effects Notebook for Hazardous Air Pollutants](#)



**DRAFT**  
1/4/2018

Permit Number: 25-0016-ST-02

Expiration Date: 08/01/2021

Page 1 of 21

**STANDARD**  
**AIR CONTAMINANT DISCHARGE PERMIT**

Department of Environmental Quality  
Eastern Region  
475 NE Bellevue Dr., Suite 110  
Bend, OR 97701  
(541) 388-6146

This permit is being issued in accordance with the provisions of ORS 468A.040 and  
based on the land use compatibility findings included in the permit record.

**ISSUED TO:**

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

**INFORMATION RELIED UPON:**

Application No.: 28833  
Date Received: 11/2/16, 1/11/17

**PLANT SITE LOCATION:**

73334 Tower Road  
Boardman, OR 97818

**LAND USE COMPATIBILITY FINDING:**

Pursuant to ORS 469, Oregon Department of Energy's Energy Facility Siting Council will determine that the proposed land use complies with state-wide planning goals prior to granting a Site Certificate.

**ISSUED BY THE DEPARTMENT OF ENVIRONMENTAL QUALITY**

Mark W. Bailey, Eastern Region Air Quality Manager

Dated

Source(s) Permitted to Discharge Air Contaminants (OAR 340-216-8010):

| Table 1 Code | Source Description                                         | NAICS  | SIC  |
|--------------|------------------------------------------------------------|--------|------|
| Part B, 27   | Electric Power Generation from Combustion                  | 221112 | 4911 |
| Part C, 4    | Sources with PSEL greater than SER                         | NA     | NA   |
| Part C, 5    | Sources with potential to emit more than 100 tons per year | NA     | NA   |

**Addendum No. 3**

Complex Technical Modification  
Significant changes to the ACDP are highlighted

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## 1.0 INTRODUCTION

- 1.1. Purpose** This permit modifies the previous ACDP which permitted construction of a combined cycle natural gas-fired electric generating plant (referred to as the Carty Plant) adjacent to the Boardman Power Plant in accordance with the Prevention of Significant Deterioration regulations contained in OAR 340-224-0070. This permit modifies the emissions of carbon monoxide (CO) and volatile organic compounds (VOC) from the turbine during startups and shutdowns. Additional analyses, including a Best Available Control Technology (BACT) determination and an air quality analysis was required for this emissions increase. After issuance, this permit will be rolled into the existing Title V Permit by administrative amendment. The Carty Plant consists of the following equipment:
- Emissions unit CTEU1, natural gas-fired combustion turbine generator (Mitsubishi Industries M501G1 CTG) with duct burners operating in the combined cycle mode with a heat recovery steam generator (HRSG) and a steam turbine generator (STG);
  - Emissions unit ABEU2, auxiliary natural gas-fired boiler (91 million Btu/hr heat input, nominal capacity);
  - Emissions unit FWP1, diesel-fired water pump emergency engine (265 horsepower, nominal capacity); and
  - Cooling tower.
- 1.2. Procedural Requirement** Construction of the Carty Plant has been completed. This permit establishes new CO and VOC emission limits and associated compliance monitoring.
- 1.3. Relationship to Title V Permit** This permit is supplemental to Oregon Title V Operating Permit 25-0016-TV-01 that allows continued operation of the Boardman and Carty Plant. Upon issuance of this permit, the permittee must submit an administrative amendment to the Title V Permit incorporating the modified emission limits, emission factors, and monitoring.
- 1.4. Acid Rain Permit Application** Reserved.
- 1.5. Federal/State Enforceable Requirement** All conditions of this permit are federally enforceable, as that term applies for the Title V program, except Conditions 2.4 and 2.5.

## 2.0 GENERAL EMISSION STANDARDS AND LIMITS

- 2.1. Visible Emissions** Emissions from any air contaminant source other than fugitive emission sources, must not equal or exceed 20% opacity. Opacity must be measured as a six-minute block average using EPA Method 9, a continuous opacity monitoring system (COMS) installed and operated in accordance with the DEQ Continuous Monitoring Manual or 40 CFR Part 60, or an alternative monitoring method approved by DEQ that is equivalent to EPA Method 9.
- 2.2. Particulate Matter Emissions** The permittee must comply with the following particulate matter emission limits, as applicable:
- a. Particulate matter emissions from the Carty Auxiliary Boiler (ABEU2) must not exceed 0.10 grains per dry standard cubic foot, corrected to 12% CO<sub>2</sub> or 50% excess air. [OAR 340-228-0210(2)(c)]
  - b. Particulate matter emissions from the Carty Turbine (CTEU1) and Fire Water Pump (FWP1) must not exceed 0.10 grains per standard cubic foot. [OAR 340-226-0210(2)(c)]
- 2.3. Fugitive Emissions** The permittee must take reasonable precautions to prevent fugitive dust emissions, as measured by EPA Method 22, by:
- a. Using, where possible, water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land;
  - b. Applying water or other suitable chemicals on unpaved roads, materials stockpiles, and other surfaces which can create airborne dusts;
  - c. Enclosing (full or partial) materials stockpiles in cases where application of water or other suitable chemicals are not sufficient to prevent particulate matter from becoming airborne;
  - d. Installing and using hoods, fans, and fabric filters to enclose and vent the handling of dusty materials;
  - e. Installing adequate containment during sandblasting or other similar operations;
  - f. Covering, at all times when in motion, open bodied trucks transporting materials likely to become airborne;
  - g. Promptly removing earth or other material that does or may become airborne from paved streets; and
  - h. Developing a DEQ approved fugitive emission control plan upon request by DEQ if the above precautions are not adequate and implementing the plan whenever fugitive emissions leave the property for more than 18 seconds in a six-minute period.



- 2.4. Particulate Matter Fallout** The permittee must not cause or permit the deposition of any particulate matter larger than 250 microns in size at sufficient duration or quantity, as to create an observable deposition upon the real property of another person.
- 2.5. Nuisance and Odors** The permittee must not cause or allow air contaminants from any source to cause a nuisance. Nuisance conditions will be verified by DEQ personnel.
- 2.6. Fuels and Fuel Sulfur Content**
- a. If the permittee burns any of the fuels listed below, the sulfur content cannot exceed:
    - i. **0.0015% sulfur by weight for ultra low sulfur diesel;**
    - ii. 0.3% sulfur by weight for ASTM Grade 1 distillate oil;
    - iii. 0.5% sulfur by weight for ASTM Grade 2 distillate oil;
  - b. The permittee is allowed to use on-specification used oil as fuel which contains no more than 0.5% sulfur by weight. The permittee must obtain analyses from the marketer or, if generated on site, have the used oil analyzed, so that it can be demonstrated that each shipment of oil does not exceed the used oil specifications contained in 40 CFR Part 279.11, Table 1.

### 3.0 SPECIFIC PERFORMANCE AND EMISSION STANDARDS

- 3.1. CTEU1 – NO<sub>x</sub> BACT Limit** Nitrogen oxide emissions from CTEU1 must not exceed the following limits:
- a. 2.0 ppmvd @ 15% O<sub>2</sub> as a 3-hour rolling average while operating at 60% of maximum load or greater;
  - b. 24 lbs/hr as a 3-hour rolling average that applies at all times, excluding periods of startup and shutdown; and
  - c. 150 lbs/hr as a 3-hour rolling average that applies at all times, including periods of startup and shutdown.
- 3.2. CTEU1 – NO<sub>x</sub> NSPS Limit** The permittee must not cause to be discharged into the atmosphere from CTEU1 any gases that contain nitrogen oxides (expressed as NO<sub>2</sub>) in excess of 15 ppm corrected to 15% oxygen, in accordance with 40 CFR 60.4320(a). Emissions in excess of 15 ppm during periods of startup, shutdown and malfunction shall not be considered a violation in accordance with 40 CFR 60.8(c). However, for purposes of excess emission reports required by 40 CFR 60.7(c), an excess emission is any 30 unit operating day rolling average for all periods of unit operation, including startup, shutdown and malfunction in accordance with 40 CFR 60.4350(h) and 60.4375(a).

- 3.3. CTEU1 - SO<sub>2</sub> NSPS Limit** The permittee must not cause to be discharged into the atmosphere from CTEU1 any gases that contain sulfur dioxide in excess of 0.060 lb/MMBtu-heat input in accordance with 40 CFR 60.4330(a)(2). The sulfur content of the fuels must be measured in accordance with **Condition 60 of the Title V Permit.**
- 3.4. CTEU1 – CO BACT Limit** Carbon monoxide emissions from CTEU1 must not exceed the following limits:
- a. 3.2 ppmvd @ 15% O<sub>2</sub> as a 3-hour rolling average while operating at 60% of maximum load or greater;
  - b. 20.6 lbs/hr as a 3-hour rolling average that applies at all times, excluding periods of startup and shutdown;
  - c. 4,084 lbs per cold startup. A cold startup is defined as any startup after the turbine has been down for 12 hours or more. Startup begins when fuel is introduced to the turbine and ends when the turbine reaches 50% load.
  - d. 1,007 lbs per hot startup. A hot startup is defined as any startup after the turbine has been down for less than 12 hours. Startup begins when fuel is introduced to the turbine and ends when the turbine reaches 50% load.
  - e. 513 lbs per shutdown. A shutdown is defined as the ramp down from 50% load to cessation of fuel feed.
  - f. The permittee must conduct startup and shutdown operations in accordance with written procedures that minimize emissions during startups and shutdowns and also minimize the amount of time spent in startup and shutdown to the extent practicable.
- 3.5. CTEU1 – VOC BACT Limit** Volatile Organic Compound (VOC) emissions from CTEU1 must not exceed the following limits:
- a. 2.0 ppmvd @ 15% O<sub>2</sub> as a 3-hour average while operating at 60% of maximum load or greater;
  - b. 6.1 lbs/hr as a 3-hour average that applies at all times, excluding periods of startup and shutdown; and
  - c. 1,004 lbs/hr during cold startups. A cold startup is defined as any startup after the turbine has been down for 12 hours or more. Startup begins when fuel is introduced to the turbine and ends when the turbine reaches 50% load.
  - d. 412 lbs/hr during hot startup. A hot startup is defined as any startup after the turbine has been down for less than 12 hours. Startup begins when fuel is introduced to the turbine and ends when the turbine reaches 50% load.
  - e. 315 lbs/hr during shutdown. A shutdown is defined as the ramp down from 50% load to cessation of fuel feed.
  - f. The permittee must conduct startup and shutdown operations in accordance with written procedures that minimize emissions during startups and shutdowns and also minimize the amount of time spent in startup and shutdown to the extent practicable.

- 3.6. **CTEU1 Stack Height** The stack height must be at least 70 meters but no more than the Good Engineering Practice Stack Height
- 3.7. **CTEU1 and ABEU2 – PM<sub>10</sub> and H<sub>2</sub>SO<sub>4</sub> BACT** The permittee must burn only pipeline quality natural gas in the CTEU1 and ABEU2.
- 3.8. **ABEU2 – NO<sub>x</sub> BACT** The permittee must install and operate low-NO<sub>x</sub> burners and burn only pipeline quality natural gas in ABEU2. NO<sub>x</sub> emissions must not exceed 4.5 lbs/hr.
- 3.9. **ABEU2 – CO BACT** Emissions of CO from ABEU2 must not exceed 2.13 lbs/hr as a three hour average, excluding periods of startup and shutdown.
- 3.10. **ABEU2 – VOC BACT** Emissions of VOC from ABEU2 must not exceed 0.14 lbs/hr as a three hour average, excluding periods of startup and shutdown.
- 3.11. **ABEU2 – NESHAP (Part 63, Subpart DDDDD)**  
a. The Carty auxiliary boiler (ABEU2) is a limited use boiler according to the definition in 40 CFR 63.7575. The permittee must maintain an annual capacity factor of no more than 10%. The annual capacity factor is the ratio of actual heat input to the auxiliary boiler during a calendar year and the potential heat input had the auxiliary boiler been operated for 8760 hours/year at the maximum steady-state design heat input capacity. [40 CFR.7575].  
b. The permittee must conduct a tune-up of the Carty auxiliary boiler (ABEU2) at least every 5 years as specified in 40 CFR 63.7540. [40 CFR 63.7500(c)]
- 3.12. **FWP1 NSPS and BACT** Emissions from the emergency fire pump diesel-fired engine must not exceed:  
a. 3 grams of NO<sub>x</sub> per horsepower-hour;  
b. 0.15 gram of PM per horsepower-hour;  
c. 15 ppmw sulfur content of fuel  
d. 2.6 grams of CO per horsepower-hour; and  
e. 1.12 grams of VOC per horsepower-hour.
- 3.13. **Boardman Coal Plant Emission Limitations** Emissions from the adjacent Coal Plant must not exceed the following limits for any 12-month rolling period as measured in accordance with the Oregon Title V Operating Permit 25-0016-TV-01:

| Pollutant                                                                                                                                                                                                                                 | Limit     |           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|
|                                                                                                                                                                                                                                           | Current   | 7/1/19*   |
| PM                                                                                                                                                                                                                                        | 1,043     | 1,043     |
| PM <sub>10</sub>                                                                                                                                                                                                                          | 1,028     | 1,028     |
| PM <sub>2.5</sub>                                                                                                                                                                                                                         | 789       | 789       |
| SO <sub>2</sub>                                                                                                                                                                                                                           | 8,502     | 7,613     |
| NO <sub>x</sub>                                                                                                                                                                                                                           | 5,836     | 5,836     |
| CO                                                                                                                                                                                                                                        | 8,881     | 8,881     |
| VOC                                                                                                                                                                                                                                       | 92        | 92        |
| GHG (CO <sub>2</sub> e)                                                                                                                                                                                                                   | 5,478,100 | 5,478,100 |
| <p>Compliance with the annual limits is determined on the first day of each month by summing the emissions for the previous 12-consecutive months.</p> <p>* This date is 1 year after the compliance date of the regional haze rules.</p> |           |           |

## 4.0 PLANT SITE EMISSION LIMITS

### 4.1. Plant Site Emission Limits (PSEL)

| Pollutant                      | Limit (tons/yr) |
|--------------------------------|-----------------|
| PM                             | 1,101           |
| PM <sub>10</sub>               | 1,086           |
| PM <sub>2.5</sub>              | 847             |
| SO <sub>2</sub>                | 8,525           |
| NO <sub>x</sub>                | 5,961           |
| CO                             | 9,202           |
| VOC                            | 286             |
| H <sub>2</sub> SO <sub>4</sub> | 16              |
| Pb                             | 0.17            |
| GHGs (CO <sub>2</sub> e)       | 6,796,000       |

## 5.0 COMPLIANCE DEMONSTRATION AND SOURCE TESTING

### 5.1. Source Testing Requirements

Within 18 months of permit issuance the permittee must demonstrate CTEU1 is capable of operating in compliance with Conditions 3.5.a and 3.5.b by conducting a source test for VOC using the following test methods and procedures. The permittee must work with the DEQ Source Test Coordinator to determine if representative sampling of

VOC emissions during startups and shutdowns can be conducted in order to demonstrate compliance with Conditions 3.5.c, 3.5.d, and 3.5.e.

- a. The test must be conducted using EPA Methods 18 and 25A. The performance test must include at least 3 test runs. The heat input (MMBtu/hr) must be measured during the test.
- b. All tests must be conducted in accordance with DEQ's Source Sampling Manual and the approved pretest plan. The pretest plan must be submitted at least 30 days in advance and approved by the Regional Source Test Coordinator. Test data and results must be submitted for review to the Regional Source Test Coordinator within 60 days unless otherwise approved in the pretest plan.
- c. Only regular operating staff may adjust the combustion system or production processes and emission control parameters during the source test and within two hours prior to the source test. Any operating adjustments made during the source test, which are a result of consultation with source testing personnel, equipment vendors or consultants, may render the source test invalid.

**5.2. CTEU1 NO<sub>x</sub> Monitoring Requirements**

The permittee must certify, operate, maintain and record the output of a NO<sub>x</sub> CEMS (consisting of a NO<sub>x</sub> pollutant concentration monitor and an O<sub>2</sub> diluent monitor) with automated DAHS for measuring and recording NO<sub>x</sub> concentration (ppm) and emissions rates (lb/million Btu, lb/MWh, and lb/hr) discharged to the atmosphere in accordance with 40 CFR 75.10(a)(2) and 75.12. [40 CFR 60.4345]

- a. The data acquisition and handling system must calculate and record the hourly NO<sub>x</sub> emission rate in units of ppm and lb/MMBtu, using the appropriate equation from method 19 in Appendix A of 40 CFR Part 60. For any hour in which the hourly average O<sub>2</sub> concentration exceeds 19.0 percent O<sub>2</sub> (or the hourly CO<sub>2</sub> concentration is less than 1.0 percent CO<sub>2</sub>), a diluents cap value of 19.0 percent O<sub>2</sub> or 1.0 percent CO<sub>2</sub> (as applicable) may be used in the emission calculations. [40 CFR 60.4350(b)]
- b. The mass emissions rate in pounds per hour must be calculated as follows:

$$M_{NOx} = ER_{NOx} \times HI_g$$

Where,

$M_{NOx}$  = Hourly mass of NO<sub>x</sub> emissions from the combustion of pipeline natural gas, lb/hr.

$ER_{NOx}$  = NO<sub>x</sub> emission rate in lb/MMBtu as measured by the CEMS.

$HI_g$  = Hourly heat input of pipeline natural gas, calculated using procedures in Appendix F of 40 CFR 75, in MMBtu/hr,

$$HI_g = (Q_g \times GCV_g)/10000;$$

Where,  $Q_g$  = fuel consumption in 100 scf/hr

$GCV_g$  = gross calorific value of natural gas fuel in Btu/scf provided by the natural gas supplier on a monthly basis.

- c. The mass emissions rate in pounds per megawatt hour from combustion turbine (CTEU1), if used for compliance, must be calculated as follows: [40 CFR 60.4350(f)]

$$E = (NO_x)_h * (HI)_h / P$$

Where,

$E$  = Hourly  $NO_x$  emission rate, in lb/MWh

$(NO_x)_h$  = Hourly  $NO_x$  emission rate, in lb/MMBtu

$(HI)_h$  = Hourly heat input rate to the unit, in MMBtu/hr, measured using the fuel flow monitor

$P$  = Gross energy output of the stationary combustion turbine system in MW

$$= (Pe)_t + (Pe)_c + Ps + Po$$

$(Pe)_t$  = Electrical or mechanical energy output of the combustion turbine in MW

$(Pe)_c$  = Electrical or mechanical energy output (if any) of the steam turbine in MW

$Ps$  = Useful thermal energy of the steam, measure relative to ISO conditions, not used to generate additional electric or mechanical output, in MW

$$= Q * H / 3.414 \times 10^6 \text{ Btu/MWh}$$

$Q$  = Measure steam flow rate in lb/hr

$H$  = Enthalpy of the steam at measured temperature and pressure relative to ISO conditions, in Btu/lb, and  $3.413 \times 10^6$  = conversion from Btu/h to MW.

$Po$  = Other useful heat recovery, measure relative to ISO conditions, not used for steam generation or performance enhancement of the combustion turbine

- d. The permittee must ensure that all CEMS meet the equipment, installation and performance specifications in 40 CFR Part 75 Appendix A. [40 CFR 75.10(b)]

- e. The permittee must ensure that all CEMS are in operation at all times that each affected facility combusts any fuel and that the following requirements are met: [40 CFR 75.10(d)]
  - i. The permittee must ensure that each CEMS and component thereof is capable of completing a minimum of one cycle of operation (sampling, analyzing and data recording) for each successive 15-minute interval. The permittee must reduce all NO<sub>x</sub> concentration and NO<sub>x</sub> emissions rate data to 1-hour averages. The permittee must compute these averages from four or more data points equally spaced over each 1-hour period, except during periods when calibration, quality assurance, or maintenance activities pursuant to 40 CFR 75.21 and Appendix B of 40 CFR Part 75 are being performed. During these periods, a valid hour must consist of at least two data points separated by a minimum of 15 minutes. For combined monitoring systems (NO<sub>x</sub> - diluent), the hourly average emission rate is valid only if the hourly average concentration from each of the component monitors is valid.
  - ii. Failure of a NO<sub>x</sub> CEMS to acquire the minimum number of data points comprising a valid hour, as specified in this condition, will result in the loss of such component data for the entire hour. The permittee must estimate and record emission or flow data for the missing hour by means of the automated DAHS, in accordance with 40 CFR Part 75 Subpart D.
  - iii. Notwithstanding Condition ii, only quality assured data from the CEMS shall be used to identify excess emissions for the purposes of Condition 3.2. Periods where missing data substitution procedures in Subpart D of Part 75 are applied are to be reported as monitor downtime in the excess emissions and monitoring performance report required under Condition 7.3. [40 CFR 60.4350(d)]
- f. The hourly average concentration of NO<sub>x</sub> in parts per million, corrected to 15% oxygen, and emission rates in lb/hr, lb/MMBtu-heat input, and lb/MWh, must be recorded at the end of each clock hour that the combustion turbines are operating.
- g. For the purposes of Condition 3.1.a, a 3-hour rolling average NO<sub>x</sub> concentration is the arithmetic average of the average NO<sub>x</sub> concentration measured by the CEMS for a given minute (corrected to 15% O<sub>2</sub>) and the 179 minutes preceding the current minute, excluding periods of startup, shutdown and operation less than 60% of maximum load.
- h. For the purposes of Condition 3.1.b, a 3-hour rolling average NO<sub>x</sub> emission rate is the arithmetic average of the average NO<sub>x</sub>

emission rate measured by the CEMS for a given hour and the 2 hours preceding the current hour, excluding periods of startup and shutdown.

- i. For the purposes of Condition 3.1.c, a 3-hour rolling average NO<sub>x</sub> emission rate is the arithmetic average of the average NO<sub>x</sub> emission rate measured by the CEMS for a given hour and the 2 hours preceding the current hour, including periods of startup and shutdown.
- j. For the purposes of Condition 3.2, a 30-day rolling average NO<sub>x</sub> emissions is the arithmetic average of all hourly NO<sub>x</sub> emissions data in ppm measured by the CEMS for a given day and the twenty-nine unit operating days immediately preceding that unit operating day. A new 30-day average is calculated each unit operating day as the average of all hourly NO<sub>x</sub> emissions rates for the preceding 30 unit operating days if a valid NO<sub>x</sub> emissions rate is obtained for at least 75 percent of all operating hours. [40 CFR 60.4380(h)]
- k. The permittee must ensure that each CEMS and component thereof is capable of accurately measuring, recording and reporting data, and must not incur a full scale exceedance. [40 CFR 75.10(f)]
- l. Whenever the permittee makes a replacement, modification or change in the certified CEMS, including the automated DAHS, that significantly affects the ability of the system to measure or record the NO<sub>x</sub> emission rate, the permittee must recertify the CEMS or component in accordance with 40 CFR 75.20(b).
- m. The permittee must operate, calibrate and maintain each CEMS used under the Acid Rain Program according to the quality assurance and quality control procedures in Appendix B of 40 CFR Part 75. [40 CFR 75.10(b) and 75.21(a)]
- n. The permittee must ensure that all calibration gases used to quality assure the operation of the instrumentation required by this permit must meet the definition in 40 CFR 72.2. [40 CFR 75.21(c)]
- o. If an out-of-control period occurs to a monitor or CEMS, the permittee must take corrective action and repeat the tests applicable to the “out-of-control parameter” in accordance with 40 CFR 75.24.
- p. Whenever a valid hour of NO<sub>x</sub> emissions rate data have not been measured and recorded, the permittee must provide substitute data in accordance with 40 CFR 75.30 through 75.33.
- q. If an out-of-control period occurs to a monitor or CEMS, the permittee must take corrective action and repeat the tests applicable to the “out-of-control parameter” in accordance with 40 CFR 75.24.



- 5.3. CTEU1 CO<sub>2</sub> Monitoring Requirements** In accordance with 40 CFR 60.4345(c), 75.10(a)(3)(ii), 75.13(b), and Appendix G of Part 75, the permittee must install, certify, operate, maintain and record the output of fuel flow meters and calculate the carbon dioxide emissions for each day of operation as follows:

$$W_{CO_2} = (F_c \times H \times U_f \times MW_{CO_2})/2,000$$

Where,

- $W_{CO_2}$  = Daily mass of CO<sub>2</sub> emitted from combustion, tons/day  
 $F_c$  = Carbon based F-factor, 1040 scf/MMBtu for natural gas;  
 $H$  = Daily heat input in MMBtu, as reported in company records  
 $U_f$  = 1/385 scf CO<sub>2</sub>/lb-mole at 14.7 psia and 68°F  
 $MW_{CO_2}$  = Molecular weight of carbon dioxide (44 lb/lbmole)

- 5.4. CTEU1 CO Monitoring Requirements** The permittee must certify, operate, maintain and record the output of a continuous emissions monitoring system (CEMS) for monitoring carbon monoxide emissions in accordance with the Department's Continuous Monitoring Manual.

- a. The data acquisition and handling system must calculate and record the hourly CO emission rate in units of ppm, lb/hr, and lb/MMBtu. For any hour in which the hourly average O<sub>2</sub> concentration exceeds 19.0 percent O<sub>2</sub> (or the hourly CO<sub>2</sub> concentration is less than 1.0 percent CO<sub>2</sub>), a diluents cap value of 19.0 percent O<sub>2</sub> or 1.0 percent CO<sub>2</sub> (as applicable) may be used in the emission calculations. During startup and shutdown the emissions must be calculated and recorded in units of lb/event.
- b. The mass emissions rate in pounds per hour must be calculated as follows:

$$M_{CO} = ER_{CO} \times HI_g$$

Where,

- $M_{CO}$  = Hourly mass of CO emissions from the combustion of pipeline natural gas, lb/hr.  
 $ER_{CO}$  = CO emission rate in lb/MMBtu as measured by the CEMS.  
 $HI_g$  = Hourly heat input of pipeline natural gas, calculated using procedures in appendix F of 40 CFR 75, in MMBtu/hr,  
 $HI_g$  =  $(Q_g \times GCV_g)/10000$ ;

Where,  $Q_g$  = Fuel consumption in 100 scf/hr

$GCV_g$  = Gross calorific value of natural gas fuel in Btu/scf provided by the natural gas supplier on a monthly basis.

- c. The mass emissions in pounds per event for startups and shutdowns must be calculated as follows:

$$M_{CO} = ER_{CO} \times HI_g$$

Where,

$M_{CO}$  = Mass of CO emissions during startups and shutdowns, lb/event.

$ER_{CO}$  = CO emission rate in lb/MMBtu as measured by the CEMS.

$HI_g$  = Heat input of pipeline natural gas during the event, in MMBtu.

- d. The hourly average concentration of CO in parts per million, corrected to 15% oxygen, and emission rates in lb/hr and lb/MMBtu-heat input must be recorded at the end of each clock hour that the combustion turbine is operating. Emissions of CO in pounds per event must be recorded at the end of each event.
- e. For the purposes of Condition 3.4.a, a 3-hour rolling average CO concentration is the arithmetic average of the average CO concentration measured by the CEMS for a given minute (corrected to 15% O<sub>2</sub>) and the 179 minutes preceding the current minute, excluding periods of startup, shutdown and operation less than 60% of maximum load
- f. For the purposes of Condition 3.4.b, a 3-hour rolling average CO emission rate is the arithmetic average of the average CO emission rate measured by the CEMS for a given hour and the 2 hours preceding the current hour, excluding periods of startup and shutdowns.
- g. For the purposes of Condition 3.4.c, a 3-hour rolling average CO emission rate is the arithmetic average of the average CO emission rate measured by the CEMS for a given hour and the 2 hours preceding the current hour, including periods of startup and shutdown.

**5.5. FWP1  
Certification**

- a. The permittee must operate and maintain the FWP1 internal combustion engine according to the manufacturer's written instructions or procedures developed by the permittee that are approved by the engine manufacturer. The permittee may only change those settings that are permitted by the engine manufacturer. [40 CFR 60.4211(a)]
- b. The permittee must comply with the emission limits in Condition 3.12 by utilizing an engine certified to the emission standards. The engine must be installed and configured according to the manufacturer's specifications. [40 CFR 60.4211(c)]
- c. The permittee must install a non-resettable hour meter prior to startup of the engine. [40 CFR 60.4209(a)]

**5.6. PSEL  
Compliance  
Monitoring**

- a. The permittee must demonstrate compliance with the PSEL for each 12-consecutive calendar month period, based on the following calculation for each pollutant except for plant-wide

GHG emissions, and NO<sub>x</sub> and CO emissions from the turbine:  
(Note: This permit contains only emission factors associated with the Carty Plant. Emission factors for the coal plant are in the Title V Permit. Emissions from both plants must be combined to determine compliance with the PSEL.)

$$E = \Sigma(EF \times P)/2000 \text{ lbs}$$

where:

E = pollutant emissions (ton/yr);  
EF = pollutant emission factor (see Condition 0);  
P = process production (see Condition 13.0)

- b. Compliance with the PSEL for NO<sub>x</sub> and CO emissions from the turbine is determined for each 12-consecutive calendar month period based on the sum of all emissions from the CTEU1 during the period, as measured in accordance with Conditions 5.2 and 5.4 and added to the emissions calculated in Condition 5.6.a for all other emissions units, including the Boardman Plant (except H<sub>2</sub>SO<sub>4</sub> and PM<sub>2.5</sub>).

**5.7. Emission Factors**

The permittee must use the default emission factors provided in Condition 12.0 for calculating pollutant emissions, unless alternative emission factors are approved by DEQ. The permittee may request or DEQ may require using alternative emission factors provided they are based on actual test data or other documentation (e.g., AP-42 compilation of emission factors) that has been reviewed and approved by DEQ.

## 6.0 RECORDKEEPING REQUIREMENTS

**6.1. General Recordkeeping Requirements**

- a. The permittee must comply with the General Recordkeeping Requirements provided in the Title V Permit.
- b. The permittee must maintain the records specified in Conditions 5.2, 5.3, 5.4, and 5.6 as well as associated CEMS QA/QC activities for the Carty Plant.
- c. The permittee must keep records of the number and duration of each cold startup, hot startup, and shutdown, as well as the CO emissions measured by the CEMS during each event.

**6.2. Excess Emissions**

The permittee must maintain records of excess emissions as defined in OAR 340-214-0300 through 340-214-0340 (recorded on occurrence). Typically, excess emissions are caused by process upsets, startups, shutdowns, or scheduled maintenance. In many cases, excess emissions are evident when visible emissions are greater than 20% opacity as a six-minute block average. If there is an ongoing excess emission caused by an upset or breakdown, the permittee must cease operation of the equipment or facility no later than 48 hours after the

beginning of the excess emissions, unless continued operation is approved by DEQ in accordance with OAR 340-214-0330(4).

- 6.3. Complaint Log** The permittee must maintain a log of all written complaints and complaints received via telephone that specifically refer to air pollution concerns associated to the permitted facility. The log must include a record of the permittee's actions to investigate the validity of each complaint and a record of actions taken for complaint resolution.
- 6.4. Retention of Records** Unless otherwise specified, the permittee must retain all records for a period of at least five (5) years from the date of the monitoring sample, measurement, report, or application and make them available to DEQ upon request. The permittee must maintain the two (2) most recent years of records onsite.

## 7.0 REPORTING REQUIREMENTS

- 7.1. General Reporting Requirements** The permittee must comply with the Reporting Requirements in the Title V permit.
- 7.2. Initial Compliance Report** The permittee must submit an initial compliance report for demonstrating compliance with the emission limits in Conditions 3.4, and 3.5 within 45 days of completing the initial performance test.
- 7.3. NSPS Semi-Annual Excess Emissions Reports** The permittee must submit reports of excess emissions and monitor downtime, in accordance with 40 CFR 60.7(c). Excess emissions must be reported for all periods of unit operation, including start-up, shutdown and malfunction.
- 7.4. Annual/Semi-Annual Report** The permittee must submit semi-annual and annual reports in accordance with the Title V permit. The annual report must also include a listing of the number and duration of each startup and shutdown for each month and the measured CO emissions during startup and shutdown each month.
- 7.5. Notice of Change of Ownership or Company Name** The permittee must notify DEQ in writing using a Departmental "Transfer Application Form" within 60 days after the following:
- a. Legal change of the name of the company as registered with the Corporations Division of the State of Oregon; or
  - b. Sale or exchange of the activity or facility.

## 8.0 ADMINISTRATIVE REQUIREMENTS

- 8.1. Title V Permit Modification** The permittee must submit an application for an administrative Title V permit modification to incorporate the applicable requirements of this permit no later than 45 days after issuance of this permit.

## 9.0 FEES

- 9.1. Annual Compliance Fee** The permittee must pay the annual fee specified in OAR 340-216-8020, Table 2, Part 2 for a Standard ACDP on **December 1** of each year this permit is in effect. An invoice indicating the amount, as determined by DEQ regulations will be mailed prior to the above date. **Late fees in accordance with Part 4 of the table will be assessed as appropriate.**
- 9.2. Change of Ownership or Company Name Fee** The permittee must pay the non-technical permit modification fee specified in OAR 340-216-8020, Table 2, Part 3(a) with an application for changing the ownership or the name of the company.
- 9.3. Special Activity Fees** The permittee must pay the special activity fees specified in OAR 340-216-8020, Table 2, Part 3 (b through k) with an application to modify the permit.

## 10.0 DEQ CONTACTS / ADDRESSES

- 10.1. Business Office** The permittee must submit payments for invoices, applications to modify the permit, and any other payments to DEQ's Business Office:  
Department of Environmental Quality  
Accounting / Revenue  
700 NE Multnomah St., Suite #600  
Portland, OR 97232
- 10.2. Permit Coordinator** The permittee must submit all notices and applications that do not include payment to the Eastern Region's Permit Coordinator:  
DEQ – Eastern Region  
475 NE Bellevue Dr., Suite 110  
Bend, OR 97701  
541-388-6146
- 10.3. Report Submittals** Unless otherwise notified, the permittee must submit all reports (annual reports, source test plans and reports, etc.) to DEQ's Eastern Region. If you know the name of the Air Quality staff member responsible for your permit, please include it:  
DEQ – Eastern Region  
475 NE Bellevue Dr., Suite 110  
Bend, OR 97701  
541-388-6146
- 10.4. Web Site** Information about air quality permits and DEQ's regulations may be obtained from the DEQ web page at [www.deq.state.or.us](http://www.deq.state.or.us)

## 11.0 GENERAL CONDITIONS AND DISCLAIMERS

- |                                     |                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>11.1. Permitted Activities</b>   | This permit allows the permittee to discharge air contaminants from processes and activities related to the air contaminant source(s) listed on the first page of this permit until this permit expires, is modified, or is revoked.                                                                                                                                           |
| <b>11.2. Other Regulations</b>      | In addition to the specific requirements listed in this permit, the permittee must comply with all other legal requirements enforceable by DEQ.                                                                                                                                                                                                                                |
| <b>11.3. Conflicting Conditions</b> | In any instance in which there is an apparent conflict relative to conditions in this permit, the most stringent conditions apply.                                                                                                                                                                                                                                             |
| <b>11.4. Masking of Emissions</b>   | The permittee must not cause or permit the installation of any device or use any means designed to mask the emissions of an air contaminant that causes or is likely to cause detriment to health, safety, or welfare of any person or otherwise violate any other regulation or requirement.                                                                                  |
| <b>11.5. DEQ Access</b>             | The permittee must allow DEQ's representatives access to the plant site and pertinent records at all reasonable times for the purposes of performing inspections, surveys, collecting samples, obtaining data, reviewing and copying air contaminant emissions discharge records and conducting all necessary functions related to this permit in accordance with ORS 468-095. |
| <b>11.6. Permit Availability</b>    | The permittee must have a copy of the permit available at the facility at all times.                                                                                                                                                                                                                                                                                           |
| <b>11.7. Open Burning</b>           | The permittee may not conduct any open burning except as allowed by OAR 340, division 264.                                                                                                                                                                                                                                                                                     |
| <b>11.8. Asbestos</b>               | The permittee must comply with the asbestos abatement requirements in OAR 340, division 248 for all activities involving asbestos-containing materials, including, but not limited to, demolition, renovation, repair, construction, and maintenance.                                                                                                                          |
| <b>11.9. Property Rights</b>        | The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations.                                                                               |
| <b>11.10. Permit Expiration</b>     | a. A source may not be operated after the expiration date of the permit, unless any of the following occur prior to the expiration date of the permit:                                                                                                                                                                                                                         |

- i. A timely and complete application for renewal or for an Oregon Title V Operating Permit has been submitted, or
- ii. Another type of permit (ACDP or Oregon Title V Operating Permit) has been issued authorizing operation of the source.
- b. For a source operating under an ACDP or Oregon Title V Operating Permit, a requirement established in an earlier ACDP remains in effect notwithstanding expiration of the ACDP, unless the provision expires by its terms or unless the provision is modified or terminated according to the procedures used to establish the requirement initially.

**11.11. Permit  
Termination,  
Revocation, or  
Modification**

DEQ may modify or revoke this permit pursuant to OAR 340-216-0082 and 340-216-0084.

## 12.0 EMISSION FACTORS (CARTY ONLY)

| Emissions Device or Activity | Pollutant                                | Emission Factor (EF) | EF Units             | EF Reference                        |
|------------------------------|------------------------------------------|----------------------|----------------------|-------------------------------------|
| CTEU1                        | PM, PM <sub>10</sub> , PM <sub>2.5</sub> | 5.03E-03             | lb/MMBtu             | Manufacturer Estimate               |
|                              | SO <sub>2</sub>                          | 3.0                  | lb/MMft <sup>3</sup> | Fuel sulfur content                 |
|                              | NO <sub>x</sub>                          | CEMS                 | --                   | --                                  |
|                              | CO                                       | CEMS                 | --                   | --                                  |
|                              | VOC                                      | 2.10E-03             | lb/MMBtu             | AP-42 Table 3.1-2a                  |
|                              | Normal ops                               | 1,003.84             | lb/hr                | Manufacturer Estimate               |
|                              | Cold start                               | 412.15               | lb/hr                | Manufacturer Estimate               |
| ABEU2                        | Hot start                                | 315.2                | lb/hr                | Manufacturer Estimate               |
|                              | Shutdown                                 |                      |                      |                                     |
|                              | H <sub>2</sub> SO <sub>4</sub>           | 1.46                 | lb/MMft <sup>3</sup> | 31.6% of SO <sub>2</sub> conversion |
|                              | GHG                                      | 117.1                | lb/MMBtu             | 40 CFR 98                           |
|                              |                                          |                      |                      |                                     |
| ABEU2                        | PM, PM <sub>10</sub> , PM <sub>2.5</sub> | 2.5                  | lb/MMft <sup>3</sup> | DEQ form AQ-EF05                    |
|                              | SO <sub>2</sub>                          | 3.0                  | lb/MMft <sup>3</sup> | Fuel sulfur content                 |
|                              | NO <sub>x</sub>                          | 50                   | lb/MMft <sup>3</sup> | AP-42, Chapter 1.4                  |
|                              | CO                                       | 84                   | lb/MMft <sup>3</sup> | AP-42, Chapter 1.4                  |
|                              | VOC                                      | 5.5                  | lb/MMft <sup>3</sup> | AP-42, Chapter 1.4                  |
|                              | GHG                                      | 117.1                | lb/MMBtu             | 40 CFR Part 98                      |

## 13.0 PROCESS/PRODUCTION RECORDS

| Emissions Device or Activity | Process or Production Parameter                  | Frequency |
|------------------------------|--------------------------------------------------|-----------|
| CTEU1                        | Heat input (MMBtu)                               | hourly    |
|                              | Natural gas burned (MMft <sup>3</sup> )          | hourly    |
|                              | Hours in cold startup, hot startup, and shutdown | per event |
| ABEU2                        | Natural gas burned (MMft <sup>3</sup> )          | hourly    |



## 14.0 ABBREVIATIONS, ACRONYMS AND DEFINITIONS

|                   |                                                                                |                      |                                                           |
|-------------------|--------------------------------------------------------------------------------|----------------------|-----------------------------------------------------------|
| ACDP              | Air Contaminant Discharge Permit                                               | NSR                  | New Source Review                                         |
| ASTM              | American Society for Testing and Materials                                     | O <sub>2</sub>       | Oxygen                                                    |
| AQMA              | Air Quality Maintenance Area                                                   | OAR                  | Oregon Administrative Rules                               |
| calendar year     | The 12-month period beginning January 1st and ending December 31 <sup>st</sup> | ORS                  | Oregon Revised Statutes                                   |
| CFR               | Code of Federal Regulations                                                    | O&M                  | Operation and Maintenance                                 |
| CO                | Carbon Monoxide                                                                | Pb                   | Lead                                                      |
| CO <sub>2</sub> e | Carbon Dioxide Equivalent                                                      | PCD                  | Pollution Control Device                                  |
| DEQ               | Oregon Department of Environmental Quality                                     | PM                   | Particulate Matter                                        |
| dscf              | dry standard cubic foot                                                        | PM <sub>10</sub>     | Particulate Matter less than 10 microns in size           |
| EPA               | US Environmental Protection Agency                                             | PM <sub>2.5</sub>    | Particulate Matter less than 2.5 microns in size          |
| FCAA              | Federal Clean Air Act                                                          | ppm                  | parts per million                                         |
| Gal               | Gallon(s)                                                                      | PSD                  | Prevention of Significant Deterioration                   |
| GHG               | Greenhouse Gas                                                                 | PSEL                 | Plant Site Emission Limit                                 |
| gr/dscf           | grains per dry standard cubic foot                                             | PTE                  | Potential to Emit                                         |
| HAP               | Hazardous Air Pollutant as defined by OAR 340-244-0040                         | RACT                 | Reasonably Available Control Technology                   |
| I&M               | Inspection and Maintenance                                                     | scf                  | standard cubic foot                                       |
| lb                | Pound(s)                                                                       | SER                  | Significant Emission Rate                                 |
| MMBtu             | Million British thermal units                                                  | SIC                  | Standard Industrial Code                                  |
| NA                | Not Applicable                                                                 | SIP                  | State Implementation Plan                                 |
| NESHAP            | National Emissions Standards for Hazardous Air Pollutants                      | SO <sub>2</sub>      | Sulfur Dioxide                                            |
| NO <sub>x</sub>   | Nitrogen Oxides                                                                | Special Control Area | as defined in OAR 340-204-0070                            |
| NSPS              | New Source Performance Standard                                                | VE                   | Visible Emissions                                         |
|                   |                                                                                | VOC                  | Volatile Organic Compound                                 |
|                   |                                                                                | Year                 | A period consisting of any 12-consecutive calendar months |



## STANDARD AIR CONTAMINANT DISCHARGE PERMIT REVIEW REPORT

Department of Environmental Quality  
Eastern Region

### Source Information:

|       |        |
|-------|--------|
| SIC   | 4911   |
| NAICS | 221112 |

|                                           |                |
|-------------------------------------------|----------------|
| Source Categories<br>(Table 1 Part, code) | B-27, C-4, C-5 |
| Public Notice Category                    | III            |

### Compliance and Emissions Monitoring Requirements:

|                      |   |
|----------------------|---|
| FCE                  | X |
| Compliance schedule  |   |
| Unassigned emissions |   |
| Emission credits     |   |
| Special Conditions   | X |

|                       |                             |
|-----------------------|-----------------------------|
| Source test [date(s)] | 18 months after<br>issuance |
| COMS                  |                             |
| CEMS                  | X                           |
| PEMS                  |                             |
| Ambient monitoring    |                             |

### Reporting Requirements

|                                 |     |
|---------------------------------|-----|
| Annual report<br>(due date)     | 3/1 |
| Quarterly report<br>(due dates) |     |

|                               |   |
|-------------------------------|---|
| Monthly report<br>(due dates) |   |
| Excess emissions report       | X |
| Other (specify)               |   |

### Air Programs

|                        |                                       |
|------------------------|---------------------------------------|
| Synthetic Minor (SM)   |                                       |
| SM -80                 |                                       |
| NSPS (list subparts)   | D, Dc, Y, IIII,<br>KKKK,<br>TTTT/UUUU |
| NESHAP (list subparts) | YYYY, ZZZZ,<br>DDDDD, UUUUU           |
| Part 68 Risk           | X                                     |

|                 |   |
|-----------------|---|
| Management      |   |
| CFC             |   |
| NSR             |   |
| PSD             | X |
| RACT            |   |
| TACT            |   |
| Other (specify) |   |

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## PERMITTING

### PERMITTEE IDENTIFICATION

1. Portland General Electric Company (PGE) owns and operates an electric power generation facility located on Tower Road near Boardman, Oregon. The facility includes coal-fired steam generating boiler and a natural gas-fired combined cycle turbine. Construction of a combined-cycle natural gas turbine, which is also called the Carty Generating Station, was initially permitted by this PSD permit issued on 12/29/10. Construction of the turbine has since been completed and operation has begun under a Title V Permit (25-0016-TV-01) issued on 8/9/16.

### PERMITTING ACTION

2. The proposed permit is a modification of the PSD permit. The modification is required to update the Carbon Monoxide (CO) and Volatile Organic Compound (VOC) emission factors to reflect the manufacturer's estimates of emissions during startup. The increase in emissions will require a Best Available Control Technology (BACT) analysis for both CO and VOC emissions. The permit will also modify the requirements related to the New Source Performance Standard (NSPS) for Stationary Combustion Turbines (Subpart KKKK). A separate permit application was submitted on 1/30/17 for an expansion of the Carty Plant involving additional gas-fired turbines, but that application was subsequently withdrawn.

### OTHER PERMITS

3. The facility is currently operating under Oregon Title V Operating Permit 25-0016-TV-01 and must continue to comply with the provisions of the Title V permit. This permit is being issued to increase the Plant Site Emission Limit (PSEL) for CO and VOC emissions and establish BACT limits on the Carty Plant CO and VOC emissions. Once this permit is issued, the permittee must submit an application to revise the Title V permit to incorporate the requirements of this permit.

### ATTAINMENT STATUS

4. The source is located in an attainment area for all pollutants.

## SOURCE DESCRIPTION

### OVERVIEW

5. The PGE facility includes a 584 megawatt (MW) coal-fired electric generating unit and a 440 MW combined cycle natural gas-fired electric generating unit. The natural gas fired unit (Carty Plant) includes a combustion turbine, duct burners, heat recovery steam generator and steam turbine/generator. The Carty Plant also has a dry low-NO<sub>x</sub> burner, Selective Catalytic Reduction (SCR) with ammonia injection to reduce NO<sub>x</sub> emissions, and a catalytic oxidizer to reduce emissions of CO and VOC. In addition to the electric generating unit, the Carty Plant has a cooling tower, natural gas-fired auxiliary boiler used to produce steam during startup of the electric generating unit and a fire water pump engine for emergency situations.
6. No physical changes have been made to the facility since the last permit action.

### PROCESS AND CONTROL DEVICES

7. Existing air contaminant sources at the facility consist of the following:
  - a. Boardman Plant: The 584 megawatt (MW) coal plant began construction in 1975 and began operation in 1980. A single 6,400 MMBtu/hr Foster Wheeler pulverized coal-fired boiler provides steam to a single Westinghouse turbine generator. A small Combustion Engineering oil-fired package boiler provides startup steam. In addition to the boiler/turbine buildings, the site contains maintenance facilities, a coal storage/handling facility, and an ash handling/disposal facility. Low-sulfur sub-bituminous or bituminous Western coal is delivered to the site by trains.

Coal is unloaded from trains at the dumper building to a conveyor system and is either fed directly to the plant or “stacked” out to the storage piles. Coal is “reclaimed” from the storage pile to feed the plant when trains are not available. Once inside the plant, coal is transported by the in-plant conveyor system to silos where it is fed to pulverizers. The pulverized coal is blown into the main boiler with combustion air.

Combustion takes place in the main boiler and auxiliary boiler. The main boiler burns 300 tons of coal per hour and generates the steam necessary to drive the turbine generator which generates electric power. Oil burning ignitors are used during startup to establish the conditions necessary to sustain coal combustion. Flue gas containing combustion products exits the boiler and leaves the facility via the 650 foot tall main stack. Particulate emissions are controlled by an electrostatic precipitator (ESP). Low NO<sub>x</sub> burner technology and overfire air are used to minimize NO<sub>x</sub> emissions. Emissions of SO<sub>2</sub> are reduced by a dry sorbent injection system. An activated carbon injection system reduces mercury

emissions by injecting activated carbon near the air pre-heaters. A continuous monitoring system in the main stack is used to measure opacity, SO<sub>2</sub>, NO<sub>x</sub>, CO<sub>2</sub>, mercury and stack flow. Steam is required by several plant systems during the plant startup procedures before steam is available from the main boiler. This steam is provided by the 187 MMBtu/hr oil-fired auxiliary boiler. The auxiliary boiler is only used for the coal plant startup. The auxiliary boiler has its own stack with no monitoring equipment. Good combustion practices are used to minimize emissions from the auxiliary boiler.

Bottom ash falls out in the main boiler where it is collected and transported by a water-based system which precludes particulate emissions. Economizer ash is lighter material that falls out in the economizer section of the boiler. This ash is collected and transported in a closed pneumatic system. Fly ash is the fine, light ash collected by the ESP. The fly ash is transported by a closed pneumatic system to storage silos and to transportation vehicles. Ash is transported to the on-site ash disposal area or off-site for sale as a concrete additive.

- b. Carty Generating Station: The facility also includes a 440 MW combined cycle natural gas-fired electric generating unit. Components include a combustion turbine (Mitsubishi Industries M501G1), duct burners, heat recovery steam generator, steam turbine/generator, a cooling tower, 26 MMBtu/hr natural gas-fired auxiliary boiler used to produce steam during start up, and a 315 hp fire water pump engine for emergency situations (limit 100 hr/yr for reliability testing and maintenance). The turbine has a dry low-NO<sub>x</sub> burner, Selective Catalytic Reduction (SCR) with ammonia injection to reduce NO<sub>x</sub> emissions and a catalytic oxidizer to reduce emissions of CO and VOC.

## COMPLIANCE

- 8. The facility was inspected on 8/24/16 and found to be in compliance with permit conditions.
- 9. During the prior permit period there were no complaints recorded for this facility.
- 10. No enforcement actions have been taken against this source since the last permit renewal.

## EMISSIONS

### 11. Proposed PSEL information for the entire facility:

| Pollutant                      | Baseline Emission Rate (tons/yr) | Netting Basis      |                      |                    | Plant Site Emission Limits (PSEL) |                         |                         |
|--------------------------------|----------------------------------|--------------------|----------------------|--------------------|-----------------------------------|-------------------------|-------------------------|
|                                |                                  | Previous (tons/yr) | Coal Boiler (ton/yr) | Proposed (tons/yr) | Previous PSEL (tons/yr)           | Proposed PSEL (tons/yr) | PSEL Increase (tons/yr) |
| PM                             | 1,056                            | 1,101              | 1,015                | 1,101              | 1,101                             | 1,101                   | 0                       |
| PM <sub>10</sub>               | 1,056                            | 1,101              | 1,015                | 1,101              | 1,086                             | 1,086                   | 0                       |
| PM <sub>2.5</sub>              | --                               | 853                | 792                  | 853                | 847                               | 847                     | 0                       |
| SO <sub>2</sub>                | 30,450                           | 9,502              | 8,500                | 8,502              | 9,525                             | 8,525                   | -1,000                  |
| NO <sub>x</sub>                | 17,762                           | 5,961              | 5,836                | 5,961              | 5,961                             | 5,961                   | 0                       |
| CO                             | 767                              | 8,881              | 8,881                | 9,202              | 8,980                             | 9,202                   | 222                     |
| VOC                            | 92                               | 92                 | 92                   | 286                | 116                               | 286                     | 170                     |
| GHG (CO <sub>2</sub> e)        | 5,670,500                        | 5,670,500          | 4,351,900            | 5,670,300          | 6,796,100                         | 6,796,000               | -100                    |
| H <sub>2</sub> SO <sub>4</sub> | --                               | 16                 | 0                    | 16                 | 16                                | 16                      | 0                       |
| Pb                             | 0.17                             | 0.17               | 0.17                 | 0.17               | 0.17                              | 0.17                    | 0                       |

- a. The baseline emission rate for all pollutants except greenhouse gas equals the coal plant potential to emit during the baseline period (1977-1978) because the coal plant was permitted to construct and operate during the baseline period but had not begun operations. [OAR 340-222-0051(1)(c)] A baseline emission rate will not be established for PM<sub>2.5</sub>. [OAR 340-222-0048(3)] For greenhouse gas the baseline period is 2010 in accordance with OAR 340-222-0048(1)(b) since this period includes the date the permit allowing construction of the Carty Plant was issued. Selecting this period allows the potential to emit greenhouse gas from the Carty Plant to be included in the baseline PSEL since the PSD permit was issued in 2010. The maximum greenhouse gas emissions from the coal plant occurred from April 2003 through March 2004, but the Carty Plant was not permitted during this period and would not be included in the greenhouse gas baseline. A baseline emission rate for H<sub>2</sub>SO<sub>4</sub> was not included since all sulfur from the coal plant was assumed to be emitted as SO<sub>2</sub> rather than SO<sub>4</sub>. The baseline emission rate was established in previous permitting actions and there is no new information that effects the previous determination.
- b. The netting basis is defined as the baseline emission rate minus any emission reductions required by rule, order or permit condition, minus any unassigned PSEL emission reductions, minus any emission credit transfers, plus any emission increases through NSR/PSD approvals. [OAR 340-222-0046(3)] During the previous Title V Permit period two PSD permits were approved that affected the netting basis. These PSD actions included an increase in CO emissions due to upgrades to the low-NO<sub>x</sub> technologies in the coal boiler, and an increase in PM,

PM<sub>10</sub>, PM<sub>2.5</sub>, NO<sub>x</sub>, and CO emissions due to the initial Carty PSD permit. These values are included in the previous netting basis since the netting increase is included in the current Title V Permit. A couple of applicable regulations will reduce the netting basis.

- i. The acid rain regulations (40 CFR Parts 72 through 77) and the regional haze rules (OAR 340 Division 223) impose limits on some pollutants that will result in a reduction of the netting basis. The acid rain regulations limit SO<sub>2</sub> allowances for the coal plant to 13,401 ton/yr and the annual average emissions of NO<sub>x</sub> to 0.46 lb/MMBtu. The regional haze regulations impose limits on particulate (0.040 lb/MMBtu heat input), NO<sub>x</sub> (0.23 lb/MMBtu heat input), and SO<sub>2</sub> (0.40 lb/MMBtu heat input until 7/1/2018 when the SO<sub>2</sub> limit is 0.30 lb/MMBtu heat input).
- ii. Previously PGE requested that limits on SO<sub>2</sub> emissions agreed to during settlement of a lawsuit be included in the permit. These limits were incorporated in a permit modification issued on 11/28/12. As applicable requirements, these limits can also reduce the netting basis. [OAR 340-222-0046(3)(a)] The coal-fired boiler SO<sub>2</sub> emissions for 2015 were not to exceed 9,500 tons. This value is reflected in the previous netting basis. The coal-fired boiler SO<sub>2</sub> emissions for 2017 are not to exceed 8,500 tons. Therefore, 8,500 tons will be used in the coal boiler SO<sub>2</sub> netting basis determination of this permit. The SO<sub>2</sub> netting basis will continue to decrease each year until the boiler ceases coal combustion.
- iii. In the regional haze regulations PGE has agreed to cease burning coal no later than 12/31/20. The regulation also stipulates that on the date the boiler ceases to burn coal the netting basis and PSEL associated with the coal-fired boiler must be reduced to zero. In addition, prior to 12/31/20 the netting basis and PSEL associated with the boiler can only be used for physical changes or changes in the method of boiler operation for the purpose of complying with emission limits applicable to the boiler. [OAR 340-223-0030(1)(e)]

The following table summarizes the changes to the netting basis that will happen during the permit term:

| Pollutant                      | Netting Basis (ton/yr) |           |           |           |           |
|--------------------------------|------------------------|-----------|-----------|-----------|-----------|
|                                | 2017                   | 2018      | 2019      | 2020      | 2021      |
| PM/PM <sub>10</sub>            | 1,101                  | 1,101     | 1,101     | 1,101     | 86        |
| PM <sub>2.5</sub>              | 853                    | 853       | 853       | 853       | 61        |
| CO                             | 9,202                  | 9,202     | 9,202     | 9,202     | 321       |
| NO <sub>x</sub>                | 5,961                  | 5,961     | 5,961     | 5,961     | 125       |
| SO <sub>2</sub>                | 8,502                  | 7,614     | 6,852     | 6,702     | 2         |
| VOC                            | 286                    | 286       | 286       | 286       | 194       |
| GHG                            | 5,670,300              | 5,670,300 | 5,670,300 | 5,670,300 | 1,318,400 |
| H <sub>2</sub> SO <sub>4</sub> | 16                     | 16        | 16        | 16        | 16        |
| Pb                             | 0.17                   | 0.17      | 0.17      | 0.17      | 0         |



- c. The previous PSEL is the PSEL contained in the current Title V permit which was issued on 8/9/16.
- d. The proposed PSEL is similar to the previous PSEL except the emissions of CO and VOC were increased due to the inclusion of startup and shutdown emissions at the Carty turbine. Details of the PSEL calculations are contained in the Emission Detail Sheets in Appendix A.
- e. The proposed PSEL also contains a reduction in the SO<sub>2</sub> limit due to the consent decree incorporated into the permit on 11/28/12. The PSEL cannot exceed a more stringent permit condition, so the SO<sub>2</sub> PSEL will be reduced each year in accordance with the consent decree. [OAR 340-222-0035(1)] During the permit term the PSEL will also be reduced due to regional haze regulations limiting emissions of SO<sub>2</sub>. The following table summarizes the changes to the PSEL that will happen during the permit term. The permit will not contain these changes in the PSEL table but will contain the limits on boiler emissions and emission factors in other permit conditions.

| Pollutant                      | Proposed PSEL (ton/yr) |           |           |           |           |
|--------------------------------|------------------------|-----------|-----------|-----------|-----------|
|                                | 2017                   | 2018      | 2019      | 2020      | 2021      |
| PM                             | 1,101                  | 1,101     | 1,101     | 1,101     | 86        |
| PM <sub>10</sub>               | 1,086                  | 1,086     | 1,086     | 1,086     | 71        |
| PM <sub>2.5</sub>              | 847                    | 847       | 847       | 847       | 61        |
| SO <sub>2</sub>                | 8,525                  | 8,195     | 6,875     | 6,725     | 39        |
| NO <sub>x</sub>                | 5,961                  | 5,961     | 5,961     | 5,961     | 125       |
| CO                             | 9,202                  | 9,202     | 9,202     | 9,202     | 321       |
| VOC                            | 286                    | 286       | 286       | 286       | 194       |
| GHG (CO <sub>2</sub> e)        | 6,796,000              | 6,796,000 | 6,796,000 | 6,796,000 | 1,318,400 |
| H <sub>2</sub> SO <sub>4</sub> | 16                     | 16        | 16        | 16        | 16        |
| Pb                             | 0.17                   | 0.17      | 0.17      | 0.17      | 0         |

#### SIGNIFICANT EMISSION RATE ANALYSIS

- 12. The proposed PSEL is equal to or less than the netting basis for all pollutants except CO, VOC and GHG. The PM<sub>10</sub> and PM<sub>2.5</sub> emissions decreased due to changes in the way emissions were calculated and do not necessarily represent an actual decrease in emissions of those pollutants. The decrease in SO<sub>2</sub> emissions is due to reductions based on the consent decree. Emissions of NO<sub>x</sub>, H<sub>2</sub>SO<sub>4</sub> and Pb either did not increase or the increases were less than the Significant Emission Rate (SER). For GHG the increase is greater than SER but is due to use of the coal-fired boiler capacity that existed during the baseline period. In the 12/29/10 PSD Permit which allowed construction of the Carty facility, emissions of CO and VOC were estimated to be less than the SER. Therefore, a PSD analysis for these emissions was not performed at that time. This permit incorporates new emissions information which results in an increase in CO and VOC emissions greater than the SER. As a result, this permit modifies the original PSD permit

to include a PSD analysis for CO and VOC emissions from the Carty facility. A summary of the proposed PSEL increases over the Netting Basis is shown in the following table.

| Pollutant                      | SER    | Requested Increase Over Previous Netting Basis | Increase Due to Utilizing Capacity that Existed in Baseline Period | Increase Due to Physical Changes or Changes in Method of Operation |
|--------------------------------|--------|------------------------------------------------|--------------------------------------------------------------------|--------------------------------------------------------------------|
| PM                             | 25     | 0                                              | 0                                                                  | 0                                                                  |
| PM <sub>10</sub>               | 15     | -15                                            | -15                                                                | 0                                                                  |
| PM <sub>2.5</sub>              | 10     | -6                                             | -6                                                                 | 0                                                                  |
| SO <sub>2</sub>                | 40     | -977                                           | 0                                                                  | -977                                                               |
| NO <sub>x</sub>                | 40     | 0                                              | 0                                                                  | 0                                                                  |
| CO                             | 100    | 321                                            | 0                                                                  | 321                                                                |
| VOC                            | 40     | 194                                            | 0                                                                  | 194                                                                |
| GHG (CO <sub>2</sub> e)        | 75,000 | 1,125,500                                      | 1,125,500                                                          | 0                                                                  |
| H <sub>2</sub> SO <sub>4</sub> | 10     | 0                                              | 0                                                                  | 0                                                                  |
| Pb                             | 0.6    | 0                                              | 0                                                                  | 0                                                                  |

## PSD REQUIREMENTS

13. **Best Available Control Technology (BACT)** means an emission limitation based on the maximum degree of reduction of each air contaminant subject to regulation which would be emitted from any proposed major source or major modification which, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, is achievable for such source. In no event may the application of BACT result in emissions of any air contaminant that would exceed the emissions allowed by an applicable new source performance standard (NSPS) or any standard for hazardous air pollutant (NESHAP). If an emission limitation is not feasible, a design, equipment, work practice, or operational standard, or combination thereof, may be required. Such standard must, to the degree possible, set forth the emission reduction achievable and provide for compliance by prescribing appropriate permit conditions.

The Environmental Protection Agency's (EPA) "top-down" evaluation process specifies that all available control technologies be ranked in descending order of control effectiveness. The most stringent, or "top", alternative is examined first. That alternative is established as BACT unless it is demonstrated that technical considerations, or energy, environmental, or economic impacts justify a conclusion that the most stringent technology is not "achievable" in that case. If the most stringent technology is eliminated in this fashion, then the next most stringent alternative is considered, and so on. EPA

maintains a clearinghouse of RACT/BACT/LAER Controls (RBLC) to assist permitting authorities in making determinations for a specific source.

BACT limits for emissions of PM/PM<sub>10</sub>, NO<sub>x</sub>, and H<sub>2</sub>SO<sub>4</sub> mist were determined in the original Carty PSD permit issued on 12/26/10 and will not be re-evaluated in this permit modification. Based on the corrected emissions estimate, CO and VOC emissions from the Carty turbine, auxiliary boiler, and fire water pump (CO and VOC emitting activities at the Carty facility) are subject to a PSD BACT analysis.

14. A BACT analysis is done on a case-by-case basis and is performed using a top-down method as outlined in EPA's NSR Workshop Manual. This method includes:
  - Identifying all potential control technologies;
  - Eliminate technically infeasible options;
  - Rank the remaining control technologies based on control effectiveness;
  - Evaluate the most effective controls based on a case-by-case consideration of energy, environmental, and economic impacts;
  - Select BACT.

#### Carty Turbine BACT analysis

15. EPA maintains a database of BACT determinations for a wide variety of emission units. This database, along with a database maintained by the California Air Resources Board, was reviewed to determine recent BACT determinations for large natural gas-fired turbines.

Thermal oxidation, catalytic oxidation, and good design/operation of the combustion unit are all potential methods for reducing both CO and VOC emissions.

According to EPA's database, thermal oxidation has not been applied to any combustion turbine. Thermal oxidizer efficiency depends on the emission source, chamber temperature, residence time, and inlet concentrations. Based on the temperature of the Carty combustion turbine exhaust, supplemental firing would be required to raise the exhaust temperature to appropriate levels for the thermal oxidation system to work effectively. Thermal oxidizers are not typically applied to combustion sources to control emissions.

Catalytic oxidation can remove about 20% more VOC emissions and 80% to 94% more CO emissions than good combustion practices alone. Therefore, catalytic oxidation will be ranked as the most effective control over good combustion practices and is considered BACT.

The Carty combustion turbine currently includes catalytic oxidation. This equipment can be used for catalytic oxidation of both CO and VOC emissions. The Carty facility can operate at various loads, both with and without the duct burner operating in the HRSG.

These different operating conditions can impact the level of catalytic oxidation control.  
The following levels of control are proposed for the Carty facility.

| Pollutant | Control             | Operating Condition                      | Proposed BACT Limit                                      | Compliance Method                                          |
|-----------|---------------------|------------------------------------------|----------------------------------------------------------|------------------------------------------------------------|
| CO        | Catalytic Oxidation | >60% load                                | 3.2 ppmvd @ 15% O <sub>2</sub><br>(3-hr rolling average) | CEMS                                                       |
|           |                     | All loads excluding startup and shutdown | 20.6 lb/hr<br>(3-hr rolling average)                     | CEMS                                                       |
|           |                     | Cold startup                             | 4,084 lb/startup                                         | CEMS, follow recommended procedures, minimize startup time |
|           |                     | Hot startup                              | 1,007 lb/startup                                         |                                                            |
|           |                     | Shutdown                                 | 513 lb/shutdown                                          |                                                            |
| VOC       |                     | ≥ 60% load                               | 2.0 ppmvd @ 15% O <sub>2</sub>                           | Source test and 3-hour average                             |
|           |                     | All loads excluding startup and shutdown | 6.1 lb/hr                                                | Source test and 3-hour average                             |
|           |                     | Cold startup                             | 1,004 lb/hr                                              | Follow recommended procedures, minimize startup time       |
|           |                     | Hot startup                              | 412 lb/hr                                                |                                                            |
|           |                     | Shutdown                                 | 315 lb/hr                                                |                                                            |

Some of the more recent determinations in the EPA and CARB database are shown below. For some permits a separate limit was set for duct firing versus non-duct firing operation.

| Date    | Facility                      | Engine Rating             | CO Limit (@15% O <sub>2</sub> )                                                  | VOC Limit (@15% O <sub>2</sub> )                                                 | Averaging Time                              |
|---------|-------------------------------|---------------------------|----------------------------------------------------------------------------------|----------------------------------------------------------------------------------|---------------------------------------------|
| 6/30/17 | Killingly Energy Center, CT   | 550 MW,<br>2639 MMBtu/hr  | (1.7 lb/MMBtu)                                                                   | 1.6 ppmvd                                                                        | 1-hour block                                |
| 4/28/17 | Gaines County Power Plant, TX | 426 MW                    | 2.0 ppmvd <sup>1</sup>                                                           | 3.5 ppmvd                                                                        | 3-hour average                              |
| 1/4/17  | Indeck Niles, MI              | 4161 MMBtu/hr             | 4.0 ppm<br>(24.7 lb/hr) <sup>2</sup>                                             | 4.0 ppmvd                                                                        | 24-hour average                             |
| 12/5/16 | Holland Public Works, MI      | 162 MW,<br>554 MMBtu/yr   | 4.0 ppmvd<br>(5.31 lb/hr) <sup>3</sup>                                           | 4.0 ppmvd                                                                        | 24-hour average                             |
| 9/2/16  | CPV Fairview Energy, PA       | 3338 MMBtu/hr             | 2.0 ppmvd                                                                        | 1.5 ppmvd                                                                        | --                                          |
| 8/31/16 | St. Charles Power, LA         | 3625 MMBtu/hr             | 2.0 ppmvd                                                                        | 2.0 ppmvd                                                                        | 3-hour average                              |
| 7/19/16 | Middlesex Energy Center, NJ   | 380 MW,<br>3,462 MMBtu/hr | 2.0 ppmvd<br>(18.1 lb/hr)<br>2.0 ppmvd <sup>4</sup><br>(15.3 lb/hr) <sup>4</sup> | 2.0 ppmvd<br>(10.3 lb/hr)<br>1.0 ppmvd <sup>4</sup><br>(4.37 lb/hr) <sup>4</sup> | 3-hr rolling avg. (CO)<br>3 test runs (VOC) |

| Date     | Facility                                  | Engine Rating          | CO Limit (@15% O <sub>2</sub> )     | VOC Limit (@15% O <sub>2</sub> )    | Averaging Time                              |
|----------|-------------------------------------------|------------------------|-------------------------------------|-------------------------------------|---------------------------------------------|
| 6/17/16  | Greenville Power Station, VA <sup>5</sup> | 533 MW, 3,227 MMBtu/hr | 1.6 ppmvd<br>1.0 ppmvd <sup>4</sup> | 1.4 ppmvd<br>0.7 ppmvd <sup>4</sup> | 3-hr rolling avg. (CO)<br>3 test runs (VOC) |
| 4/19/16  | TVA Johnsonville Cogeneration, TN         | 1,339 MMBtu/hr         | 1800 lb/MW-hr                       | --                                  | 12-month rolling avg                        |
| 3/24/16  | Apex Neches Station, TX                   | 231 MW                 | 4.0 ppm                             | 2.0 ppm                             | hourly avg                                  |
| 3/9/16   | Okeechobee Energy Center, FL              | 350 MW, 3,096 MMBtu/hr | 4.3 ppmvd                           | 1.0 ppmvd <sup>4</sup>              | 3-hr avg                                    |
| 3/8/16   | Decordova II Power, TX                    | 231 MW                 | 4.0 ppm                             | 2.0 ppm                             | --                                          |
| 11/30/15 | CPV Towantic, CT <sup>6</sup>             | 402 MW, 2,544 MMBtu/hr | 1.7 ppmvd<br>0.9 ppmvd <sup>4</sup> | 2.0 ppmvd<br>1.0 ppmvd <sup>4</sup> | 1 hr block                                  |
| 11/13/15 | Mattawoman Energy, MD <sup>6</sup>        | 286 MW                 | 2.0 ppmvd                           | 1.9 ppmvd<br>1.0 ppmvd <sup>4</sup> | 3-hr block avg                              |
| 11/4/15  | FGE Eagle Pines, TX                       | 321 MW                 | 2.0 ppm                             | 2.0 ppm                             | 3-hr avg block                              |
| 10/8/15  | PSO Comanche Power Station, OK            | 308 MW                 | 0.0785 lb/MMBtu <sup>3</sup>        | --                                  | 3-hr avg                                    |
| 10/2/15  | Lon C. Hill Power, TX                     | 195 MW                 | 2.0 ppm                             | 2.0 ppm                             | 24-hr avg                                   |
| 6/18/15  | Eagle Mountain Power, TX                  | 210 MW                 | 2.0 ppm                             | 2.0 ppm                             | 24-hr avg                                   |
| 4/1/15   | Colorado Bend II Power, TX                | 337 MW                 | 4.0 ppmvd                           | 4.0 ppmvd                           | 3-hr avg.                                   |
| 3/31/15  | Cedar Bayou Station, TX                   | 187 MW                 | 15.0 ppmvd                          | --                                  | --                                          |
| 12/19/14 | SR Bertron Electric, TX                   | 240 MW                 | 4.0 ppmvd                           | 1.0 ppmvd                           | 1-hr avg                                    |

1. The Gaines County Power is a simple cycle turbine. The permit defined end of startup when the turbine reached 50% load but not to exceed 60 minutes. Shut down began when the turbine reach 50% load and could not exceed 60 minutes.
2. The Indeck Niles permit also had a CO limit of 3537 lb/hr during startup and shutdown. The permit defined end of startup when the turbine reached a determined load, which was submitted to and approved by the permitting agency. The cumulative amount of startup time was limited to 500 hours during a 12-month rolling period.
3. The Holland Public Works permit also had a CO limit of 247.3 lb/hr during startup and 551.3 lb/hr during shutdown. Startup ended when the turbine was at 50% load and synched to the grid. The cumulative amount of startup time was limited to 635 hours during a 12-month rolling period.
4. Limit when operating without duct burner
5. The Greenville permit also had a CO limit of 6,944 lb/turbine for cold startup, 3,316 lb/turbine for warm startup, and 1,771 lb/turbine for hot startup. Cold startup defined as  $\geq 72$  hr after shutdown and cold startup ended the earlier of 50% load or 436 minutes. Warm startup defined as 8-72 hr after shutdown and warm startup ended the earlier of 50% load or 166 minutes. Hot startup defined as  $\leq 8$  hr after shutdown and hot startup ended the earlier of 50% load or 84 minutes. Shutdown was limited to 30 minutes.
6. The CPV Towantic permit also had a CO limit of 242 lb/hr during startup and 121 lb/hr during shutdown and a VOC limit of 37 lb/hr during startup and 60 lb/hr during shutdown and these events could not last more than 1 hour.

7. Mattawoman permit also had a CO limit of 1,772 lb/cold startup, 1,461 lb/warm startup, 1,216 lb/hot startup, 156 lb/shutdown, and a VOC limit of 301 lb/cold startup, 258 lb/ warm startup, 207 lb/hot startup, 63 lb/shutdown.

Emissions of CO and VOC during startup are anticipated to make a significant contribution to overall emissions. In establishing the PSEL the permittee assumed the following.

| Event        | Number of Events per Year | CO Emissions per Event (lbs) | VOC Emissions per Event (lbs) | Average CO Emission Rate (lb/hr) | Average VOC Emission Rate (lb/hr) |
|--------------|---------------------------|------------------------------|-------------------------------|----------------------------------|-----------------------------------|
| Cold Startup | 80                        | 4084                         | 3433                          | 1194                             | 1004                              |
| Hot Startup  | 80                        | 1007                         | 536                           | 774                              | 412                               |
| Shutdown     | 160                       | 513                          | 158                           | 1025.7                           | 315                               |

#### Carty Turbine CO BACT Emission Limit Analysis

16. BACT determinations listed in the EPA clearinghouse for the past 10 years for units with duct firing and catalytic oxidation range from 1.6 ppmvd CO to 15 ppmvd CO. A review of the Bay Area Air Quality Management District (BAAQMD) BACT guidance indicates a 4.0 ppmvd limit for natural gas cogeneration turbines while the San Joaquin Valley Air Pollution Control District (SJVAPCD) lists 6.0 ppmv as a CO emission limit achieved in practice. A review of the status of many of the lower emitting plants listed in the EPA clearinghouse indicates they have not begun operation and demonstrated these lower emissions. These facilities include Gaines County Power Plant (simple cycle plant under construction), CPV Fairview Energy (operation expected 2020), St. Charles Power (operation expected 2019), Middlesex Energy Center (under construction), Greenville Power Station (operation expected 2019), CPV Towantic (operation expected 2018), Mattawoman Energy (operation expected 2019), FGE Eagle Pines (operation expected 2020), Lon C. Hill Power (construction not yet commenced), and Eagle Mountain Power (construction not yet commenced). The level of control permitted for these facilities will not be considered since the limits have not been demonstrated. The remaining facilities have limits of 4 ppm or greater and some facilities have demonstrated this level of control in operation. The permittee has proposed a CO limit of 3.2 ppmvd at 15% O<sub>2</sub> as a 3-hour rolling average as the BACT CO emission limit for the Carty turbine consistent with BACT determinations for similar model turbines. DEQ agrees that this limit is an appropriate BACT emission limit. The secondary CO BACT limit of 20.6 lb/hr as a 3-hr rolling average, excluding periods of startup and shutdown is also appropriate.

During times of startup and shutdown the 3.2 ppm and 20.6 lb/hr CO BACT emission limit will not apply. During these times stable combustion and operating temperatures have not been achieved and temperatures are not optimal for efficient operation of the catalytic oxidizer. Emissions during startup and shutdown can be substantial. Based on the emissions data and startup profiles provided by the manufacturer, emissions during a

cold startup would be 4,084 lb/event, during a hot startup emission would be 1,006.5 lb/event, and during shutdown emissions would be 512.8 lb/event. Since startup and shutdown can make a major contribution to the total amount of CO emissions, DEQ believes it is appropriate to set BACT limits during startup and shutdown. DEQ has determined that a BACT startup and shutdown emission limit based on total CO emissions during the startup periods is appropriate to capture the emission during the startup and shutdown period and to distinguish between a cold startup, hot startup, and a shutdown. The permit will contain a limit on CO emissions of 4,084 lb/cold startup, 1,007 lb/hot startup, and 513 lb/shutdown, in accordance with the manufacturer's estimates. Startup would be defined as the initiation of combustion in the turbine and ends when the turbine reaches a determined load. The permittee has expressed concern that the load point at which startup is complete may fluctuate over time under different operating conditions. The permittee proposed that startup end when the turbine CO emissions were at 20.6 lb/hr or less for 30 consecutive minutes. Since the emission limits during startup are greater than steady-state operations, DEQ desires the amount of time spent in startup be minimized in order to minimize emissions. A review of startup definitions in PSD permits issued by other states indicates 50% load is a common endpoint for the definition of a startup. DEQ will define the end of startup to be 50% load. If PGE can provide data indicating that this definition is too restrictive, a permit modification can be requested to change the limit. A cold startup would be defined as any startup after the turbine had been down for 12 hours or more while a hot startup would be a re-start 12 or less hours from the previous shutdown. This approach is consistent with BACT startup and shutdown limits established in other states.

The permittee will be required to conduct startup and shutdown operations in accordance with written procedures that minimize emissions during startups and shutdowns and also minimize the amount of time spent in startup or shutdown.

#### Carty Turbine VOC BACT Analysis

17. BACT determinations listed in the EPA clearinghouse for the past 10 years for units with duct firing and catalytic oxidation range from 1.0 ppmvd VOC to 4.0 ppmvd VOC. A review of the Bay Area Air Quality Management District (BAAQMD) and the San Joaquin Valley Air Pollution Control District (SJVAPCD) BACT guidance indicates a 2.0 ppmvd VOC limit for natural gas cogeneration turbines. The permittee has proposed a VOC limit of 2.0 ppmvd at 15% O<sub>2</sub> as a 3-hour rolling average as the BACT emission limit for the Carty turbine. A review of the status of many of the lower emitting plants listed in the EPA clearinghouse indicates they have not begun operation and demonstrated these lower emissions. These facilities include Killingly Energy Center (operation expected 2021), CPV Fairview Energy (operation expected 2020), Greenville Power Station (operation expected 2019), and Mattawoman Energy (operation expected 2019). The level of control permitted for these facilities will not be considered since the limits have not been demonstrated. The proposed VOC BACT limit of 2.0 ppm is similar or more stringent than the limit for similar operating turbines with duct burners. DEQ feels that a 3-hr average on the VOC limit is more appropriate than a 3-hour rolling

average due to the fact that compliance with the limit will be demonstrated by 3 1-hour stack tests rather than by CEMS. If VOC emissions were measured continuously with a CEMS a rolling average would be appropriate. Using stack testing as a compliance method will not produce sufficient data to determine a rolling average. Since CO emissions are often a surrogate for organic emissions (as an indicator of good combustion) and since CO emissions are monitored with a CEMS, the CO CEMS should provide confidence that VOC emissions are well controlled on an on-going basis. The secondary VOC BACT limit of 6.1 lb/hr as a 3-hr average is also appropriate.

During times of startup and shutdown the 2.0 ppm and 6.1 lb/hr VOC BACT limits will not apply. During these times stable combustion and operating temperatures have not been achieved and temperatures are not optimal for efficient operation of the catalytic oxidizer. The turbine vendor supplied average VOC emission estimates of approximately 1,004 lb/hr during each cold startup, 412 lb/hr during each hot startup, and 315 lb/hr during each shutdown. Establishing a pound per hour BACT limit rather than a pound per event is appropriate for VOC emissions since emissions are not continuously monitored. Compliance will be demonstrated by stack testing, and the duration of each event could have an impact on the test results. Since startup and shutdown can make a major contribution to the amount of VOC emissions, DEQ believes it is appropriate to set limits during startup and shutdown. The permit will contain a limit on VOC emissions for cold startup of 1,004 lb/hr, for hot startup 412 lb/hr, and for shutdown 315 lb/hr.

For VOC compliance during startups and shutdowns, the permittee will be required to conduct startup and shutdown operations in accordance with written procedures that minimize emissions during startups and shutdowns and also minimize the amount of time spent in startup or shutdown.

#### Carty Auxiliary Boiler BACT analysis

18. The EPA database of BACT determinations was reviewed to determine recent CO and VOC BACT determinations for natural gas fired boilers with less than 100 MMBtu/hr heat input. The results are shown below.

| Date     | Facility                    | Boiler Rating | CO Limit       | VOC Limit       | Averaging Time |
|----------|-----------------------------|---------------|----------------|-----------------|----------------|
| 3/23/17  | Midwest Fertilizer, IN      | 70 MMBtu/hr   | 2.556 lb/hr    | 0.378 lb/hr     | 3-hour         |
| 1/4/17   | Indeck Niles, MI            | 27 MMBtu/hr   | 2.2 lb/hr      | 0.15 lb/hr      |                |
| 12/05/16 | Holland Public Works, MI    | 83.5 MMBtu/hr | 0.077 lb/MMBtu | 0.008 lb/MMBtu  |                |
| 9/2/16   | CPV Faiview, PA             | 92.4 MMBtu/hr | 0.037 lb/MMBtu | 0.004 lb/MMBtu  | 3 runs         |
| 8/26/16  | Grayling Particleboard, MI  | 34 MMBtu/hr   | 0.082 lb/MMBtu | 0.0054 lb/MMBtu |                |
| 7/19/16  | Middlesex Energy Center, NJ | 97.5 MMBtu/hr | 3.61 lb/hr     | 0.488 lb/hr     | 3-hr average   |



| Date     | Facility                           | Boiler Rating                                   | CO Limit                  | VOC Limit                                | Averaging Time    |
|----------|------------------------------------|-------------------------------------------------|---------------------------|------------------------------------------|-------------------|
| 3/10/16  | Sewaren Generating Station, NJ     | 80 MMBtu/hr                                     | 2.88 lb/hr                | 0.32 lb/hr                               | 3-hr average      |
| 3/9/16   | Okeechobee Clean Energy Center, FL | 99.8 MMBtu/hr                                   | 0.08 lb/MMBtu             | --                                       | 3-hr average      |
| 11/13/15 | Mattawoman Energy, MD              | 42 MMBtu/hr                                     | 0.037 lb/MMBtu            | 0.003 lb/MMBtu                           | 3-hr average      |
| 11/6/15  | Port of Beaumont, TX               | 95.7 MMBtu/hr<br>40.0 MMBtu/hr<br>13.2 MMBtu/hr | 50 ppmvd@3%O <sub>2</sub> | 5.42 ton/yr<br>0.94 ton/yr<br>0.3 ton/yr | Annual            |
| 10/9/15  | Constellium Alloys Plant, AL       | 24.59 MMBtu/hr<br>17.5 MMBtu/hr                 | 0.08 lb/MMBtu             | 0.006 lb/MMBtu                           |                   |
| 6/18/15  | Eagle Mountain Power, TX           | 73.3 MMBtu/hr                                   | 50 ppm                    | 4.0 ppm                                  | 3-hr/1-hr average |
| 5/5/15   | Seminole Generating Station, OK    | 40.4 MMBtu/hr                                   | 0.0075 lb/MMBtu           | --                                       | 3-hr average      |
| 1/8/15   | Tinker AFB, OK                     | 16 boilers<br>13.5-17.3 MMBtu/hr                | --                        | 7.1 ton/yr combined                      | Annual            |

For small boilers such as the Carty auxiliary boiler, control of CO and VOC emissions is typically achieved through good combustion practices. All of the BACT determinations in the EPA clearinghouse indicated good combustion as the best control. For CO the BACT limits range from 1.5 lb/hr to 8.0 lb/hr. The application proposed CO emissions when using good combustion practices for the Carty auxiliary boiler as 2.13 lb/hr. For VOC emissions the BACT limits range from 0.13 lb/hr to 0.67 lb/hr. The proposed VOC emissions when using good combustion practices for the Carty auxiliary boiler is 0.14 lb/hr. DEQ agrees that 2.13 lb CO/hr and 0.14 lb VOC/hr as a 3-hr average are appropriate levels of BACT control for the Carty auxiliary boiler. Since the auxiliary boiler operates for a limited amount of time (247 hr/yr) no compliance tests will be required.

#### Carty Fire Water Pump BACT analysis

19. The EPA database of BACT determinations was reviewed to determine recent BACT determinations for small (<500 hp) diesel-fired engines. The results are shown below:

| Date     | Facility                 | Engine Rating | CO Limit    | VOC Limit   |
|----------|--------------------------|---------------|-------------|-------------|
| 2/17/17  | Cameron LNG, LA          | 460 hp        | 2.6 g/hp-hr | 3.0 g/hp-hr |
| 1/9/17   | Monsanto, LA             | 400 hp        | 2.6 g/hp-hr | --          |
| 1/4/17   | Indeck Niles, MI         | 500 hp        | 2.6 g/hp-hr | 0.64 lb/hr  |
| 12/20/16 | Topchem Pollock, LA      | 460 hp        | 3.5 g/hp-hr | --          |
| 12/5/16  | Holland Public Works, MI | 165 hp        | 3.7 g/hp-hr | 0.47 lb/hr  |

| Date     | Facility                              | Engine Rating                  | CO Limit                 | VOC Limit                   |
|----------|---------------------------------------|--------------------------------|--------------------------|-----------------------------|
| 9/2/16   | CPV Fairview, PA                      | 422 hp                         | 2.6 g/hp-hr              | --                          |
| 8/31/16  | St.Charles, LA                        | 282 hp                         | 2.6 g/hp-hr              | 3.0 g/hp-hr                 |
| 8/3/16   | Indorama Lake Charles, LA             | 425 hp                         | 2.6 g/hp-hr              | 3.0 g/hp-hr                 |
| 7/19/16  | Middlesex Energy Center, NJ           | 14.4 MMBtu/hr<br>2.25 MMBtu/hr | 11.6 lb/hr<br>1.87 lb/hr | 0.557 lb/hr<br>0.0117 lb/hr |
| 6/17/16  | Greensville Power Station, VA         | 376 bhp                        | 2.6 g/hp-hr              | 3.0 g/hp-hr <sup>1</sup>    |
| 6/8/16   | Beaumont Terminal, TX                 | Confidential                   | 3.1 g/hr-hr              | 1.13 g/hp-hr                |
| 3/10/16  | Sewaren Generating Station, NJ        | 360 bhp, 2.6<br>MMBtu/hr       | 1.1 lb/hr                | 0.1 lb/hr                   |
| 3/9/16   | Okeechobee Clean Energy Center,<br>FL | 422 hp                         | 2.6 g/hp-hr              | --                          |
| 12/8/15  | Grain Processing Corporation, IN      | 425 hp                         | 2.0 g/hp-hr              | 0.05 g/hp-hr                |
| 11/13/15 | Mattawoman Energy Center, MD          | 305 hp                         | 2.6 g/hp-hr              | --                          |
| 1/23/15  | Exxon Point Thomson, AK               | 490 hp                         | 2.6 g/hp-hr              | 0.0025 lb/hp-<br>hr         |
| 1/8/15   | Tinker AFB, OK                        | 300 hp                         | --                       | 0.15 g/hp-hr <sup>2</sup>   |

1. Limit is an NSPS limit for combined NO<sub>x</sub> and non-methane hydrocarbon
2. Limit is for 3 engines combined

For small engines such as the Carty fire water pump control of CO and VOC emissions is typically achieved through proper maintenance of the engine. All of the BACT determinations in the EPA clearinghouse indicated proper maintenance as the best control for these pollutants. The BACT limit cannot be greater than the NSPS limit of 2.6 g/hp-hr for CO and 3.0 g/hp-hr for VOC. The BACT limit of 2.6 g CO/hp-hr is appropriate for the fire pump. A VOC emission limit of 1.12 g/hp-hr was proposed. These limits are similar to the NSPS limits and the emission factors in AP-42. Since the pump only operates during emergencies and occasionally for testing and maintenance, no compliance tests will be required.

20. An **ambient air quality analysis** is required for the increases in CO and VOC emissions. An ambient air quality analysis for CO was conducted by the permittee in accordance with OAR 340-225-0050 through 0070 based on a modeling protocol submitted to DEQ. The CO analysis evaluated impacts in Class I and Class II areas within range of the Carty facility. Class I areas are national parks and wilderness areas designated by Congress. Class II areas are areas that are unclassified or in attainment with national ambient air quality standards. There are no direct ambient air quality standards for VOC. However, VOC emissions contribute to the formation of ozone, which does have an ambient air quality standard. The ambient air quality analysis for VOC will be discussed later in this review report.

The CO emissions analysis provides a conservative estimate of the ambient concentrations due to the Carty Plant's emissions using approved dispersion models. The CO emissions from the Carty Plant were first modeled to determine if the impacts were greater than significant impact level (SIL) for CO. If the impact is greater than the SIL,

additional analyses would be required. The first analysis would evaluate the emissions from the Carty plus emissions from surrounding sources to determine if the combined impacts will exceed a PSD increment. PSD increments are established by EPA to prevent significant deterioration of air quality. The second analysis would evaluate whether the emissions from Carty plus background ambient concentrations could exceed a national ambient air quality standard. For Class I areas, there are additional requirements for determining if the emissions will have an adverse impact on visibility or contribute significantly to nitrogen or sulfur deposition.

PGE provided a CO emissions analysis with the permit modification application. The latest version of EPA's AERMOD software (version 15181) was used to determine the ambient CO concentrations due to operation of the Carty facility. On-site meteorological data collected from 4/1/12 through 3/31/13, supplemented with cloud cover and wind data from the Hermiston airport and Spokane upper air data were used in the model along with local terrain data. Several operating scenarios were modeled to determine the worst case ambient impacts. These scenarios included variable ambient temperatures (20°F, 55°F, and 90°F), variable normal operating load, 60%, 75%, 100%, and 100% with duct burner), as well as periods of turbine startup. The worst case scenario was determined to be during startup at 20°F ambient temperature. The resulting ambient impact at the worst case scenario is compared to the SIL to determine if additional analysis is required. The results are summarized below.

| Pollutant         | Maximum Modeled Concentration ( $\mu\text{g}/\text{m}^3$ ) | Significant Impact Level ( $\mu\text{g}/\text{m}^3$ ) |
|-------------------|------------------------------------------------------------|-------------------------------------------------------|
| CO (8-hr average) | 179                                                        | 500                                                   |
| CO (1-hr average) | 2,300                                                      | 2,000                                                 |

The maximum predicted 8-hour concentration is 179  $\mu\text{g}/\text{m}^3$  and occurs adjacent to the facility. The modeled concentration is less than the significant impact level. Therefore, no additional analysis is required for this standard. In addition, OAR 340-224-0070(1)(a)(B) allows exemption from the requirement for pre-construction monitoring if the modeled 8-hour average CO concentration is less than 575  $\mu\text{g}/\text{m}^3$ . No pre-construction monitoring is required for CO emissions.

The maximum predicted 1-hour CO concentration is 2,300  $\mu\text{g}/\text{m}^3$  and occurs at a ridge top approximately 10 km southeast of the facility. The modeled 1-hour average CO concentration is greater than the significant impact level. Therefore, additional analysis is required for this standard. CO emissions from 15 permitted sources in the area, including sources near Boardman and Hermiston, were added to the CO emissions from the PGE coal-fired boiler and the Carty plant to determine the combined impact of CO emissions on the ambient airshed. In addition, the ambient background CO concentration was added to the combined modeled impact for comparison against the ambient air quality standards. The results are shown below:

| Pollutant         | Modeled Combined Concentration (µg/m <sup>3</sup> ) | Background Concentration (µg/m <sup>3</sup> ) | Total Concentration (µg/m <sup>3</sup> ) | National Ambient Air Quality Standard (µg/m <sup>3</sup> ) |
|-------------------|-----------------------------------------------------|-----------------------------------------------|------------------------------------------|------------------------------------------------------------|
| CO (1-hr average) | 1,422                                               | 1,015                                         | 2,437                                    | 40,000                                                     |

The predicted CO concentration is well below the National Ambient Air Quality Standard (NAAQS). There are no PSD increment standards for CO emissions. Based on this analysis, emissions from the Carty facility, including the effect of increased startup emissions, will not have an adverse impact on the environment.

21. As mentioned previously, emissions of VOC can contribute to ozone formation. In accordance with OAR 340-224-0070(1)(a) the permittee must submit an analysis of ambient air quality in the area. Any net increase of 100 tons/yr or more of VOC from a source requires an ambient impact analysis including the gathering of ambient ozone monitoring data. [OAR 340-224-0070(1)(a)(B)(vi)] OAR 340-224-0070(1)(a)(A)(vii) allows DEQ to use representative or conservative background concentration data in lieu of conducting pre-construction monitoring if the permittee can demonstrate that such data are adequate to determine that the facility would not cause or contribute to a violation of any ambient air quality standard or any applicable PSD increment. DEQ and Washington Department of Ecology are currently studying ozone concentrations in the Columbia Basin area. Ambient monitoring was conducted at the Hermiston Airport about 28 miles (45 kilometers) from the Carty plant. The results of the monitoring are summarized below.

| Location          | Basis                | 2009   | 2010   | 2011   | 2012   | 2013   | 2014   | Standard |
|-------------------|----------------------|--------|--------|--------|--------|--------|--------|----------|
| Hermiston Airport | 4 <sup>th</sup> high | 61 ppb | 63 ppb | 58 ppb | 67 ppb | 62 ppb | 64 ppb | 75 ppb   |

DEQ considers the collected data to be representative and conservative. No additional ozone monitoring will be required. However, the independent study of ozone in the area by DEQ and Washington Dept. of Ecology will continue.

Ambient impacts from a facility are typically determined using approved air quality models which predict the ambient concentration of a pollutant due to emissions from the facility. This ambient concentration is compared to the National Ambient Air Quality Standards (NAAQS) and Prevention of Significant Deterioration (PSD) increments. There are no ambient standards (NAAQS or PSD increments) for VOC. However VOC is a precursor that leads to formation of ozone, which does have an ambient standard. In accordance with OAR 340-224-0520(2)(a) the ozone impact area for the Carty facility is calculated to be:

$$D = (Q/40) \times 30 \text{ km}$$

Where:

D = Ozone impact distance in km;  
Q = Larger of NO<sub>x</sub> or VOC emission increase over netting basis  
= 195 ton/yr for VOC (0 ton/yr for NO<sub>x</sub>).

The resulting ozone impact distance is 146 km. The Carty facility is approximately 190 km from the nearest designated ozone area (Portland ozone air quality maintenance area). Therefore, the Carty facility is not considered to have an impact on the Portland ozone air quality maintenance area.

## TITLE V MAJOR SOURCE APPLICABILITY

22. A major source is a facility that has the potential to emit 100 tons/yr or more of any criteria pollutant or 10 tons/yr or more of any single HAP or 25 tons/yr or more of combined HAPs. This facility is a major source of both criteria and HAP emissions. The basis for this determination can be found in the Emission Detail Sheets in Attachment A.

## HAZARDOUS AIR POLLUTANTS

23. This facility is a major source of hazardous air pollutants (HAP). The HAP emissions detail is provided at the end of this report. Provided below is a summary of the HAP emissions.

| Pollutant                  | Potential to Emit<br>(ton/yr) |
|----------------------------|-------------------------------|
| Acetaldehyde               | 1.32                          |
| Acrolein                   | 0.51                          |
| Benzene                    | 2.12                          |
| Benzyl chloride            | 1.07                          |
| Bis(2-ethylhexyl)phthalate | 0.11                          |
| Bromoform                  | 0.06                          |
| Carbon disulfide           | 0.20                          |
| Chloroform                 | 0.09                          |
| Cyanide compounds          | 3.83                          |
| Dimethylsulfate            | 0.07                          |
| Ethylbenzene               | 0.50                          |
| Ethylchloride              | 0.06                          |
| Ethylene dichloride        | 0.06                          |
| Formaldehyde               | 8.37                          |
| Hexane                     | 0.12                          |
| Hydrogen chloride          | <b>18.40</b>                  |
| Hydrogen fluoride          | 3.07                          |
| Isophorone                 | 0.89                          |
| Methyl bromide             | 0.25                          |
| Methyl chloride            | 0.81                          |

| Pollutant                                 | Potential to Emit<br>(ton/yr) |
|-------------------------------------------|-------------------------------|
| Methyl ethyl ketone                       | 0.60                          |
| Methyl hydrazine                          | 0.26                          |
| Methyl tert butyl ether                   | 0.05                          |
| Methylene chloride                        | 0.44                          |
| Polycyclic Aromatic Hydrocarbons<br>(PAH) | 0.06                          |
| Propionaldehyde                           | 0.58                          |
| Propylene oxide                           | 0.33                          |
| Tetrachloroethylene                       | 0.07                          |
| Toluene                                   | 1.83                          |
| Xylenes                                   | 0.72                          |
| Antimony                                  | 0.12                          |
| Arsenic                                   | 0.33                          |
| Beryllium                                 | 0.11                          |
| Cadmium                                   | 0.09                          |
| Chromium                                  | 0.60                          |
| Chromium (VI)                             | 0.52                          |
| Cobalt                                    | 0.66                          |
| Lead                                      | 0.40                          |
| Manganese                                 | 1.13                          |
| Mercury                                   | 0.10                          |
| Nickel                                    | 0.50                          |
| Selenium                                  | 9.00                          |
| <b>Total</b>                              | <b>60.7</b>                   |

Only compounds with emissions greater than 0.05 tons/yr are listed.

#### TOXIC AND FLAMMABLE SUBSTANCE USAGE

24. PGE reported they use up to 10,000 lbs of hydrogen per year. The Selective Catalytic Reduction (SCR) controls at the Carty facility use ammonia to reduce NO<sub>x</sub> emissions.

### ADDITIONAL REQUIREMENTS

#### NSPS APPLICABILITY

25. There are several New Source Performance Standards (NSPS) applicable to this facility. These standards are addressed in the current Title V Permit and are summarized below. No new standards are applicable as a result of this modification.

- a. Subpart D - Standards for fossil-fuel-fired steam generators apply to the coal fired boiler. These standards include limits on opacity, particulate emissions, SO<sub>2</sub> emissions, and NO<sub>x</sub> emissions which are included in the Title V permit. Subparts Da or Db could also be applicable if the boiler is modified, but are not currently applicable.
- b. Subpart Dc - Standards for small industrial-commercial-institutional steam generating units apply to the Carty Plant Auxiliary Boiler. However, there are no emission standards associated with units that burn only natural gas.
- c. Subpart Y - Standards for coal preparation and processing plants apply to the coal processing equipment. This standard includes an opacity limit and a requirement to prepare and operate in accordance with an emission control plan.
- d. Subpart IIII – Standards for stationary compression ignition internal combustion engines apply to the Carty and Boardman fire pump engines. This standard includes a particulate matter emission limit, a combined NO<sub>x</sub> and non-methane hydrocarbon (NMHC) limit, and a limit on fuel sulfur content. The engines should be certified, installed and configured in accordance with the regulation. Since the engines are used on a limited basis non-resettable hour meters will be used to track engine usage.
- e. Subpart KKKK – Standards for stationary combustion turbines apply to the Carty Plant turbine. This regulation includes limits on NO<sub>x</sub> emissions and on the sulfur content of the fuel burned in the turbine. The current permit has two NO<sub>x</sub> limits (15 ppm at 15% O<sub>2</sub> and 54 ng/J of useful output) and requires compliance with the more stringent limit. However, the regulation actually allows compliance with either limit, not the more stringent limit. The permittee has elected to comply with the 15ppm at 15% O<sub>2</sub> limit and has requested that the other limit, with associated monitoring, recordkeeping and reporting, be removed from the permit.
- f. Subpart UUUU – Emission guidelines for greenhouse gas emissions from electric utility generating units will apply to the coal-fired boiler and the Carty turbine since they both commenced construction prior to January 8, 2014. The guidelines were stayed by the U.S. Supreme Court on 2/9/2016. If the stay is lifted, the State (or multiple States) will be required to submit a plan to implement the emission guidelines. If required, the permit will be modified to implement the emission guidelines after the State plan has been approved by EPA.
- g. The auxiliary boiler associated with the coal-fired boiler is not subject to Subpart D or Da because the heat input is less than 250 MMBtu/hr. It is not subject to Subpart Db because it commenced construction prior to June 19, 1984. It is not subject to Subpart Dc because the heat input is greater than 100 MMBtu/hr.
- h. Since the Carty Plant turbine is regulated under Subpart KKKK it is exempt from the requirements of Subpart GG. Since the Carty duct burners are regulated under Subpart KKKK they are exempted from the requirements of Subpart Dc. [40 CFR 60.4305(b)]

NESHAPS/MACT APPLICABILITY

26. There are several National Emission Standards for Hazardous Air Pollutants (NESHAP) standards applicable to this facility. These standards are addressed in the current Title V Permit and are summarized below. No new standards are applicable as a result of this modification.
- a. Subpart YYYY – Standards for stationary combustion turbines apply to the Carty turbine. The turbine is considered a new turbine (constructed after January 14, 2003). In accordance with 40 CFR 63.6095(d) the facility must comply with the initial notification requirements of this regulation, but need not comply with any other requirement of Subpart YYYY until EPA takes final action to require compliance and publishes a document in the Federal Register. Initial notification was submitted on 10/21/16.
  - b. Subpart ZZZZ – Standards for stationary reciprocating internal combustion engines apply to the Carty and Boardman fire pump engines, and the Boardman emergency generator. The Carty and Boardman fire pump engines will comply with Subpart ZZZZ by meeting the requirements of the NSPS (Subpart IIII). No further requirements from Subpart ZZZZ apply to these engines; however Subpart ZZZZ does apply to the Boardman emergency generator. [40 CFR 63.6590(c)]
  - c. Subpart DDDDD – Standards for industrial, commercial, and institutional boilers and process heaters at major sources of HAP applies to the auxiliary boilers at Boardman and Carty. The regulation does not apply to the coal-fired boiler because it is subject to Subpart UUUUU. [40 CFR 63.7491(a)] Both boilers are considered to be limited use because they will have federally enforceable conditions that limit the average annual capacity factor (ratio of actual heat input to potential heat input at 8760 hr/yr) to no more than 10%. [40 CFR 63.7575] As limited use boilers, the units are not subject to the emission limits, energy assessment requirements, or operating limits in the Subpart DDDDD. They are required to complete a tune-up every 5 years. [40 CFR 63.7500(c)] The initial notification of startup of the Carty auxiliary boiler was received on 6/21/16.
  - d. Subpart UUUUU – Standards for coal- and oil-fired electric utility steam generating units applies to the coal-fired boiler (MB.EU). The boiler is considered to be an existing source since construction commenced prior to May 3, 2011. [40 CFR 63.9982(d)] Subpart UUUUU includes limits on mercury emissions, non-mercury HAP metal emissions (expressed either as a limit on individual metals, a total metal emission limit, or as a filterable particulate limit), and acid gas emissions (HCl or SO<sub>2</sub>). [40 CFR 63.9991(a)] The facility has opted to comply with the filterable particulate standard for non-HAP metal emissions, and the HCl standard for acid gas emissions. The initial compliance test for filterable particulate and HCl was conducted July 7-8, 2015 and indicated compliance with the standard. Subpart UUUUU also requires a tune-up of the burners and combustion controls at least every 36 months. [40 CFR 63.9991(a)] The facility has not yet qualified as a Low Emitting EGU (LEE) for PM and HCl, but may qualify if all required testing for 3 consecutive years is less than 50% of



the applicable emission limit. [40 CFR 63.10005(h)(1)(i)] The applicable requirements are included in the current Title V Permit.

- e. The cooling tower is not subject to Subpart Q because chromium-based water treatment chemicals are not used. [40 CFR 63.400(a)]

#### RACT APPLICABILITY

27. The RACT rules are not applicable to this source because it is not in the Portland AQMA, Medford AQMA, or Salem SKATS.

### SOURCE TESTING

#### PRIOR TESTING RESULTS

28. The results of the source tests on the coal fired boiler since the last permit action are listed below. The Carty CEMS were initially certified in August 2016.

| Test Date | Gross Load (MW) | Fuel Usage (tons/hr) | Opacity (%) | PM Emissions (lb/MMBtu)            | Other Emissions        |
|-----------|-----------------|----------------------|-------------|------------------------------------|------------------------|
| 10/15/15  | 599             | 326                  | 2.5         | 0.0063                             | 6.3E-05 lb/MMBtu (HCl) |
| 1/7/16    | 602             | 329                  | 4           | 0.0090                             | 2.7E-04 lb/MMBtu (HCl) |
| 6/29/16   | 601             | 326                  | 3           | 0.0060                             | 1.1E-04 lb/MMBtu (HCl) |
| 8/22/16   | 603             | 326                  | 3.4         | 0.0033                             | 8.1E-05 lb/MMBtu (HCl) |
| 8/23/16   | 603             | 326                  | 3.4         | 0.0046 gr/dscf<br>0.19 lb/ton coal |                        |

#### PROPOSED TESTING

29. Quarterly testing of the coal-fired boiler for particulate and HCl is required until the facility qualifies as a low emitting unit. If the boiler qualifies as a low emitting unit the particulate and HCl tests are required every 3 years. These testing requirements are contained in the current Title V Permit. This permit will require additional testing on the Carty turbine to demonstrate compliance with the VOC BACT emission limits and to verify the VOC emission factor.

### PUBLIC NOTICE

30. Pursuant to OAR 340-216-0066(4)(b)(C), modification of Standard Air Contaminant Discharge Permits require public notice in accordance with OAR 340-209-0030(3)(d), which requires DEQ to provide notice of the proposed permit action and a minimum of 35 days for interested persons to submit written comments. In addition, a hearing has been scheduled to allow interested persons to submit oral or written comments.

The permittee has requested that this ACDP modification be incorporated into the Title V Permit via an administrative amendment in accordance with OAR 340-218-0150(1)(h), which requires this permit action undergo the same public notice procedures as a Title V Significant Permit Modification. **The public notice was issued on Jan. 23, 2018. A public hearing is scheduled for Feb. 22, 2018 and the comment period will end on Feb. 27, 2018.**

dw:ww

## ATTACHMENT A: EMISSION DETAIL SHEETS

### TOTAL EMISSIONS

|                                               | PM             | PM <sub>10</sub> | PM <sub>2.5</sub> | SO <sub>2</sub> | NO <sub>x</sub> | CO             | VOC          | H <sub>2</sub> SO <sub>4</sub> | GHG              | Pb          |
|-----------------------------------------------|----------------|------------------|-------------------|-----------------|-----------------|----------------|--------------|--------------------------------|------------------|-------------|
| Boardman Plant - main boiler                  | 1,014.9        | 1,014.9          | 787.0             | 8,500           | 5835.9          | 8880.7         | 92.0         | -- <sup>a</sup>                | 5,477,556        | 0.17        |
| Boardman Plant – auxiliary boiler             | 0.05           | 0.03             | 0.01              | 1.8             | 0.5             | 0.1            | 0            | 0                              | 564.5            | 0           |
| Boardman Plant - fugitives                    | 27.9           | 13.3             | 2.3               |                 |                 |                |              |                                |                  |             |
| <b>Boardman Plant - Total</b>                 | <b>1,042.9</b> | <b>1,028.2</b>   | <b>789.2</b>      | <b>8,501.8</b>  | <b>5,836.4</b>  | <b>8,880.8</b> | <b>92.0</b>  | -- <sup>a</sup>                | <b>5,478,121</b> | <b>0.17</b> |
|                                               |                |                  |                   |                 |                 |                |              |                                |                  |             |
| Carty Plant - combustion turbine              | 56.6           | 56.6             | 56.6              | 22.6            | 124.0           | 320.2          | 193.6        | 16.1                           | 1,315,111        |             |
| Carty Plant - auxiliary boiler                | 0.02           | 0.02             | 0.02              | 0.03            | 0.5             | 0.8            | 0.05         |                                | 1,136            |             |
| Carty Plant - fire water pump                 | 0.003          | 0.003            | 0.003             | 0.016           | 0.244           | 0.053          | 0.019        |                                | 9.0              |             |
| Carty Plant - cooling tower                   | 1.1            | 1.1              | 1.1               |                 |                 |                |              |                                |                  |             |
| Circuit Breaker –SF <sub>6</sub> (Carty)      |                |                  |                   |                 |                 |                |              |                                | 2.8              |             |
| Circuit Breaker – SF <sub>6</sub> (Grassland) |                |                  |                   |                 |                 |                |              |                                | 231.8            |             |
| <b>Carty Plant - Total</b>                    | <b>57.7</b>    | <b>57.7</b>      | <b>57.7</b>       | <b>22.7</b>     | <b>124.7</b>    | <b>321.1</b>   | <b>193.7</b> | <b>16.1</b>                    | <b>1,317,849</b> |             |
|                                               |                |                  |                   |                 |                 |                |              |                                |                  |             |
| <b>Totals</b>                                 | <b>1100.6</b>  | <b>1085.9</b>    | <b>846.9</b>      | <b>8524.5</b>   | <b>5961.1</b>   | <b>9201.9</b>  | <b>285.7</b> | <b>16.1</b>                    | <b>6,795,969</b> | <b>0.17</b> |

a. All sulfur from main boiler included in SO<sub>2</sub> emissions.

**BOARDMAN PLANT EMISSIONS**

| Unit/Device                             | Process or Throughput |                     | ***** PM *****  |                    |               | ***** PM <sub>10</sub> ***** |                    |               | ***** PM <sub>2.5</sub> ***** |                    |              |
|-----------------------------------------|-----------------------|---------------------|-----------------|--------------------|---------------|------------------------------|--------------------|---------------|-------------------------------|--------------------|--------------|
|                                         |                       |                     | Emission Factor |                    | Emissions     | Emission Factor              |                    | Emissions     | Emission Factor               |                    | Emissions    |
|                                         | Rate                  | Units               | Rate            | Units              | (tons/yr)     | Rate                         | Units              | (tons/yr)     | Rate                          | Units              | (tons/yr)    |
| <b>Particulate Matter</b>               |                       |                     |                 |                    |               |                              |                    |               |                               |                    |              |
| Main Boiler - coal                      | 5.075E+07             | MMBtu/yr            | 0.040           | lb/MMBtu           | 1014.9        | 0.040                        | lb/MMBtu           | 1014.9        | 0.031                         | lb/MMBtu           | 787.0        |
| - oil                                   | 1,000                 | kgal/yr             | 2               | lb/kgal            | 1.0           | 1                            | lb/kgal            | 0.5           | 0.25                          | lb/kgal            | 0.1          |
| Auxiliary Boiler - oil                  | 50                    | kgal/yr             | 2               | lb/kgal            | 0.05          | 1                            | lb/kgal            | 0.03          | 0.25                          | lb/kgal            | 0.01         |
| Coal Storage Pile                       | 1,000,000             | ft <sup>2</sup> /yr | 0.024           | lb/ft <sup>2</sup> | 11.9          | 0.012                        | lb/ft <sup>2</sup> | 6.0           | 1.79E-03                      | lb/ft <sup>2</sup> | 0.9          |
| Coal Yard Bull-Dozer Activity           | 3,500                 | hr/yr               | 2.78            | lb/hr              | 4.9           | 2.09                         | lb/hr              | 3.7           | 0.06                          | lb/hr              | 0.1          |
| Unpaved Road Vehicle Traffic            | 20,000                | VMT/yr              | 1.01            | lb/VMT             | 10.1          | 0.26                         | lb/VMT             | 2.6           | 0.03                          | lb/VMT             | 0.3          |
| <b>Aggregate Insignificant Activity</b> |                       |                     |                 |                    |               |                              |                    |               |                               |                    |              |
| Coal yard conveyor system               | 3.68E+07              | ton/yr              | 1.33E-05        | lb/ton             | 0.24          | 6.29E-06                     | lb/ton             | 0.12          | 9.52E-07                      | lb/ton             | 0.02         |
| Fly ash handling system                 | 441,504               | ton/yr              | 3.14E-03        | lb/ton             | 0.69          | 1.10E-03                     | lb/ton             | 0.24          | 1.10E-03                      | lb/ton             | 0.24         |
| In-plant coal handling system           | 16,863,000            | ton/yr              | 8.65E-09        | lb/ton             | 7.29E-05      | 4.09E-09                     | lb/ton             | 3.45E-05      | 6.20E-10                      | lb/ton             | 5.22E-06     |
| Paved road vehicle traffic              | 55,000                | VMT/yr              | 3.87E-03        | lb/VMT             | 0.11          | 7.75E-04                     | lb/VMT             | 0.02          | 1.90E-04                      | lb/VMT             | 0.01         |
| AI Total                                |                       |                     |                 |                    | 1.0           |                              |                    | 0.38          |                               |                    | 0.27         |
| <b>Total</b>                            |                       |                     |                 |                    | <b>1042.9</b> |                              |                    | <b>1028.2</b> |                               |                    | <b>789.2</b> |

**BOARDMAN PLANT EMISSIONS (cont.)**

| Pollutant                                        | Process or Throughput |          | Emission Factor |                          | Emissions         |
|--------------------------------------------------|-----------------------|----------|-----------------|--------------------------|-------------------|
|                                                  | Rate                  | Units    | Rate            | Units                    | (tons/yr)         |
| CO - Main boiler                                 | 5.075E+07             | MMBtu/yr | 0.35            | lb/MMBtu                 | 8880.7            |
| - Aux boiler                                     | 50                    | kcal/yr  | 5               | lb/kcal                  | 0.1               |
| NO <sub>x</sub> - Main boiler                    | 5.075E+07             | MMBtu/yr | 0.23            | lb/MMBtu                 | 5835.9            |
| -Aux boiler                                      | 50                    | kcal/yr  | 20              | lb/kcal                  | 0.5               |
| SO <sub>2</sub> - Main boiler                    | 5.075E+07             | MMBtu/yr | 0.40            | lb/MMBtu                 | 8500 <sup>1</sup> |
| - Aux boiler                                     | 50                    | kcal/yr  | 71              | lb/kcal                  | 1.8               |
| VOC - Main boiler                                | 3.07E+06              | ton/yr   | 0.06            | lb/ton                   | 92                |
| - Aux boiler                                     | 50                    | kcal/yr  | 0.2             | lb/kcal                  | 0.005             |
| Pb (w/ESP)                                       | 5.024E+07             | MMBtu/yr | 1.52E-06        | lb/MMBtu                 | 0.04              |
| Pb (w/o ESP)                                     | 5.075E+05             | MMBtu/yr | 5.07E-04        | lb/MMBtu                 | 0.13              |
| Pb - Aux Boiler                                  | 50                    | kcal/yr  | 1.24E-03        | lb/kcal                  | 0.00003           |
| <b>GHG - Main boiler</b>                         |                       |          |                 |                          |                   |
| CO <sub>2</sub>                                  | 5.075E+07             | MMBtu/yr | 214.22          | lb/MMBtu                 | 5,435,502         |
| CH <sub>4</sub>                                  | 5.075E+07             | MMBtu/yr | 6.06E-01        | lb/MMBtu                 | 15,383            |
| N <sub>2</sub> O                                 | 5.075E+07             | MMBtu/yr | 1.05            | lb/MMBtu                 | 26,671            |
| <b>Total GHG - Main boiler (CO<sub>2</sub>e)</b> |                       |          |                 |                          | <b>5,477,556</b>  |
| GHG -Aux Boiler                                  |                       |          |                 |                          |                   |
| CO <sub>2</sub>                                  | 50                    | kcal/yr  | 22,501          | lb/kcal                  | 562.53            |
| CH <sub>4</sub>                                  | 50                    | kcal/yr  | 22.82           | lbCO <sub>2</sub> e/kcal | 0.57              |
| N <sub>2</sub> O                                 | 50                    | kcal/yr  | 54.40           | lbCO <sub>2</sub> e/kcal | 1.36              |
| <b>Total GHG - Aux boiler (CO<sub>2</sub>e)</b>  |                       |          |                 |                          | <b>564</b>        |

1. Calculated value is 10,149 ton/yr. However, consent decree limits 1997 SO<sub>2</sub> emissions to 8,500 ton/yr.

## **BOARDMAN EMISSION FACTORS AND EMISSIONS DOCUMENTATION**

### **Boiler Emissions:**

The PM, PM<sub>10</sub>, SO<sub>2</sub> and NO<sub>x</sub> emission factors are equivalent to the regulatory limits established in the Regional Haze Rules. The limits are 0.040 lb/MMBtu heat input for particulate and PM<sub>10</sub> (OAR 340-223-0030(1)(c)), 0.40 lb/MMBtu heat input for SO<sub>2</sub> (OAR 340-223-0030(1)(b)), and 0.23 lb/MMBtu heat input for NO<sub>x</sub> (OAR 340-223-0030(1)(a)). On 7/1/2018 the SO<sub>2</sub> emissions limit is decreased to 0.30 lb/MMBtu heat input. The emission factor for PM<sub>2.5</sub> was estimated in a 9/26/2011 permit revision to be 77.54% of the PM<sub>10</sub> emission factor. The CO emission factor is equivalent to the Best Available Control Technology (BACT) limit established in a PSD permit issued on 12/10/2010 (ACDP 25-0016-ST-01) and incorporated into a Title V Permit on 4/20/2011. The VOC emission factor is from AP-42 Table 1.1-19. The lead (Pb) emission factor (without ESP) is from AP-42 Table 1.1-17. The ESP is assumed to have a 99.7% control efficiency for lead and is not on-line during boiler start up (assumed 1% of total operating time). The greenhouse gas (GHG) emission factors are from 40 CFR 98 Tables C-1 and C-2 with the global warming potentials from Table A-1 (1 for CO<sub>2</sub>, 25 for CH<sub>4</sub>, and 298 for N<sub>2</sub>O). There are no circuit breakers containing SF<sub>6</sub> at the Boardman site that would contribute to GHG emissions.

### **Auxiliary Boiler Emissions:**

The emission factors for the auxiliary boiler are from AP-42 Tables 1.3-1, 6 and 10, with the assumption of 0.5% sulfur content of the oil. The greenhouse gas (GHG) emission factors are from 40 CFR 98 Tables C-1 and C-2 with the global warming potentials from Table A-1 (1 for CO<sub>2</sub>, 25 for CH<sub>4</sub>, and 298 for N<sub>2</sub>O).

### **Coal Pile Wind Erosion Emission Estimate:**

Particulate emissions from the coal pile are going to be variable from one year to the next depending on meteorological conditions and coal stocking policies. Using Section 13.2.5 from the 2006 (latest) edition of AP-42, the emission factor for a typical meteorological year of wind speeds (1988) was calculated using the following assumptions:

- Although there are five coal storage piles, they have similar geometry. All of the piles have height to base ratios less than 0.2 so a flat pile is assumed for calculations.
- Using conservative estimates the piles will have similar disturbance frequencies (about once per week).
- Total surface area of the coal pile will vary through the year but will average about 1,000,000 square feet (based on previous survey data).
- Because of the bulldozer operations, the threshold friction velocity will be comparable to a coal pile with scraper tracks (0.62 m/s from AP-42 Table 13.2.5-2).
- 1988 meteorological data from the Pendleton Weather Station were used for wind speeds. Wind speed measurement height was 7 meters. (<http://cdo.ncdc.noaa.gov/qclcd/QCLCD>)

AP-42 Section 13.2.5 uses a calculation which is based on summing individual erosion potentials over the course of a year. Each event is dependent on the fastest mile of wind observed during each disturbance interval.

$$EF = k \sum_{i=1}^N P_i$$

Where: EF = emission factor in g/m<sup>2</sup> per year  
K = particle size multiplier, 1.0 for PM, 0.5 for PM<sub>10</sub>, 0.075 for PM<sub>2.5</sub>  
N = number of disturbance periods per year  
P<sub>i</sub> = erosion potential for the ith period.

From AP-42 Section 13.2.5 Equation 3, for each disturbance:

$$P = 58(u^* - u_t)^2 + 25(u^* - u_t)$$

Where: P = erosion potential in g/m<sup>2</sup>, P = 0 if u\* ≤ u<sub>t</sub>  
u\* = friction velocity in m/sec  
u<sub>t</sub> = threshold friction velocity in m/sec (0.62 m/sec)

Accounting for the 7 meter height of the wind gage, the friction velocity is calculated by Equation 4 of AP-42 Section 13.2.5

$$u^* = (0.053)(1.05)u_7^+$$

Where: u<sub>7</sub><sup>+</sup> = fastest wind mile for disturbance period measured at 7 meters

Based on these equations, for an emission event to occur during the disturbance period the measured wind speed must be:

$$u_7^+ > \frac{(0.62 \frac{m}{s})}{(0.053)(1.05)} = 11.14 \frac{m}{s} \text{ or } 25 \text{ mph}$$

Meteorological data for 1988 had 25 one week intervals with the potential for measureable emission events. Calculating the individual erosion potentials and summing yields an annual emission factor of 116.59 g/m<sup>2</sup> (0.024 lb/ft<sup>2</sup>) for PM, 58.30 g/m<sup>2</sup> (0.012 lb/ft<sup>2</sup>) for PM<sub>10</sub> and 8.74 g/m<sup>2</sup> (0.002 lb/ft<sup>2</sup>) for PM<sub>2.5</sub>. It should be noted that these calculations do not take into account the fact that the site boundary is approximately one mile east of the pile and a substantial portion of these calculated emissions will be deposited within the Boardman facility property.

#### **Bulldozer Operation Emissions Estimate:**

Particulate matter emissions from the bulldozer operations were calculated using the equation found in AP-42 Table 11.9-1:

$$EF = \frac{78.4s^{1.2}}{M^{1.3}}$$

Where: EF = emission factor, lb/operating hour  
s = silt content, 2.2% from AP-42 Table 13.2.4-1  
M = coal moisture content, 27% from 1994 Boardman coal analysis

AP-42 Table 11.9-1 also included scaling factors to determine the percentage of particulate that is PM<sub>10</sub> (75%) and PM<sub>2.5</sub> (2.2%). It should be noted that these calculations do not take into account the fact that the site boundary is approximately one mile east of the pile and a substantial portion of these calculated emissions will be deposited within the Boardman facility property.

### **Unpaved Roads Emissions Estimate:**

From AP-42 Section 13.2.2, Equations 1a and 2 are combined to estimate fugitive emissions from unpaved roads at an industrial site with occasional natural mitigation (rain).

$$EF = k(s/12)^a(W/3)^b \left( \frac{365 - P}{365} \right)$$

Where: EF = emission factor lb/vehicle mile travelled (VMT)  
k = empirical constant; 4.9 for PM, 1.5 for PM<sub>10</sub>, and 0.15 for PM<sub>2.5</sub>  
s = surface material silt content; 5.1% from AP-42 Table 13.2.2-1  
a = empirical constant; 0.7 for PM, 0.9 for PM<sub>10</sub>, and 0.9 for PM<sub>2.5</sub>  
W = average vehicle weight of all vehicles on road; 3 tons  
b = empirical constant; 0.45 for PM, PM<sub>10</sub>, and PM<sub>2.5</sub>  
P = number of days in a year with at least 0.01 inches precipitation; 90 days.

The emission factor also includes an assumption of 50% control due to dust suppression on the unpaved roads.

### **Aggregate Insignificant Emissions Estimate:**

- I. **Coal Yard Coal Handling:** The coal yard coal handling system is designed to provide coal to the in-plant coal handling system. It consists of a railcar dumper, a conveyor system, and two “stacker/reclaimers”. Several different fueling scenarios are available to provide coal to the plant. Coal can be delivered directly to the plant from the railcars via the conveyor system or it can be conveyed from the railcar dumper and “stacked out” on the storage pile to be “reclaimed” and delivered to the plant at a later time. The maximum number of transfers under any of the fueling scenarios is twelve. Particulate emissions are controlled by a water based foam and chemical binder application which is sprayed on the coal during coal transfer at the



dumper, “stacker/reclaimer” #2, and/or the last conveyor transfer point. This type of dust suppression material is designed to provide control through the entire conveyor system. According to data supplied by the vendor, Betz Water Management Group, the material provides 90% reduction of fugitive particulate emissions.

From AP-42 Section 13.2.4 the emission factor for each transfer or drop can be calculated as:

$$EF = k(0.0032) \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}} \left(\frac{100 - C}{100}\right)$$

Where: EF = emission factor (lb/ton transfer)  
k = particle size multiplier; 0.74 for PM, 0.35 for PM<sub>10</sub>, 0.053 for PM<sub>2.5</sub>  
U = mean wind speed; 9 mph from meteorological data  
M = material moisture content; 27% from monthly as-fired coal analysis  
C = control efficiency; 90%

- II. **In-plant Coal Handling:** The in-plant coal handling system is designed to receive coal from the coal yard coal handling system and deliver it to the pulverizer silos. The system consists of a distribution bin and two conveyor systems which each feed four pulverizer silos. The silos are in series and the conveyor system has splitters which can direct coal into the silo, send it on to the next silo, or do both. Each coal transfer point is enclosed. Particulate emission control is accomplished by separate dust collectors on each conveyor system. Each dust collection system draws air from inside the coal transfer enclosures and discharges the air outside the building through baghouses. The design collection efficiency is 99.9% for both baghouses.

From AP-42 Section 13.2.4 the emission factor for each transfer or drop can be calculated as:

$$EF = k(0.0032) \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}} \left(\frac{100 - C}{100}\right)$$

Where: EF = emission factor (lb/ton transfer)  
k = particle size multiplier; 0.74 for PM, 0.35 for PM<sub>10</sub>, 0.053 for PM<sub>2.5</sub>  
U = mean wind speed; 1.1 mph from the Boardman Plant Data Book

M = material moisture content; 27% from monthly as-fired coal analysis  
C = control efficiency; 99.9%

- III. **Fly Ash Handling:** The fly ash handling system is designed to deliver fly ash from the electrostatic precipitator to storage and subsequently transfer the ash to vehicles for on-site disposal or transporting off-site for use in making concrete. The system is an enclosed pneumatic transfer system with a storage dome, large storage silo, and two smaller holding silos. There are four dust collection systems with baghouses which serve to collect ash at each of the ash transfer points. The baghouses are rated at a 99.9% control efficiency.

The emission factor calculation for drop transfers is not applicable to a pneumatic transfer system. The characteristics of fly ash are similar to dry cement, so AP-42 Section 11.12 "Concrete Batching" was used to estimate emission factors. From Table 11.12-2 of AP-42 the uncontrolled emissions for pneumatic unloading of cement supplements to elevated silos is 3.14 lb/ton for PM and 1.10 lb/ton for PM<sub>10</sub>. It was conservatively assumed that the PM<sub>2.5</sub> emissions are similar to PM<sub>10</sub> emissions. The 99.9% control efficiency is applied to these emission factors.

- IV. **Paved Roads:** There are approximately 4 miles of paved roads on the plant site with a wide variety of vehicular traffic. The most significant vehicular traffic can be broken into three categories:
- Light vehicles including plant and employee transportation. These vehicles have an average weight of 3 tons and constitute 49% of traffic (27,000 miles/yr).
  - Ash haul trucks average 27 tons and constitute 42% of traffic on paved roads (23,000 miles/yr).
  - Water wagon is used to haul water for dust suppression in the ash disposal pit. This vehicle averages 38 tons and constitutes 9% of paved road traffic (5,000 miles/yr).

The average vehicle weight based on the amount of travel for each type of vehicle is 16.22 tons. From AP-42 Section 13.2.1 the emission factor for paved roads can be calculated as follows:

$$EF = k(sL)^{0.91}W^{1.02}(1 - P/4N)$$

Where: EF = emission factor, lb/VMT  
k = particle size multiplier; 0.011 for PM, 0.0022 for PM<sub>10</sub>, 0.00054 for PM<sub>2.5</sub>  
sL = road surface silt loading; 0.015 g/m<sup>2</sup> AP-42 Section 13.2.1  
W = average weight of vehicles traveling the roads; 16.22 tons  
P = number of days in a year with at least 0.01 inches precipitation; 90 days  
N = number of days in the averaging period; 365 days

## CARTY COMBUSTION TURBINE

Annual Hours of Operation 7840 hr/yr (920 hours of outage)  
Average Hourly Heat Input 2868 MMBtu/hr  
Hourly Gas Usage 2.81 MMcf/hr  
Cold Startups (80) 273.6 hr/yr  
Hot Startups (80) 104 hr/yr  
Shutdowns (160) 80 hr/yr

| Pollutant                                  | Process or Throughput |                 | Emission Factor |                                         | Emissions<br>(tons/yr) |
|--------------------------------------------|-----------------------|-----------------|-----------------|-----------------------------------------|------------------------|
|                                            | Rate                  | Units           | Rate            | Units                                   |                        |
| <b>PM/PM<sub>10</sub>/PM<sub>2.5</sub></b> | <b>22,485,120</b>     | <b>MMBtu/yr</b> | <b>5.03E-03</b> | <b>lb/MMBtu</b>                         | <b>56.6</b>            |
| CO - Normal Operation                      | 21,172,723            | MMBtu/yr        | 7.14E-03        | lb/MMBtu                                | 75.6                   |
| - Cold Startup                             | 273.6                 | hr/yr           | 1,194           | lb/hr                                   | 163.3                  |
| - Hot Startup                              | 104.0                 | hr/yr           | 774             | lb/hr                                   | 40.3                   |
| - Shutdown                                 | 80.0                  | hr/yr           | 1,025.7         | lb/hr                                   | 41.0                   |
| <b>Total CO</b>                            |                       |                 |                 |                                         | <b>320.2</b>           |
| NO <sub>x</sub> - Normal Operation         | 21,172,723            | MMBtu/yr        | 7.37E-03        | lb/MMBtu                                | 78.0                   |
| - Cold Startup                             | 273.6                 | hr/yr           | 145.6           | lb/hr                                   | 19.9                   |
| - Hot Startup                              | 104.0                 | hr/yr           | 237.5           | lb/hr                                   | 12.4                   |
| - Shutdown                                 | 80.0                  | hr/yr           | 344             | lb/hr                                   | 13.8                   |
| <b>Total NO<sub>x</sub></b>                |                       |                 |                 |                                         | <b>124.0</b>           |
| <b>SO<sub>2</sub></b>                      | <b>22,030</b>         | <b>MMcf/yr</b>  | <b>3.0</b>      | <b>lb/MMcf</b>                          | <b>22.6</b>            |
| VOC - Normal Operation                     | 21,172,723            | MMBtu/yr        | 2.10E-03        | lb/MMBtu                                | 22.2                   |
| - Cold Startup                             | 273.6                 | hr/yr           | 1,003.84        | lb/hr                                   | 137.3                  |
| - Hot Startup                              | 104.0                 | hr/yr           | 412.15          | lb/hr                                   | 21.4                   |
| - Shutdown                                 | 80.0                  | hr/yr           | 315.2           | lb/hr                                   | 12.6                   |
| <b>Total VOC</b>                           |                       |                 |                 |                                         | <b>193.6</b>           |
| <b>H<sub>2</sub>SO<sub>4</sub></b>         | <b>22,030</b>         | <b>MMcf/yr</b>  | <b>1.46</b>     | <b>lb/MMcf</b>                          | <b>16.1</b>            |
| GHG - CO <sub>2</sub>                      | 22,485,120            | MMBtu/yr        | 117.0           | lb/MMBtu                                | 1,315,111              |
| - CH <sub>4</sub> (CO <sub>2</sub> e)      | 22,485,120            | MMBtu/yr        | 5.51E-02        | lb/MMBtu                                | 619.6                  |
| - N <sub>2</sub> O (CO <sub>2</sub> e)     | 22,485,120            | MMBtu/yr        | 6.57E-02        | lb/MMBtu                                | 738.6                  |
| Carty-SF <sub>6</sub>                      | 1.21E-04              | ton/yr          | 22,800          | lb CO <sub>2</sub> e/lb SF <sub>6</sub> | 2.8                    |
| Grassland – SF <sub>6</sub>                | 1.02E-02              | ton/yr          | 22,800          | lb CO <sub>2</sub> e/lb SF <sub>6</sub> | 231.8                  |
| <b>Total GHG (CO<sub>2</sub>e)</b>         |                       |                 |                 |                                         | <b>1,316,703.4</b>     |

## COMBUSTION TURBINE EMISSION FACTOR DOCUMENTATION

The PM, PM<sub>10</sub> and PM<sub>2.5</sub> emission factors as well as the estimates of CO, NO<sub>x</sub>, and VOC emissions during startup and shutdown were provided by the manufacturer. The CO emission factor during normal operation assumes the exhaust gas concentration of CO is 3.2 ppm at standard temperature and pressure, corrected to 15% oxygen. The NO<sub>x</sub> emission factor during normal operation assumes the exhaust gas concentration of NO<sub>x</sub> is 2 ppm at standard temperature and pressure, corrected to 15% oxygen. The SO<sub>2</sub> emission factor assumes the sulfur content of natural gas is 30 ppm but 31.6% of the SO<sub>2</sub> formed is converted to SO<sub>4</sub> which becomes H<sub>2</sub>SO<sub>4</sub>. The VOC emission factor is from AP-42 Table 3.1-2a. The greenhouse gas emission factors are from 40 CFR 98 Tables C-1 and C-2. There are two circuit breakers, each containing 24.25 lbs of SF<sub>6</sub> at the Carty facility. There are also three circuit breakers at the Grassland Switchyard that contain 1,355.84 lbs of SF<sub>6</sub> each. The circuit breakers are assumed to leak SF<sub>6</sub>, a greenhouse gas, at an annual rate of 0.5% by weight. As a result, 0.24 lbs of SF<sub>6</sub> leak from the two Carty breakers each year, and 20.34 lbs of SF<sub>6</sub> leak from the three Grassland Switchyard breakers. The global warming potential of SF<sub>6</sub> is 22,800.

### CARTY AUXILIARY BOILER

Annual Hours of Operation 751 hr/yr (during turbine startup)  
Hourly Heat Input 26 MMBtu/hr  
Hourly Gas Usage 0.025 MMcf/hr

| Pollutant                              | Process or Throughput |          | Emission Factor | Units    | Emissions (tons/yr) |
|----------------------------------------|-----------------------|----------|-----------------|----------|---------------------|
|                                        | Rate                  | Units    |                 |          |                     |
| PM/PM <sub>10</sub> /PM <sub>2.5</sub> | 19.0                  | MMcf/yr  | 2.5             | lb/MMcf  | 0.02                |
| SO <sub>2</sub>                        | 19.0                  | MMcf/yr  | 3.0             | lb/MMcf  | 0.03                |
| NO <sub>x</sub>                        | 19.0                  | MMcf/yr  | 50              | lb/MMcf  | 0.48                |
| CO                                     | 19.0                  | MMcf/yr  | 84              | lb/MMcf  | 0.80                |
| VOC                                    | 19.0                  | MMcf/yr  | 5.5             | lb/MMcf  | 0.05                |
| GHG - CO <sub>2</sub>                  | 19,406                | MMBtu/yr | 117.0           | lb/MMBtu | 1,135               |
| - CH <sub>4</sub> (CO <sub>2</sub> e)  | 19,406                | MMBtu/yr | 0.055           | lb/MMBtu | 0.54                |
| - N <sub>2</sub> O (CO <sub>2</sub> e) | 19,406                | MMBtu/yr | 0.066           | lb/MMBtu | 0.64                |
| Total GHG (CO <sub>2</sub> e)          |                       |          |                 |          | 1,136               |

### CARTY AUXILIARY BOILER EMISSION FACTOR DOCUMENTATION

The Carty auxiliary boiler is used for turbine startup. The emission factors for PM, PM<sub>10</sub> and PM<sub>2.5</sub> come from DEQ's table of emission factors (Form AQ-EF05). The SO<sub>2</sub> emission factor assumes a natural gas sulfur content of 30 ppm which is all converted to SO<sub>2</sub> emissions. The NO<sub>x</sub> and CO emission factors come from AP-42 Table 1.4-1 and VOC emission factor from AP-42 Table 1.4-2. The greenhouse gas emission factors are from 40 CFR 98 Tables C-1 and C-2.

## CARTY FIRE WATER PUMP

Annual Hours of Operation      50 hr/yr (for routine testing)  
Horse-Power Output              315 hp-hr  
Heat Input                          2.21 MMBtu/hr

| Pollutant                              | Process or Throughput |          | Emission Factor |          | Emissions (tons/yr) |
|----------------------------------------|-----------------------|----------|-----------------|----------|---------------------|
|                                        | Rate                  | Units    | Rate            | Units    |                     |
| PM/PM <sub>10</sub> /PM <sub>2.5</sub> | 15,750                | hp-hr/yr | 3.31E-04        | lb/hp-hr | 0.003               |
| SO <sub>2</sub>                        | 15,750                | hp-hr/yr | 2.05E-03        | lb/hp-hr | 0.016               |
| NO <sub>x</sub>                        | 15,750                | hp-hr/yr | 3.10E-02        | lb/hp-hr | 0.244               |
| CO                                     | 15,750                | hp-hr/yr | 6.68E-03        | lb/hp-hr | 0.053               |
| VOC                                    | 15,750                | hp-hr/yr | 2.47E-03        | lb/hp-hr | 0.019               |
| GHG - CO <sub>2</sub>                  | 110.5                 | MMBtu/yr | 163.1           | lb/MMBtu | 9.0                 |
| - CH <sub>4</sub> (CO <sub>2</sub> e)  | 110.5                 | MMBtu/yr | 0.165           | lb/MMBtu | 0.009               |
| - N <sub>2</sub> O (CO <sub>2</sub> e) | 110.5                 | MMBtu/yr | 0.394           | lb/MMBtu | 0.021               |
| Total GHG (CO <sub>2</sub> e)          |                       |          |                 |          | 9.0                 |

## FIRE WATER PUMP EMISSION FACTOR DOCUMENTATION

The PM, PM<sub>10</sub> and PM<sub>2.5</sub> emission factor is set at the regulatory limit found in 40 CFR 60.4205(c). The emission factors for SO<sub>2</sub>, NO<sub>x</sub>, CO and VOC are from AP-42 Table 3.3-1. The greenhouse gas emission factors are from 40 CFR 98 Tables C-1 and C-2.

## CARTY COOLING TOWER

Fugitive particulate emissions from the cooling tower are calculated based on the water circulation rate, total dissolved solids and drift loss according to the following equation.

$$E = k * Q * TDS * d * \rho$$

Where: E = particulate emissions, lb/hr  
k = constant to convert units; 6.0E-07  
Q = cooling water circulation rate; 85,000 gpm  
TDS = total dissolved solids in cooling water; 1,200 ppm  
d = drift loss; 0.0005%  
ρ = density of water; 8.34 lb/gal.

The resulting emissions are (6.0E-07) \* 85,000 \* 1,200 \* 0.0005 \* 8.34 = 0.26 lb/hr.

For year-round operation (8760 hr/yr) this is equal to 1.1 ton/yr

**Hazardous Air Pollutants**

| Pollutant                  | <u>Main Boiler (coal)</u><br>3,066,000 ton/yr<br>50,746,680 MMBtu/yr |        |                       | <u>Main Boiler (oil)</u><br>1,000 kgal/yr<br>138,000 MMBtu/yr |         |                       | <u>Carty Gas Turbine</u><br>22,044 MMscf/yr<br>22,485,120 MMBtu/yr |          |                       | <u>Carty Auxiliary Boiler</u><br>22.04 MMscf/yr<br>22,477 MMBtu/yr |          |                       | Total                 |
|----------------------------|----------------------------------------------------------------------|--------|-----------------------|---------------------------------------------------------------|---------|-----------------------|--------------------------------------------------------------------|----------|-----------------------|--------------------------------------------------------------------|----------|-----------------------|-----------------------|
|                            | Emission Factor <sup>a</sup>                                         |        | Emissions<br>(ton/yr) | Emission Factor <sup>f</sup>                                  |         | Emissions<br>(ton/yr) | Emission Factor <sup>g</sup>                                       |          | Emissions<br>(ton/yr) | Emission Factor <sup>h</sup>                                       |          | Emissions<br>(ton/yr) | Emissions<br>(ton/yr) |
| Acetaldehyde               | 5.70E-04                                                             | lb/ton | 0.87                  |                                                               |         |                       | 4.0E-05                                                            | lb/MMBtu | 0.45                  |                                                                    |          |                       | 1.32                  |
| Acetophenone               | 1.50E-05                                                             | lb/ton | 0.02                  |                                                               |         |                       |                                                                    |          |                       |                                                                    |          |                       | 0.02                  |
| Acrolein                   | 2.90E-04                                                             | lb/ton | 0.44                  |                                                               |         |                       | 6.4E-06                                                            | lb/MMBtu | 0.07                  |                                                                    |          |                       | 0.51                  |
| Benzene                    | 1.30E-03                                                             | lb/ton | 1.99                  | 2.14E-04                                                      | lb/kgal | 0.0001                | 1.2E-05                                                            | lb/MMBtu | 0.13                  | 2.1E-03                                                            | lb/MMscf | 2.0E-05               | 2.12                  |
| Benzyl chloride            | 7.00E-04                                                             | lb/ton | 1.07                  |                                                               |         |                       |                                                                    |          |                       |                                                                    |          |                       | 1.07                  |
| Biphenyl                   | 1.7E-06                                                              | lb/ton | 0.003                 |                                                               |         |                       |                                                                    |          |                       |                                                                    |          |                       | 0.003                 |
| Bis(2-ethylhexyl)phthalate | 7.30E-05                                                             | lb/ton | 0.11                  |                                                               |         |                       |                                                                    |          |                       |                                                                    |          |                       | 0.11                  |
| Bromoform                  | 3.90E-05                                                             | lb/ton | 0.06                  |                                                               |         |                       |                                                                    |          |                       |                                                                    |          |                       | 0.06                  |
| 1,3 Butadiene              |                                                                      |        |                       |                                                               |         |                       | 4.3E-07                                                            | lb/MMBtu | 0.005                 |                                                                    |          |                       | 0.005                 |
| Carbon Disulfide           | 1.30E-04                                                             | lb/ton | 0.20                  |                                                               |         |                       |                                                                    |          |                       |                                                                    |          |                       | 0.20                  |
| 2-Chloroacetophenone       | 7.00E-06                                                             | lb/ton | 0.01                  |                                                               |         |                       |                                                                    |          |                       |                                                                    |          |                       | 0.01                  |
| Chlorobenzene              | 2.20E-05                                                             | lb/ton | 0.03                  |                                                               |         |                       |                                                                    |          |                       |                                                                    |          |                       | 0.03                  |
| Chloroform                 | 5.90E-05                                                             | lb/ton | 0.09                  |                                                               |         |                       |                                                                    |          |                       |                                                                    |          |                       | 0.09                  |
| Cumene                     | 5.30E-06                                                             | lb/ton | 0.008                 |                                                               |         |                       |                                                                    |          |                       |                                                                    |          |                       | 0.008                 |
| Cyanide compounds          | 2.50E-03                                                             | lb/ton | 3.83                  |                                                               |         |                       |                                                                    |          |                       |                                                                    |          |                       | 3.83                  |
| Dibenzofurans              | 1.09E-09                                                             | lb/ton | 1.67E-06              |                                                               |         |                       |                                                                    |          |                       |                                                                    |          |                       | 1.7E-06               |
| 2,3,7,8 TCDD               | 1.43E-11                                                             | lb/ton | 2.19E-08              |                                                               |         |                       |                                                                    |          |                       |                                                                    |          |                       | 2.2E-08               |
| Dichlorobenzene            |                                                                      |        |                       |                                                               |         |                       |                                                                    |          |                       | 1.2E-03                                                            | lb/MMscf | 1.1E-05               | 1.1E-05               |
| 2,4-Dinitrotoluene         | 2.80E-07                                                             | lb/ton | 0.0004                |                                                               |         |                       |                                                                    |          |                       |                                                                    |          |                       | 0.0004                |
| Dimethylsulfate            | 4.80E-05                                                             | lb/ton | 0.07                  |                                                               |         |                       |                                                                    |          |                       |                                                                    |          |                       | 0.07                  |
| Ethylbenzene               | 9.40E-05                                                             | lb/ton | 0.14                  | 6.36E-05                                                      | lb/kgal | 3.18E-05              | 3.2E-05                                                            | lb/MMBtu | 0.36                  |                                                                    |          |                       | 0.50                  |
| Ethylchloride              | 4.20E-05                                                             | lb/ton | 0.06                  |                                                               |         |                       |                                                                    |          |                       |                                                                    |          |                       | 0.06                  |
| Ethylene dibromide         | 1.20E-06                                                             | lb/ton | 0.002                 |                                                               |         |                       |                                                                    |          |                       |                                                                    |          |                       | 0.002                 |
| Ethylene dichloride        | 4.00E-05                                                             | lb/ton | 0.06                  |                                                               |         |                       |                                                                    |          |                       |                                                                    |          |                       | 0.06                  |
| Formaldehyde               | 2.40E-04                                                             | lb/ton | 0.37                  | 3.30E-02                                                      | lb/kgal | 0.02                  | 7.1E-04                                                            | lb/MMBtu | 7.98                  | 7.5E-02                                                            | lb/MMscf | 7.1E-04               | 8.37                  |

| Pollutant                        | <u>Main Boiler (coal)</u><br>3,066,000 ton/yr<br>50,746,680 MMBtu/yr |        |                       | <u>Main Boiler (oil)</u><br>1,000 kgal/yr<br>138,000 MMBtu/yr |         |                       | <u>Carty Gas Turbine</u><br>22,044 MMscf/yr<br>22,485,120 MMBtu/yr |          |                       | <u>Carty Auxiliary Boiler</u><br>22.04 MMscf/yr<br>22,477 MMBtu/yr |          |                       | Total                 |
|----------------------------------|----------------------------------------------------------------------|--------|-----------------------|---------------------------------------------------------------|---------|-----------------------|--------------------------------------------------------------------|----------|-----------------------|--------------------------------------------------------------------|----------|-----------------------|-----------------------|
|                                  | Emission Factor <sup>a</sup>                                         |        | Emissions<br>(ton/yr) | Emission Factor <sup>f</sup>                                  |         | Emissions<br>(ton/yr) | Emission Factor <sup>g</sup>                                       |          | Emissions<br>(ton/yr) | Emission Factor <sup>h</sup>                                       |          | Emissions<br>(ton/yr) | Emissions<br>(ton/yr) |
| Hexane                           | 6.70E-05                                                             | lb/ton | 0.10                  |                                                               |         |                       |                                                                    |          |                       | 1.8                                                                | lb/MMscf | 0.017                 | 0.12                  |
| Hydrogen chloride                | 1.20E-02                                                             | lb/ton | 18.40                 |                                                               |         |                       |                                                                    |          |                       |                                                                    |          |                       | 18.4                  |
| Hydrogen fluoride                | 2.00E-03                                                             | lb/ton | 3.07                  |                                                               |         |                       |                                                                    |          |                       |                                                                    |          |                       | 3.07                  |
| Isophorone                       | 5.80E-04                                                             | lb/ton | 0.89                  |                                                               |         |                       |                                                                    |          |                       |                                                                    |          |                       | 0.89                  |
| Methyl bromide                   | 1.60E-04                                                             | lb/ton | 0.25                  |                                                               |         |                       |                                                                    |          |                       |                                                                    |          |                       | 0.25                  |
| Methyl chloride                  | 5.30E-04                                                             | lb/ton | 0.81                  |                                                               |         |                       |                                                                    |          |                       |                                                                    |          |                       | 0.81                  |
| Methyl ethyl ketone <sup>i</sup> | 3.90E-04                                                             | lb/ton | 0.60                  |                                                               |         |                       |                                                                    |          |                       |                                                                    |          |                       | 0.60                  |
| Methyl hydrazine                 | 1.70E-04                                                             | lb/ton | 0.26                  |                                                               |         |                       |                                                                    |          |                       |                                                                    |          |                       | 0.26                  |
| Methyl methacrylate              | 2.00E-05                                                             | lb/ton | 0.03                  |                                                               |         |                       |                                                                    |          |                       |                                                                    |          |                       | 0.03                  |
| Methyl tert butyl ether          | 3.50E-05                                                             | lb/ton | 0.05                  |                                                               |         |                       |                                                                    |          |                       |                                                                    |          |                       | 0.05                  |
| Methylene chloride               | 2.90E-04                                                             | lb/ton | 0.44                  |                                                               |         |                       |                                                                    |          |                       |                                                                    |          |                       | 0.44                  |
| Naphthalene                      | 1.30E-05                                                             | lb/ton | 0.02                  | 1.13E-03                                                      | lb/kgal | 0.0006                | 1.30E-06                                                           | lb/MMBtu | 0.015                 | 6.1E-04                                                            | lb/MMscf | 5.8E-06               | 0.04                  |
| PAH                              |                                                                      |        |                       |                                                               |         |                       |                                                                    |          |                       |                                                                    |          |                       |                       |
| Biphenyl (also a HAP)            | 1.07E-06                                                             | lb/ton | 0.0026                |                                                               |         |                       |                                                                    |          |                       |                                                                    |          |                       | 0.003                 |
| Acenaphthene                     | 5.10E-07                                                             | lb/ton | 0.0008                | 2.11E-05                                                      | lb/kgal | 1.06E-05              |                                                                    |          |                       | 1.8E-06                                                            | lb/MMscf | 1.7E-08               | 0.0008                |
| Acenaphthylene                   | 2.50E-07                                                             | lb/ton | 0.0004                | 2.53E-07                                                      | lb/kgal | 1.27E-07              |                                                                    |          |                       | 1.8E-06                                                            | lb/MMscf | 1.7E-08               | 0.0004                |
| Anthracene                       | 2.10E-07                                                             | lb/ton | 0.0003                | 1.22E-06                                                      | lb/kgal | 6.10E-07              |                                                                    |          |                       | 2.4E-06                                                            | lb/MMscf | 2.3E-08               | 0.0003                |
| Benzo(a)anthracene               | 8.00E-08                                                             | lb/ton | 0.0001                | 4.01E-06                                                      | lb/kgal | 2.01E-06              |                                                                    |          |                       | 1.8E-06                                                            | lb/MMscf | 1.7E-08               | 0.0001                |
| Benzo(b,j,k)pyrene               | 1.10E-07                                                             | lb/ton | 0.0002                | 1.48E-06                                                      | lb/kgal | 7.40E-07              |                                                                    |          |                       | 1.2E-06                                                            | lb/MMscf | 1.1E-08               | 0.0002                |
| Benzo(g,h,i)perylene             | 2.70E-08                                                             | lb/ton | 0.00004               | 2.26E-06                                                      | lb/kgal | 1.13E-06              |                                                                    |          |                       | 1.2E-06                                                            | lb/MMscf | 1.1E-08               | 0.00004               |
| Chrysene                         | 1.00E-07                                                             | lb/ton | 0.0002                | 2.38E-06                                                      | lb/kgal | 1.19E-06              |                                                                    |          |                       | 1.8E-06                                                            | lb/MMscf | 1.7E-08               | 0.0002                |
| Fluoranthene                     | 7.10E-07                                                             | lb/ton | 0.0011                | 4.84E-06                                                      | lb/kgal | 2.42E-06              |                                                                    |          |                       | 3.0E-06                                                            | lb/MMscf | 2.9E-08               | 0.0011                |
| Fluorene                         | 9.10E-07                                                             | lb/ton | 0.0014                | 4.47E-06                                                      | lb/kgal | 2.24E-06              |                                                                    |          |                       | 2.8E-06                                                            | lb/MMscf | 2.7E-08               | 0.0014                |
| Indeno(1,2,3-cd)pyrene           | 6.10E-08                                                             | lb/ton | 0.00009               | 2.14E-06                                                      | lb/kgal | 1.07E-06              |                                                                    |          |                       | 1.8E-06                                                            | lb/MMscf | 1.7E-08               | 0.0001                |
| Napthalene (also a HAP)          | 1.30E-05                                                             | lb/ton | 0.0199                | 1.13E-03                                                      | lb/kgal | 0.0006                | 1.30E-06                                                           | lb/MMBtu | 0.015                 | 6.1E-04                                                            | lb/MMscf | 5.8E-06               | 0.04                  |
| Phenanthrene                     | 2.70E-06                                                             | lb/ton | 0.0041                | 1.05E-05                                                      | lb/kgal | 5.25E-06              |                                                                    |          |                       | 1.7E-05                                                            | lb/MMscf | 1.6E-07               | 0.004                 |

| Pollutant                 | <u>Main Boiler (coal)</u><br>3,066,000 ton/yr<br>50,746,680 MMBtu/yr |                          |                       | <u>Main Boiler (oil)</u><br>1,000 kgal/yr<br>138,000 MMBtu/yr |          |                       | <u>Carty Gas Turbine</u><br>22,044 MMscf/yr<br>22,485,120 MMBtu/yr |          |                       | <u>Carty Auxiliary Boiler</u><br>22.04 MMscf/yr<br>22,477 MMBtu/yr |          |                       | Total                 |
|---------------------------|----------------------------------------------------------------------|--------------------------|-----------------------|---------------------------------------------------------------|----------|-----------------------|--------------------------------------------------------------------|----------|-----------------------|--------------------------------------------------------------------|----------|-----------------------|-----------------------|
|                           | Emission Factor <sup>a</sup>                                         |                          | Emissions<br>(ton/yr) | Emission Factor <sup>f</sup>                                  |          | Emissions<br>(ton/yr) | Emission Factor <sup>g</sup>                                       |          | Emissions<br>(ton/yr) | Emission Factor <sup>h</sup>                                       |          | Emissions<br>(ton/yr) | Emissions<br>(ton/yr) |
| Pyrene                    | 3.30E-07                                                             | lb/ton                   | 0.0005                | 4.25E-06                                                      | lb/kgal  | 2.13E-06              |                                                                    |          |                       | 5.0E-06                                                            | lb/MMscf | 4.8E-08               | 0.0005                |
| 5-Methyl chrysene         | 2.20E-08                                                             | lb/ton                   | 0.00003               |                                                               |          |                       |                                                                    |          |                       |                                                                    |          |                       | 0.00003               |
| Total PAH                 |                                                                      |                          | 0.032                 |                                                               |          | 0.0006                | 2.2E-06                                                            | lb/MMBtu | 0.025                 |                                                                    |          | 6.2E-06               | 0.06                  |
| Phenol                    | 1.60E-05                                                             | lb/ton                   | 0.02                  |                                                               |          |                       |                                                                    |          |                       |                                                                    |          |                       | 0.02                  |
| Propionaldehyde           | 3.80E-04                                                             | lb/ton                   | 0.58                  |                                                               |          |                       |                                                                    |          |                       |                                                                    |          |                       | 0.58                  |
| Propylene Oxide           |                                                                      |                          |                       |                                                               |          |                       | 2.9E-05                                                            | lb/MMBtu | 0.33                  |                                                                    |          |                       | 0.33                  |
| Styrene                   | 2.50E-05                                                             | lb/ton                   | 0.04                  |                                                               |          |                       |                                                                    |          |                       |                                                                    |          |                       | 0.04                  |
| Tetrachloroethylene       | 4.30E-05                                                             | lb/ton                   | 0.07                  |                                                               |          |                       |                                                                    |          |                       |                                                                    |          |                       | 0.07                  |
| Toluene                   | 2.40E-04                                                             | lb/ton                   | 0.37                  | 6.20E-03                                                      | lb/kgal  | 0.003                 | 1.3E-04                                                            | lb/MMBtu | 1.46                  | 3.4E-03                                                            | lb/MMscf | 3.2E-05               | 1.83                  |
| 1,1,1-Trichloroethane     | 2.00E-05                                                             | lb/ton                   | 0.03                  | 2.36E-04                                                      | lb/kgal  | 0.0001                |                                                                    |          |                       |                                                                    |          |                       | 0.03                  |
| Xylenes                   | 3.70E-05                                                             | lb/ton                   | 0.06                  | 1.09E-04                                                      | lb/kgal  | 5.45E-05              | 6.4E-05                                                            | lb/MMBtu | 0.72                  |                                                                    |          |                       | 0.72                  |
| Vinyl acetate             | 7.60E-06                                                             | lb/ton                   | 0.01                  |                                                               |          |                       |                                                                    |          |                       |                                                                    |          |                       | 0.01                  |
| Antimony                  | 7.78E-05                                                             | lb/ton <sup>b, d</sup>   | 0.12                  |                                                               |          |                       |                                                                    |          |                       |                                                                    |          |                       | 0.12                  |
| Arsenic                   | 8.87E-06                                                             | lb/MMBtu <sup>c, d</sup> | 0.23                  | 4E-06                                                         | lb/MMBtu | 0.102                 |                                                                    |          |                       | 2.0E-04                                                            | lb/MMscf | 1.9E-06               | 0.33                  |
| Beryllium                 | 1.05E-06                                                             | lb/MMBtu <sup>c, d</sup> | 0.03                  | 3E-06                                                         | lb/MMBtu | 0.076                 |                                                                    |          |                       | 1.2E-05                                                            | lb/MMscf | 1.1E-07               | 0.11                  |
| Cadmium                   | 5.76E-07                                                             | lb/MMBtu <sup>c, d</sup> | 0.01                  | 3E-06                                                         | lb/MMBtu | 0.076                 |                                                                    |          |                       | 1.1E-03                                                            | lb/MMscf | 1.1E-05               | 0.09                  |
| Chromium                  | 2.04E-05                                                             | lb/MMBtu <sup>c, d</sup> | 0.52                  | 3E-06                                                         | lb/MMBtu | 0.076                 |                                                                    |          |                       | 1.4E-03                                                            | lb/MMscf | 1.3E-05               | 0.60                  |
| Chromium VI               | 3.42E-04                                                             | lb/ton <sup>b, d</sup>   | 0.52                  |                                                               |          |                       |                                                                    |          |                       |                                                                    |          |                       | 0.52                  |
| Cobalt                    | 4.32E-04                                                             | lb/ton <sup>b, d</sup>   | 0.66                  |                                                               |          |                       |                                                                    |          |                       | 8.4E-05                                                            | lb/MMscf | 8.0E-07               | 0.66                  |
| Lead                      | 6.58E-06                                                             | lb/MMBtu <sup>c, d</sup> | 0.17                  | 9E-06                                                         | lb/MMBtu | 0.228                 |                                                                    |          |                       | 5.0E-04                                                            | lb/MMscf | 4.8E-06               | 0.40                  |
| Manganese                 | 3.87E-05                                                             | lb/MMBtu <sup>c, d</sup> | 0.98                  | 6E-06                                                         | lb/MMBtu | 0.152                 |                                                                    |          |                       | 3.8E-04                                                            | lb/MMscf | 3.6E-06               | 1.13                  |
| Mercury                   | 6.00E-07                                                             | lb/MMBtu <sup>e</sup>    | 0.02                  | 3E-06                                                         | lb/MMBtu | 0.076                 |                                                                    |          |                       | 2.6E-04                                                            | lb/MMscf | 2.5E-06               | 0.10                  |
| Nickel                    | 1.67E-05                                                             | lb/MMBtu <sup>c, d</sup> | 0.42                  | 3E-06                                                         | lb/MMBtu | 0.076                 |                                                                    |          |                       | 2.1E-03                                                            | lb/MMscf | 2.0E-05               | 0.50                  |
| Selenium                  | 5.62E-03                                                             | lb/ton <sup>b, d</sup>   | 8.62                  | 1.5E-05                                                       | lb/MMBtu | 0.381                 |                                                                    |          |                       | 2.4E-05                                                            | lb/MMscf | 2.3E-07               | 9.00                  |
| <b>Total HAPS</b>         |                                                                      |                          | <b>47.9</b>           |                                                               |          | <b>0.02</b>           |                                                                    |          | <b>11.5</b>           |                                                                    |          | <b>0.02</b>           | <b>60.7</b>           |
| <b>Maximum Single HAP</b> |                                                                      |                          | <b>18.4</b>           |                                                               |          | <b>1.27</b>           |                                                                    |          | <b>8.0</b>            |                                                                    |          | <b>0.02</b>           | <b>18.4</b>           |



- a. Emission factors from AP-42 Tables 1.1-12, 13, 14. HCl and HF emission factors from source test.
- b. Emission factors from AP-42 Table 1.1-18, which is for emissions controlled by an ESP.
- c. Emission factors from AP-42 Table 1.1-17, which is for uncontrolled emissions.
- d. HAP metal emissions from the boiler assume the ESP has a 99.7% removal efficiency (represented by the emission factor). The ESP operates 99% of the time coal is fired (3.07E+04 ton/yr, 5.07E+05 MMBtu/yr without control, emission factor divided by 0.003).
- e. Based NESHAP limit of 0.6 lb/trillion BTU.
- f. Emission factors from AP-42 Tables 1.3-9, 1.3-10
- g. Emission factors from AP-42 Table 3.1-3
- h. Emission factors from AP-42 Table 1.4-3, 1.4-4
- i. Compound is no longer on the EPA list of Hazardous Air Pollutants.

**From:** [Roberta Lutch](#)

**Sent:** Wednesday, October 28, 2020 3:01 PM

**To:** [MCVEIGH-WALKER Chase](#) \* [ODOE](#)

**Cc:** [Tamra Mabbott](#); [Matt Scrivner](#); [Kate Knop](#)

**Subject:** Morrow County Comment Letter

**Attachments:** 2020 Carty RFA2 & DPO BOC Signed Oct 28.pdf

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Good afternoon,

Please accept the attached comment letter from Morrow County regarding the Carty Generating Facility Request for Amendment 2 and Draft Proposed Order. If you need anything further, please feel free to contact me.

Thank you,

*Roberta Lutch*

*Executive Assistant*

*Morrow County Administration & Board of Commissioners*

*541-676-5613 (5303)*

*P.O. Box 788*

*110 N. Court St.*

*Heppner, OR 97836*

*Email: [rlutch@co.morrow.or.us](mailto:rlutch@co.morrow.or.us)*





P.O. Box 788 • Heppner, OR 97836  
541-676-5613  
[www.co.morrow.or.us](http://www.co.morrow.or.us)

## Board of Commissioners

Commissioner Melissa Lindsay, Chair  
Commissioner Don Russell  
Commissioner Jim Doherty

October 28, 2020

Chase McVeigh-Walker, Senior Siting Analyst  
Oregon Department of Energy  
550 Capitol Street NE, 1<sup>st</sup> Floor  
Salem, OR 97301

RE: Carty Generating Facility Request for Amendment 2 and Draft Proposed Order

Dear Mr. McVeigh-Walker,

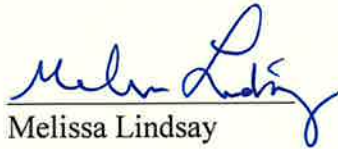
Morrow County appreciates the opportunity to comment on the Carty Generating Station's Request for Amendment 2 (RFA2) and the Draft Proposed Order. It is our understanding that Amendment 2 would incorporate existing common infrastructure shared by the facility and Boardman Coal Plant (BCP) including, but not limited, to a 500 kilovolt (kV) transmission line, the Carty Reservoir, water discharge channel, and sanitary sewer lagoons. RFA2 would also modify the site boundary, extending west into Gilliam County, and incorporate existing BCP facility components. The BCP components include: a 230 kV transmission line, a 34.5 kV transmission line, a 12 kV underground distribution line, 480-volt underground distribution line, two evaporation ponds, irrigation pump station, and a 34.5 kV underground transmission line. The Amendment request also includes the construction and operation of the following components: septic system, water pipeline, wastewater pipeline, security guard station, office and warehouse space, and a 230 kV substation (Carty substation).

This Amendment request (RFA2) would result in a project that is different than uses permitted in existing Conditional Use Permits which were issued in 1975 and 2013. Therefore, the applicant would be required to obtain new or revised Conditional Use Permits. Additionally, prior to the construction of any structure, the applicant would need to obtain a Zoning permit for each parcel upon which the construction will take place. Please include these local permit requirements in the amended Site Certificate.

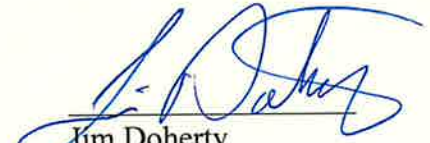
As always, Morrow County appreciates the opportunity to coordinate with you and other Department staff. Should you have any questions about this comment letter, or need additional

information, please do not hesitate to contact Tamra Mabbott, Planning Director, (541) 922-4624 X5505.

Sincerely,

  
Melissa Lindsay

  
Don Russell

  
Jim Doherty

Cc: Tamra Mabbott, Morrow County Planning Director  
Matt Scrivner, Morrow County Public Works Director  
Kate Knop, Morrow County Finance Director





Kate Brown, Governor

# Oregon



3040 25th Street, SE  
Salem, OR 97302-1125  
Phone: (503) 378-4880  
Toll Free: (800) 874-0102  
FAX: (503) 373-1688

October 30, 2020

Chase McVeigh-Walker, Senior Siting Analyst  
Oregon Department of Energy  
550 Capital St. NE  
Salem, OR 97301

Re: Request for Comments on the Complete Request for Amendment 2 and Draft  
Proposed Order for the Carty Generation Station - ODA Comments

Dear Chase McVeigh-Walker:

The Oregon Department of Aviation (ODA) appreciates the opportunity to review and comment on the Complete Request for Amendment 2 and Draft Proposed Order for the Carty Generation Station. The ODA has reviewed the site proposal and provides the following comments:

The proposal seeks approval of a second amendment to the Carty Generation Station (facility) site certificate to incorporate existing infrastructure shared by the facility and Boardman Coal Plant; modify the site boundary; and, construct and operate new related or supporting facilities.

For these reasons, the proposed second amendment to the Carty Generation Station (facility) site certificate may require airspace review by the FAA and ODA subject to the standards in Code of Federal Regulations: Title 14. Aeronautics and Space: PART 77— Safe, Efficient Use, and Preservation of the Navigable Space.

All project elements are subject to compliance with FAA Part 77.9 Construction or alteration requiring notice (a-d), FAA Part 77.17 Obstruction standards (a-b) and Obstruction Standards of OAR 738-70-0100 if they exceed 200 feet in height or are:

- within 20,000 ft of a public use or military airport which exceeds a 100:1 surface from any point on the runway of each airport with at least one runway more than 3,200 ft.
- within 10,000 ft of a public use or military airport which exceeds a 50:1 surface from any point on the runway of each airport with its longest runway no more than 3,200 ft.
- within 5,000 ft of a public use heliport which exceeds a 25:1 surface

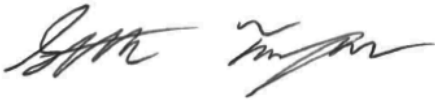
To make this determination, any incorporated existing infrastructure shared by the Carty Generation Station and Boardman Coal Plant within the modified site boundary that is more than 200 feet in height or within the distances provided above must undergo airspace analysis through submittal of a completed FAA Form 7460-1.

In addition, any new related or supporting facilities more than 200 feet in height or within the distances provided above must also undergo airspace analysis through submittal of a completed FAA Form 7460-1, attached for reference.

ODA appreciates the opportunity to comment on this proposal. The Department requests to be identified as a party of record for future land use applications.

If you have any questions or need clarification on these comments, please feel free to contact me at 503-378-2529 or [Seth.Thompson@aviation.state.or.us](mailto:Seth.Thompson@aviation.state.or.us).

Sincerely,

A handwritten signature in black ink, appearing to read "Seth Thompson", written over a light gray horizontal line.

Seth Thompson  
Aviation Planner

CC: Heather Peck  
Planning & Projects Manager  
Oregon Department of Aviation

## MCVEIGH-WALKER Chase \* ODOE

---

**From:** THOMPSON Seth <Seth.THOMPSON@aviation.state.or.us>  
**Sent:** Tuesday, October 27, 2020 6:04 PM  
**To:** MCVEIGH-WALKER Chase \* ODOE  
**Cc:** LAWYER Matthew A; PECK Heather  
**Subject:** Carty Generation Station: Amendment 2 and Draft Proposed Order

Good afternoon Chase,

My name is Seth Thompson with the Oregon Department of Aviation (ODA).

I am writing to request a few points of clarification regarding the Carty Generation Station: Request for Comments on the Complete Request for Amendment 2 and Draft Proposed Order.

Please see: <https://www.oregon.gov/energy/facilities-safety/facilities/Facilities%20library/2020-10-02-CGS-AMD2-DPO-Public-Notice.pdf>

Per the request: “...approval of a second amendment to the Carty Generation Station (facility) site certificate to incorporate existing infrastructure shared by the facility and Boardman Coal Plant; modify the site boundary; and, construct and operate new related or supporting facilities.”

My questions:

- 1) The purpose of Amendment 2 is to incorporate existing infrastructure under the existing site certificate, correct?
- 2) If yes, were there original aeronautical study evaluations completed for this existing infrastructure? If not, then the ODA may need to complete new evaluations for this infrastructure as it will now be a part of the site boundary.

Based on my initial review of this proposal, I will plan to provide ODOE with formal comments requesting aeronautical studies for the new related / supporting facilities and any prior existing infrastructure incorporated into the site boundary.

Thank you for your assistance and I appreciate your help.

Best regards,

**Seth Thompson**  
OREGON DEPARTMENT OF AVIATION  
AVIATION PLANNER



**OFFICE** 503-378-2529 **CELL** 503-507-6965

**EMAIL** [seth.thompson@aviation.state.or.us](mailto:seth.thompson@aviation.state.or.us)

**3040 25<sup>TH</sup> STREET SE, SALEM, OR 97302**

**[WWW.OREGON.GOV/AVIATION](http://WWW.OREGON.GOV/AVIATION)**

## NOTICE OF PROPOSED CONSTRUCTION OR ALTERATION

### § 77.7 Form and time of notice.

(a) If you are required to file notice under §77.9, you must submit to the FAA a completed FAA Form 7460–1, Notice of Proposed Construction or Alteration. FAA Form 7460–1 is available at FAA regional offices and on the Internet.

(b) You must submit this form at least 45 days before the start date of the proposed construction or alteration or the date an application for a construction permit is filed, whichever is earliest.

(c) If you propose construction or alteration that is also subject to the licensing requirements of the Federal Communications Commission (FCC), you must submit notice to the FAA on or before the date that the application is filed with the FCC.

(d) If you propose construction or alteration to an existing structure that exceeds 2,000 ft. in height above ground level (AGL), the FAA presumes it to be a hazard to air navigation that results in an inefficient use of airspace. You must include details explaining both why the proposal would not constitute a hazard to air navigation and why it would not cause an inefficient use of airspace.

(e) The 45-day advance notice requirement is waived if immediate construction or alteration is required because of an emergency involving essential public services, public health, or public safety. You may provide notice to the FAA by any available, expeditious means. You must file a completed FAA Form 7460–1 within 5 days of the initial notice to the FAA. Outside normal business hours, the nearest flight service station will accept emergency notices.

### § 77.9 Construction or alteration requiring notice.

If requested by the FAA, or if you propose any of the following types of construction or alteration, you must file notice with the FAA of:

(a) Any construction or alteration that is more than 200 ft. AGL at its site.

(b) Any construction or alteration that exceeds an imaginary surface extending outward and upward at any of the following slopes:

(1) 100 to 1 for a horizontal distance of 20,000 ft. from the nearest point of the nearest runway of each airport described in paragraph (d) of this section with its longest runway more than 3,200 ft. in actual length, excluding heliports.

(2) 50 to 1 for a horizontal distance of 10,000 ft. from the nearest point of the nearest runway of each airport described in paragraph (d) of this section with its longest runway no more than 3,200 ft. in actual length, excluding heliports.

(3) 25 to 1 for a horizontal distance of 5,000 ft. from the nearest point of the nearest landing and takeoff area of each heliport described in paragraph (d) of this section.

(c) Any highway, railroad, or other traverse way for mobile objects, of a height which, if adjusted upward 17 feet for an Interstate Highway that is part of the National System of Military and Interstate Highways where overcrossings are designed for a minimum of 17 feet vertical distance, 15 feet for any other public roadway, 10 feet or the height of the highest mobile object that would normally traverse the road, whichever is greater, for a private road, 23 feet for a railroad, and for a waterway or any other traverse way not previously mentioned, an amount equal to the height of the highest mobile object that would normally traverse it, would exceed a standard of paragraph (a) or (b) of this section.

(d) Any construction or alteration on any of the following airports and heliports:

(1) A public use airport listed in the Airport/Facility Directory, Alaska Supplement, or Pacific Chart Supplement of the U.S. Government Flight Information Publications;

(2) A military airport under construction, or an airport under construction that will be available for public use;

(3) An airport operated by a Federal agency or the DOD.

(4) An airport or heliport with at least one FAA-approved instrument approach procedure.

(e) You do not need to file notice for construction or alteration of:

(1) Any object that will be shielded by existing structures of a permanent and substantial nature or by natural terrain or topographic features of equal or greater height, and will be located in the congested area of a city, town, or settlement where the shielded structure will not adversely affect safety in air navigation;

(2) Any air navigation facility, airport visual approach or landing aid, aircraft arresting device, or meteorological device meeting FAA-approved siting criteria or an appropriate military service siting criteria on military airports, the location and height of which are fixed by its functional purpose;

(3) Any construction or alteration for which notice is required by any other FAA regulation.

(4) Any antenna structure of 20 feet or less in height, except one that would increase the height of another antenna structure.

Mail Processing Center  
Federal Aviation Administration  
Southwest Regional Office  
Obstruction Evaluation Group  
10101 Hillwood Parkway  
Fort Worth, TX 76177  
Fax: (817) 222-5920

Website: <https://oeaaa.faa.gov>



## INSTRUCTIONS FOR COMPLETING FAA FORM 7460-1

PLEASE TYPE or PRINT

ITEM #1. Please include the name, address and phone number of a personal contact point as well as the company name.

ITEM #2. Please include the name, address and phone number of a personal contact point as well as the company name.

ITEM #3. New Construction would be a structure that has not yet been built.

Alteration is a change to an existing structure such as the addition of a side mounted antenna, a change to the marking and lighting, a change to power and/or frequency, or a change to the height. The nature of the alteration shall be included in ITEM #21 "Complete Description of Proposal".

Existing would be a correction to the latitude and/or longitude, a correction to the height, or if filing on an existing structure which has never been studied by the FAA. The reason for the notice shall be included in ITEM #21 "Complete Description of Proposal".

ITEM #4. If Permanent, so indicate. If Temporary, such as a crane or drilling derrick, enter the estimated length of time the temporary structure will be up.

ITEM #5. Enter the date that construction is expected to start and the date that construction should be completed.

ITEM #6. Please indicate the type of structure. DO NOT LEAVE BLANK.

ITEM #7. In the event that obstruction marking and lighting is required, please indicate type desired. If no preference, check "other" and indicate "no preference" DO NOT LEAVE BLANK. NOTE: High Intensity lighting shall be used only for structures over 500' AGL. In the absence of high intensity lighting for structures over 500' AGL, marking is also required.

ITEM #8. If this is an existing tower that has been registered with the FCC, enter the FCC Antenna Structure Registration number here.

ITEM #9 and #10. Latitude and longitude must be geographic coordinates, accurate to within the nearest second or to the nearest hundredth of a second if known. Latitude and longitude derived solely from a hand-held G P S instrument is NOT acceptable. A hand-held GPS is only accurate to within 100 meters (328 feet) 95 percent of the time. This data, when plotted, should match the site depiction submitted under ITEM #20.

ITEM #11. NAD 83 is preferred; however, latitude and longitude may be submitted in NAD 27. Also, in some geographic areas where NAD 27 and NAD 83 are not available other datum may be used. It is important to know which datum is used. DO NOT LEAVE BLANK.

ITEM #12. Enter the name of the nearest city and state to the site. If the structure is or will be in a city, enter the name of that city and state.

ITEM #13. Enter the full name of the nearest public-use (not private-use) airport or heliport or military airport or heliport to the site.

ITEM #14. Enter the distance from the airport or heliport listed in #13 to the structure.

ITEM #15. Enter the direction from the airport or heliport listed in #13 to the structure.

ITEM #16. Enter the site elevation above mean sea level and expressed in whole feet rounded to the nearest foot (e.g. 17'3" rounds to 17', 17'6" rounds to 18'). This data should match the ground contour elevations for site depiction submitted under ITEM #20.

ITEM #17. Enter the total structure height above ground level in whole feet rounded to the next highest foot (e.g. 17'3" rounds to 18'). The total structure height shall include anything mounted on top of the structure, such as antennas, obstruction lights, lightning rods, etc.

ITEM #18. Enter the overall height above mean sea level and expressed in whole feet. This will be the total of ITEM #16 + ITEM #17.

ITEM #19. If an FAA aeronautical study was previously conducted, enter the previous study number.

ITEM #20. Enter the relationship of the structure to roads, airports, prominent terrain, existing structures, etc. Attach an 8-1/2" x 11" non-reduced copy of the appropriate 7.5 minute U.S. Geological Survey (USGS) Quadrangle Map MARKED WITH A PRECISE INDICATION OF THE SITE LOCATION. To obtain maps, contact USGS at 1-888-275-8747 or via internet at "<http://store.usgs.gov>". If available, attach a copy of a documented site survey with the surveyor's certification stating the amount of vertical and horizontal accuracy in feet.

ITEM #21.

- For transmitting stations, include maximum effective radiated power (ERP) and all frequencies.
- For antennas, include the type of antenna and center of radiation (Attach the antenna pattern, if available).
- For microwave, include azimuth relative to true north.
- For overhead wires or transmission lines, include size and configuration of wires and their supporting structures (Attach depiction).
- For each pole/support, include coordinates, site elevation, and structure height above ground level or water.
- For buildings, include site orientation, coordinates of each corner, dimensions, and construction materials.
- For alterations, explain the alteration thoroughly.
- For existing structures, thoroughly explain the reason for notifying the FAA (e.g. corrections, no record or previous study, etc.).

Filing this information with the FAA does not relieve the sponsor of this construction or alteration from complying with any other federal, state or local rules or regulations. If you are not sure what other rules or regulations apply to your proposal, contact local/state aviation's and zoning authorities.

**Paperwork Reduction Work Act Statement:** A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection displays a currently valid OMB Control Number. The OMB control number for this information collection is 2120-0001. Public reporting for this collection of information is estimated to be approximately 19 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, completing and reviewing the collection of information. All responses to this collection of information are mandatory for anyone proposing construction or alteration that meets the criteria contained in 14 CFR 77. This information is collected to evaluate the effect of proposed construction or alteration on air navigation and is not confidential. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: Information Collection Clearance Officer, Federal Aviation Administration, 10101 Hillwood Parkway, Fort Worth, TX 76177-1524.

Please Type or Print on This Form



U.S. Department of Transportation  
Federal Aviation Administration

Failure To Provide All Requested Information May Delay Processing of Your Notice

Notice of Proposed Construction or Alteration

FOR FAA USE ONLY

Aeronautical Study Number

1. Sponsor (person, company, etc. proposing this action):

Attn. of

Name:

Address:

City: State: Zip:

Telephone: Fax:

2. Sponsor's Representative (if other than #1):

Attn. of

Name:

Address:

City: State: Zip:

Telephone: Fax:

3. Notice of:

4. Duration:

5. Work Schedule:

6. Type:

7. Marking/Painting and/or Lighting Preferred:

8. FCC Antenna Structure Registration Number (if applicable):

9. Latitude:

10. Longitude:

11. Datum:

12. Nearest:

13. Nearest Public-use (not private-use) or Military Airport or Heliport:

14. Distance from #13. to Structure:

15. Direction from #13. to Structure:

16. Site Elevation (AMSL):

17. Total Structure Height (AGL):

18. Overall Height (#16 + #17) (AMSL):

19. Previous FAA Aeronautical Study Number (if applicable):

20. Description of Location: (Attach a USGS 7.5 minute Quadrangle Map with the precise site marked and any certified survey)

21. Complete Description of Proposal:

Frequency/Power (kW)

Notice is required by 14 Code of Federal Regulations, part 77 pursuant to 49 U.S.C., Section 44718. Persons who knowingly and willingly violate the notice requirements of part 77 are subject to a civil penalty of \$1,000 per day until the notice is received, pursuant to 49 U.S.C., Section 46301(a)

I hereby certify that all of the above statements made by me are true, complete, and correct to the best of my knowledge. In addition, I agree to mark and/or light the structure in accordance with established marking & lighting standards as necessary.

Date

Typed or Printed Name and Title of Person Filing Notice

Signature

FAA Form 7460-1 (02/20) Supersedes Previous Edition

NSN: 0052-00-012-0009

## MCVEIGH-WALKER Chase \* ODOE

---

**From:** Lenna Cope <Lenna.Cope@pgn.com>  
**Sent:** Monday, November 2, 2020 1:59 PM  
**To:** MCVEIGH-WALKER Chase \* ODOE  
**Subject:** FW: PGE Comments on CGS DPO  
**Attachments:** PGE Comments for CGS DPO.pdf; CGSAMD2 Draft Proposed Order 2020-10-02 PGE Comments.docx

Chase,

Please confirm receipt as it seems these did not make it through on Friday. Thank you.

**Lenna Cope** • Sr. Environmental Science Specialist • 503-464-2634

---

**From:** Lenna Cope  
**Sent:** Friday, October 30, 2020 3:26 PM  
**To:** MCVEIGH-WALKER Chase \* ODOE <Chase.McVeigh-Walker@oregon.gov>  
**Subject:** PGE Comments on CGS DPO

Chase,

Please find attached PGE's comments on the Carty Generation Station Draft Proposed Order on Request for Amendment 2. I've attached both a complete PDF package (cover letter and redline changes) and a redline Word version. Please let me know if you have any questions.

Thank you.



### **Lenna Cope**

Environmental Compliance and Permitting  
Senior Environmental Specialist  
p:503-464-2634 • c:503-313-5022  
**PortlandGeneral.com** • Join us on [Facebook](#)



**Portland General Electric**  
121 SW Salmon Street • Portland, Ore. 97204  
PortlandGeneral.com

October 30, 2020  
Carty Generating Station

Chase McVeigh-Walker  
Senior Siting Officer  
Energy Facility Siting Division  
Oregon Department of Energy  
550 Capitol Street NE  
Salem, OR 97301

Mr. McVeigh-Walker

Re: Comments on Carty Generating Station Draft Proposed Order on Request for Amendment 2

Portland General Electric (PGE) appreciates the opportunity to provide comments for the Carty Generating Station (CGS) Draft Proposed Order (DPO) on Request for Amendment 2 (RFA2) to the Oregon Department of Energy (the Department). PGE has organized our comments on the DPO into two categories, substantive comments and administrative comments. Additional, minor administrative comments are provided in the attached redline copy of the DPO, which has also been emailed to you. PGE's recommended language is also included in the redline document.

**Substantive Comments:**

1. Section II.A Requested Amendment; Raw Water/Fire Water, Wastewater, Potable Water, and Sanitary Sewer Sections – This section applies to *“Proposed Related or Supporting Facilities (to be constructed)”*. PGE has provided edits in the attached redline to these sections to clarify only the new related or supporting facilities being requested. The description currently included in the DPO combined information about how CGS is currently constructed, existing Boardman Coal Plant (BCP) infrastructure proposed to be added to the site certificate with no modification, and the new related or supporting facilities being requested.
2. Section II.A Modifications to the Water Pollution Control Facility Permit and Section III.A.13.2 Water Pollution Control Facility Permit – PGE has provided suggested edits in the attached redline to clarify that closure of the ash disposal landfill will not become a CGS requirement. Closure of the landfill is being completed as part of the BCP decommissioning.
3. Section III.A.5.1, MCZO Section 3.070(D)(2) and (3) discussion – PGE has provided suggested edits in the attached redline to clarify that the proposed structures are located along a private road that is approximately 2.3 miles long and therefore the provisions do not apply. Also, the DPO in this section states that *“The certificate holder is not proposing sewage disposal installations”*; however, PGE is proposing a new septic system; therefore, PGE has provided suggested edits to reflect the sewage disposal installation.

4. Section III.A.5.1, Agricultural Policy 4 - PGE has provided suggested edits in the attached redline to clarify how PGE complies with Agricultural Policy 4.
5. Section III.A.7 Fish and Wildlife Habitat, Recommended Amended Condition 10.2 – PGE requests that Condition 10.2 not be amended as proposed. New construction occurs primarily Habitat Category 6 with a minor amount in Habitat Category 4. The amount of additional mitigation required is estimated to be 1.1 acres, the Habitat Mitigation Area (HMA) established for Unit 1 was 5.25 acres larger than required; therefore, the additional 1.1 acres of mitigation is already covered by the existing HMA. Since no new HMA will be established for RFA2 actions, there would be no new HMA to provide “a habitat assessment of the habitat mitigation area” as would be required if Condition 10.2 is modified. Condition 10.2 was modified as part of Amendment 1 because a new HMA would need to be established for the Carty Solar farm; therefore, providing a habitat assessment of the new HMA is reasonable.
6. Section III.A.9 Historic, Cultural, and Archaeological Resources, Finding of Fact – PGE has provided suggested edits in the attached redline to correct an error originally stated in RFA2 regarding which areas have previously been surveyed for historic, cultural and archaeological resources. In RFA2 one section incorrectly stated that the septic system and security guard station had potentially not been surveyed; however, in the final RFA2 PGE had confirmed that the area of the septic system and security guard station had been surveyed and that information was added to the RFA, but the previous statement was not deleted. The next paragraph in the DPO does correctly state that the septic system and security guard station have been surveyed.
7. Section III.A.10 Public Services, Finding of Fact and Condition 10.29(b) – PGE has provided suggested edits in the attached redline to the proposed Condition 10.29(b) be modified to say “The certificate holder shall obtain and comply with a Umatilla County Public Health construction permit for the septic system”. The description of “North Lagoon (unlined)” currently in the proposed condition refers to the existing sewage lagoon constructed as part of the BCP and is not part of the proposed new septic system for CGS.
8. Attachment A Proposed Amended Site Certificate (red-line), Condition 10.2 – See PGE’s substantive comment #5 for comment on Condition 10.2 regarding the proposed requirement for a habitat assessment.
9. Attachment A Proposed Amended Site Certificate (red-line), Condition 10.29(b) – See PGE’s substantive comment #7 for comment on Condition 10.29(b) regarding how the septic system is described.

Administrative Comments:

1. Section I Introduction – a 7.2 kV powerline is listed as proposed new infrastructure; the proposed new 7.2 kV powerlines are also covered by the “substation and associated distribution lines”. In a preliminary version of the RFA an existing 7.2 kV powerline from the Boardman Coal Plant to the construction substation was proposed to be added; however, that line is now being replaced by the distribution lines associated with the new substation. PGE leaves it to the Departments discretion if the 7.2 kV powerlines should be listed separately from the substation description.

2. Section II.A Requested Amendment – same comment as for Section I Introduction regarding the 7.2 kV powerline.
3. Section III.A.3 Structural Standard, Findings of Fact – PGE suggests that the description of the analysis area should be modified to be consistent with the September 29, 2020 email establishing the analysis area for RFA2.
4. Section III.A.5.1, ORS 215.296(1) - PGE has provided suggested edits in the attached redline referencing previous findings in the Final Order on the Application for Site Certificate.
5. Section III.A.9 Historic, Cultural, and Archaeological Resources, Finding of Fact - PGE suggests that the description of the analysis area should be modified to be consistent with the September 29, 2020 email establishing the analysis area for RFA2.
6. Section III.A.10 Public Services, Finding of Fact - PGE suggests that the description of the analysis area should be modified to be consistent with the September 29, 2020 email establishing the analysis area for RFA2.
7. Attachment A Proposed Amended Site Certificate (red-line), Condition 5.5 – Reference to Attachment E should be changed to Attachment D.

If you have any questions regarding PGE's comments, please contact me at 503-464-2634 or [Lenna.Cope@pgn.com](mailto:Lenna.Cope@pgn.com).

Sincerely,



Lenna Cope, P.E.  
Environmental Engineer  
Portland General Electric

#### **Carty Generating Station Request for Amendment 2: Draft Proposed Order**

---

**To:** Oregon Energy Facility Siting Council  
**From:** Chase McVeigh-Walker, Senior Siting Analyst  
**Date:** October 2, 2020  
**Re:** Draft Proposed Order on Request for Amendment 2

---

**Certificate Holder:** Portland General Electric Company (PGE)

**Operational/Approved**

**Facility:** Operational natural gas-fueled combined-cycle unit capable of generating 450 megawatts (MW) and 50 MWs of approved not yet constructed solar photovoltaic energy generation components. The site boundary encompasses approximately 1,581 acres in Morrow County.

**Proposed Amendment:** The proposed amendment includes the following: 1) a site boundary modification to both remove approximately 378 acres of agricultural land and add approximately 3,414.5 acres to incorporate existing related or supporting facilities currently authorized under the Boardman Coal Plant site certificate; 2) incorporation of infrastructure and existing facilities shared by the Boardman Coal Plant and Carty Generating Station; 3) construction of new infrastructure, including a new sewer line, septic tank, septic drain field, a backup water pipeline, potable water line, a wastewater pipeline, a 7.2 kilovolt (kV) powerline, a substation and associated distribution lines, an office and warehouse, and a new security guard station; and 4) modification to Schedule A, Condition 6 of the Oregon Department of Environmental Quality (ODEQ) Water Pollution Control Facility (WPCF) Permit 100189 to add turbine rinse water as an allowed discharge; and, other site certificate condition amendments.

**Proposed Location:** Previously approved site boundary is within Morrow County, and amended site boundary would extend within Gilliam County.

**Review Process:** Type B Review

**Staff Recommendation:** Approval of Request for Amendment 2 of Site Certificate

### **Amendment Process Summary**

To issue an amended site certificate, the Energy Facility Siting Council (EFSC or the Council) must find that a request for amendment to the site certificate demonstrates that the facility, with proposed changes, satisfies, or with conditions can satisfy, each of the applicable EFSC Siting Standards set forth in Oregon Administrative Rule (OAR) Chapter 345, Divisions 22 through 24, as well as all other Oregon statutes and administrative rules applicable to the facility with proposed changes.

As staff to EFSC, the Oregon Department of Energy (the Department) reviewed Request for Amendment 2 to the Carty Generating Station site certificate, in consultation with specifically identified state and local reviewing agencies. Based upon its review of the amendment request, the Department recommends Council issue a second amended site certificate for the facility, subject to the existing and recommended new and amended site certificate conditions set forth in the following draft proposed order. The analysis and recommendations contained in this draft proposed order are not a final determination.

A public comment period is now open on the draft proposed order and complete amendment request. The comment deadline for written comments to be submitted to the Department is November 2, 2020 by 5:00 p.m. Only those persons, including the certificate holder, who provide written comment by the deadline may seek judicial review as provided by OAR 345-027-0072(5) and issues eligible for judicial review are limited to the issues raised in that person's written comments on the draft proposed order. Section II.C, *Amendment Review Process*, of the draft proposed order contains additional information regarding the site certificate amendment review process. The public notice associated with the release of this draft proposed order also contains additional information regarding the comment period and next steps in the EFSC review process.



**BEFORE THE  
ENERGY FACILITY SITING COUNCIL  
OF THE STATE OF OREGON**

In the Matter of Request for Amendment 2 for the  
Carty Generating Station Site Certificate

---

)  
) DRAFT PROPOSED ORDER ON  
) REQUEST FOR AMENDMENT 2 TO  
) THE SITE CERTIFICATE

October 2, 2020

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## I. INTRODUCTION

The Oregon Department of Energy (Department) issues this draft proposed order, in accordance with Oregon Revised Statute (ORS) 469.405(1) and Oregon Administrative Rule (OAR) 345-027-0365, based on its review of Request for Amendment 2 (RFA2) to the Carty Generating Station (CGS or Carty) site certificate, as well as comments and recommendations received by specific state agencies, Tribal Governments and local governments during review of the preliminary amendment request. The certificate holder for the facility is Portland General Electric Company (certificate holder or PGE).

The certificate holder requests approval from the Energy Facility Siting Council (EFSC or Council) to amend the site certificate to authorize the following modifications<sup>1</sup>:

- Amend the site boundary to both remove approximately 378 acres of agricultural land from the existing site boundary, and also increase the site boundary by approximately 3,414 acres to incorporate existing facilities currently authorized under the Boardman Coal Plant site certificate, based on the planned decommissioning of the Boardman Coal Plant;
- Amend the site certificate to incorporate shared infrastructure and existing facilities (shared by the Boardman Coal Plant and Carty Generating Station);
- Construct new infrastructure at the Carty Generating Station, including a new sewer line, septic tank, septic drain field, a backup water pipeline, potable water line, a wastewater pipeline, a 7.2 kilovolt (kV) powerline, a substation and associated distribution lines, an office and warehouse, and a new security guard station.
- Modify Schedule A, Condition 6 of the existing Oregon Department of Environmental Quality (ODEQ) Water Pollution Control Facility (WPCF) permit to add turbine rinse water as an allowed discharge to Carty Reservoir.

Based upon review of RFA2 and the comments and recommendations received by specific state agencies, Tribal Governments and local governments, the Department recommends Council approve the request and grant an amendment of the CGS site certificate subject to the existing, recommended new and amended conditions set forth in this draft proposed order.

**Commented [LCC1]:** The 7.2 kV powerline, is considered part of the “associated distribution lines” described as part of the substation. In preliminary versions of the RFA there was a 7.2 kV powerline from the BCP to the construction substation listed as being added to the Carty substation; that line was removed from the final request as it is replaced by the “associated distribution lines” for the new Carty Substation.

<sup>1</sup> CGSAMD2 Complete RFA with Attachments 2020-10-02.

**I.A. Name and Address of Certificate Holder**

Portland General Electric Company  
121 SW Salmon Street  
~~3WTC-BR050403~~  
Portland, OR 97204

**Commented [LCC2]:** 3WTC-BR05 was an old "mail stop" for Arya Behbehani.

Individual responsible for submitting this amendment request:

Arya Behbehani  
General Manager 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)

**I.B. Facility Description (Operational/Approved)**

The approved, operating facility includes a 450 MW natural gas fueled combined-cycle electric generating turbine (Unit 1) and its associated components including a heat recovery steam generator, steam turbine generator, natural-gas fueled auxiliary boiler, and cooling tower cell. Related and supporting facilities include the Grassland Switchyard, onsite 500 kV interconnection transmission line (Unit 1 to Grassland Switchyard), interconnecting water pipelines, sewer lines, liquid storage facilities, accessory buildings, utility lines, roads and temporary laydown areas.

**Commented [LCC3]:** The cooling tower is a single structure containing seven cells, so would be more accurate to just say cooling tower.

The facility shares several components with the existing Boardman Coal Plant, including portable water and sanitary waste infrastructure, and the Carty Reservoir for water withdrawal and water discharge purposes. While these facilities are shared, they are not currently included in the Carty Generating Station site certificate.

**Commented [LCC4]:** Potable water

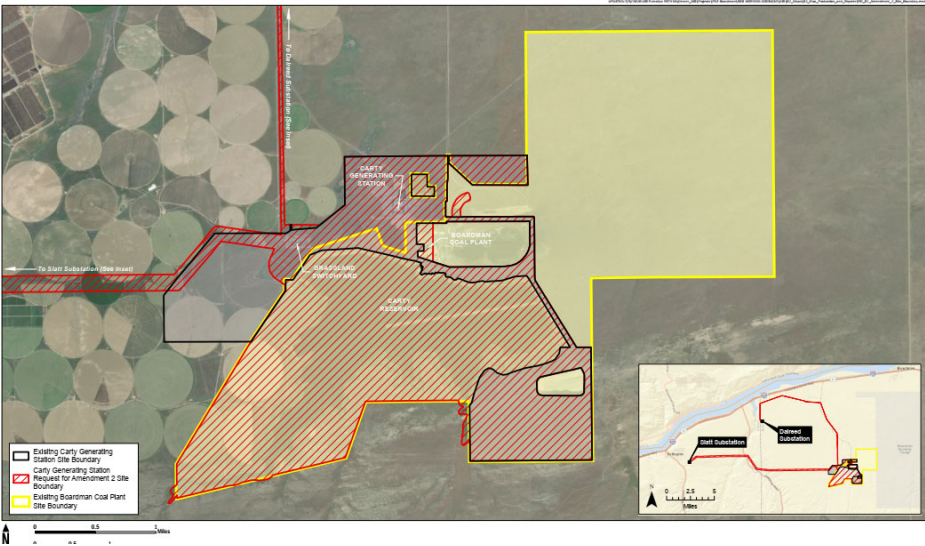
In the Final Order on Request for Amendment 1 (RFA1) for the Carty Generating Station, Council approved the construction and operation of a 50 MW photovoltaic solar generating unit (Carty Solar Farm). RFA1 was approved by Council on December 14, 2018 and the site certificate was fully executed on February 4, 2019. Construction of the Carty Solar Farm must commence by February 2022 and be completed by February 2025.

**I.C. Facility Location and Site Boundary**

The existing facility is located in Morrow County, Oregon, southwest of the City of Boardman and adjacent to the Carty Reservoir and the Boardman Coal Plant.

1 As presented in Figure 1, *Site Boundary*, the approved site boundary (outlined in “black”) encompasses approximately 1,581 acres and includes the perimeter of the area of the approved energy facility and its related or supporting facilities, temporary laydown and staging areas, and all corridors.

Figure 1: Site Boundary



I.D. Site Certificate Procedural History

The Council issued its *Final Order on the Application for Site Certificate for the Carty Generating Station (Final Order on ASC)* on June 29, 2012. The site certificate became effective on July 2, 2012. The final order authorized the construction and operation of a natural gas fuel combined-cycle generating plant producing up to 900 megawatts (MW) of electrical power, and related or supporting facilities.

On December 14, 2018, Council issued its *Final Order on Amendment 1* and granted an amended site certificate on December 14, 2018, which approved the construction and operation of a 50 MW photovoltaic solar unit, construction and operation of a 34.5 kilovolt (kV) interconnection transmission line, five interconnection transmission line routing options and three interconnection options, use of temporary construction laydown and parking areas, removal of reference to previously approved but not yet constructed Unit 2 and its associated components and related or supporting facilities, site boundary modification (reduction from 3,800 to 1,581 acres), amendment to the Water Pollution Control Facilities Permit (WPCF), and

condition amendments. Components approved in *Final Order on Amendment 1* have not yet been constructed.

The certificate holder submitted its *preliminary Request for Amendment 2* on February 28, 2020 and requested RFA1 be reviewed under the “Type B” process. Based on its evaluation of RFA1, the Department determined on May 29, 2020 that the “Type B” review process was justified. On August 17, 2020, a revised *preliminary Request for Amendment 2* was submitted to the Department.<sup>2</sup> The Department received the complete Request on October 2, 2020, the Department posted the complete RFA2 on its website and posted an announcement on the project website informing the public that the complete RFA2 had been received and is available for viewing.

## **II. AMENDMENT PROCESS**

Council’s Final Order on RFA1 authorized construction and operation of the Carty Solar Farm and its related or supporting facilities (50 MWs of solar photovoltaic energy generation equipment) and established a construction commencement and completion deadline of February 2022 and February 2025, respectively. The Department notes that, based on the timing of RFA2, it is possible for construction activities approved in Final Order on RFA1 to overlap with construction activities to be approved in Final Order on RFA2.

### **II.A. Requested Amendment**

The certificate holder requests Council approval for the following:

- Site boundary modification to both remove approximately 378 acres of agricultural land and add approximately 3,414 acres to incorporate existing facilities currently authorized under the Boardman Coal Plant site certificate;
- Incorporate shared infrastructure and existing facilities (shared by the Boardman Coal Plant and Carty Generating Station);
- Construct new infrastructure, including a new sewer line, septic tank, septic drain field, a backup water pipeline, potable water line, a wastewater pipeline, a 7.2 kV powerline, a substation and associated distribution lines, an office and warehouse space, and a new security guard station; and,
- Amend the existing Oregon Department of Environmental Quality (ODEQ) Water Pollution Control Facility (WPCF) permit to allow turbine rinse water as an allowed discharge to Carty Reservoir.

The proposed components are described in further detail below.

---

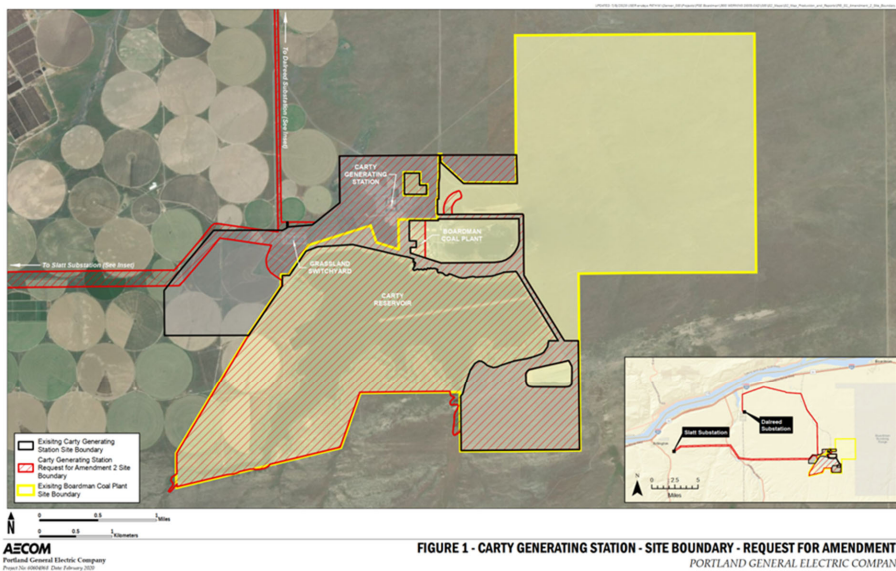
<sup>2</sup> Revisions made to the August 17, 2020 pRFA2 include incorporating additional existing facility components shared between CGS and BCP, as well as the authorization to construct and operate additional new facility infrastructure. Furthermore, minor amendments were proposed to select site certificate conditions.

## Amended Site Boundary

The certificate holder proposes to amend the site boundary including removal of 378 acres of agricultural land and adding approximately 3,414 acres. As proposed, the amended site boundary would encompass approximately 4,997 acres. The areas within the proposed site boundary expansion are currently authorized under the Boardman Coal Plant site certificate, and include related or supporting facility components. Specifically, the site boundary expansion would incorporate the following facility components: 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, Carty 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.

In Figure 2: *Amended Site Boundary*, below, the existing site boundary is presented in black outline; the areas to be added to the existing site boundary are presented in red outline; and, the area presented in yellow outline represents the BCP site boundary.

**Figure 2: Amended Site Boundary**





1 *Existing infrastructure to be incorporated from the Boardman Coal Plant*

2  
3 As presented in RFA2, the existing site certificate authorizes the shared use of several existing  
4 Boardman Coal Plant (BCP) facilities. The list of facility components below represents existing  
5 BCP facility infrastructure that the certificate holder requests be incorporated into the Carty  
6 site certificate. The incorporation of the listed facilities is related to a December 31, 2020  
7 ~~deadline for cessation~~ ~~cease~~ of operations at the BCP. After the December 31, 2020 deadline to  
8 cease operations of BCP, the shared facilities and other identified BCP facilities would exist only  
9 to serve CGS and therefore must be added as “related or supporting facilities” to the CGS site  
10 certificate in order to be used by CGS. The existing BCP infrastructure to be incorporated into  
11 the CGS site certificate is presented below (see Attachment A of this order for a detailed  
12 description of each of these components)<sup>3</sup>:

- 14 • 500 kV Grassland to Slatt transmission line
- 15 • Carty Reservoir, including portions of the raw water intake system, irrigation pump
- 16 station, and associated electrical connection lines
- 17 • Water discharge channel
- 18 • Sanitary sewer lagoons
- 19 • Boeing well and pump (potable water source)
- 20 • 300,000-gallon potable/fire water tank and associate existing water pipeline
- 21 • 230 kV BCP to Dalreed transmission line
- 22 • 34.5 kV BCP to railroad crossing at Tower Road transmission line
- 23 • 7.2 kV underground distribution line connecting BCP to the construction substation
- 24 • 12.5 kV underground distribution line connecting the construction substation to Boeing
- 25 Well pump
- 26 • 480-volt underground distribution line connecting the 34.5 kV transmission line to the
- 27 Carty Reservoir seepage pumps
- 28 • Construction Substation
- 29 • Two existing evaporation ponds

**Commented [LCC5]:** Since operations ceased on October 15, 2020 additional language clarifies that the December 31, 2020 date was a deadline and not when operations ceased.

**Commented [LCC6]:** See previous comment about 7.2 kV distribution line.

31 *Proposed Related or Supporting Facilities (to be constructed)*

32  
33 As presented in RFA2, the certificate holder seeks Council approval to construct and operate  
34 the following related or supporting facilities, described in detail below:

- 36 • Water and wastewater pipelines; and new septic system
- 37 • Carty substation
- 38 • Office and warehouse space, and
- 39 • Security guard station

41 *Septic System, Water Pipeline and Wastewater Pipeline*

42  
43 In RFA2, the certificate holder proposes to construct and operate new water and wastewater  
44 pipelines and a new septic system, as described below.

### 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. The certificate holder proposes to construct and operate an underground distribution line extending from the intake building to the facility. The duration of construction is anticipated at 3 months and would require excavators, a backhoe, dump truck, compactor, possibly an asphalt paver, and several pickup trucks.~~

**Commented [LCC7]:** This section can be deleted and combined with the Potable Water section below. The new underground distribution line extending from the intake building to the facility is discussed in the Carty Substation section.

### Wastewater

The facility 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 ~~The certificate holder proposes to construct and operate~~ an 8-inch diameter wastewater pipeline from the facility into the Water Discharge Channel. The certificate holder is requesting two existing evaporation ponds currently permitted under the Site Certificate for BCP be added to the CGS; wastewater from the holding ponds would be conveyed to the evaporation ponds via a new approximately 1,000-foot-long underground wastewater pipeline. The duration of construction is anticipated at 3 months and would require excavators, a backhoe, dump truck, compactor, possible an asphalt paver, and several pickup trucks.

**Commented [LCC8]:** Description in DPO appears to combine information about the existing wastewater discharge infrastructure and proposed new wastewater infrastructure. As this portion of the DPO discusses the "to be constructed" components, PGE has suggested edits. Additional text pulled from page 8 and 17 of RFA2.

### Potable Water/Fire 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 the facility. 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 the facility 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 underground distribution line to the construction substation. The construction substation, in turn, derives power from a 12.5kV originating at the 1X33 transformer at BCP.

The ~~certificate holder is requesting a facility also includes~~ backup potable/firewater storage in a 300,000-gallon, welded-steel water storage tank with adjacent pump house currently permitted under the Site Certificate for the BCP be added to the CGS. The certificate holder proposes to construct and operate a 4-inch-in-diameter ~~intake~~ pipeline to connect the facility to the ~~Boeing well~~ 300,000-gallon tank. The duration of construction is anticipated at 3 months and would

**Commented [LCC9]:** Description in DPO appears to combine information about the existing raw water connection and proposed new connection to an existing BCP 300,000-gallon tank. As this portion of the DPO discusses the "to be constructed" components, PGE has suggested edits. Additional text pulled from page 16 of RFA2.

<sup>3</sup> CGSAMD2 Complete RFA with Attachments 2020-10-02, Introduction.

1 require excavators, a backhoe, dump truck, compactor, possibly an asphalt paver, and several  
2 pickup trucks.

#### 3 4 Sanitary Sewer

5  
6 Sanitary sewer flows at the facility are solely from plant lavatories, sinks, and bathroom  
7 showers used by plant personnel. These flows are currently directly discharged to the sewage  
8 lagoons via a sewer lift station, ~~or an onsite septic system~~. There are ~~two-three~~ existing sewage  
9 lagoons: the South Lagoon and Middle Lagoon (both lined) ~~and. The certificate holder proposes~~  
10 ~~to construct a third sewage lagoon, the North Lagoon (unlined). The certificate holder is~~  
11 ~~requesting that sewer flows be permitted to be discharge to either the existing lagoons or to a~~  
12 ~~new septic system~~, which requires a permit from the Umatilla County Public Health  
13 Department. The proposed septic system would be sized per state and county standards and  
14 the Umatilla County Public Health Department requirements and is in an area deemed  
15 acceptable for a standard, non-residential septic system. Because the design flow of the system  
16 is less than 2,501 gallons per day, the facility ~~is-will~~ not ~~be~~ governed under the WPCF Permit  
17 100189. The duration of construction is anticipated at 2 to 3 months and would require  
18 excavators, a wheeled crane, backhoe, dump trucks, a compactor, and several pickup trucks.

#### 19 20 *Carty Substation*

21  
22 The certificate holder proposes to construct and operate a new 7.2 kV open box structure  
23 substation, control house for relay, supervisory control and data acquisition, communications  
24 and DC system, dead-end structure for the existing 230 kV transmission line, and perimeter  
25 security fence southeast of the construction substation, as shown in RFA2 Figure 2a, Figure 2b,  
26 and Figure 4. As explained in RFA2, the construction duration of the Carty Substation is  
27 anticipated at 9 to 10 months, and would require excavators, a backhoe, dump truck,  
28 compactor, and several pickup trucks.

29  
30 New equipment within the substation would include the following<sup>4</sup>:

- 31  
32 • Box Structure: The box frame structure is a metal frame structure (not enclosed) that  
33 would be approximately 16 feet wide by 36 feet long and 24 feet high.
- 34 • 230 kV Disconnect Switch: The switch would be approximately 16 feet by 16 feet and 6  
35 feet tall. It would be mounted on a 9-foot structure (overall height of about 15 feet).
- 36 • Capacitive Voltage Transformer (CVT): The transformers are a tall cylinder shape,  
37 similar in appearance to the ~~insulators~~. The transformer at Carty Substation would be  
38 approximately 7-feet tall, mounted on an 8-foot structure, for an overall height of 15  
39 feet.

**Commented [LCC10]:** Description in DPO appears to combine information about the existing sewage lagoons and proposed new septic system. As this portion of the DPO discusses the "to be constructed" components, PGE has suggested edits. Additional text pulled from page 8, 16, and 17 of RFA2.

<sup>4</sup> CGSAMD2 Complete RFA with Attachments 2020-10-02, Section 5.1.5.

- Dead End Structure: The dead-end structure would be one of the tallest features, measuring approximately 53 feet. Shield wires for lightning protection would add an additional 20 feet, resulting in an overall height of about 75 feet.
- Lightning Mast: Approximately two to four 75-foot-tall lightning masts would be mounted on the dead-end structure.
- Circuit Switcher: The circuit switcher would be 15.5 feet tall and would be mounted on a base measuring approximately 8 to 12 feet tall. The overall height would be 23.5 feet to 27.5 feet.
- Circuit Breakers: The circuit breakers would be located underneath the box structure; therefore, these components are considered part of the dimensions of the box structure.
- Light poles: Lights would be installed and would be approximately 35 feet tall.
- Control House: The control house would be approximately 15 feet by 35 feet and 12 feet tall.
- Distribution line – The distribution line from Carty Substation to the existing aboveground CGS backup power line would be mounted on single wood poles approximately 50 feet tall. PGE anticipates needing four to five poles, two of which will have down guys and anchors.

The substation would be contained within a fence line with dimensions of approximately 170 feet by 180 feet. The fence would be 8 feet tall with an additional 1 foot of barbed wire. Within the fence line PGE would use the existing 27.5 megavolt-ampere power transformer and oil containment. The transformer contains a total of 13,995 gallons of mineral oil and the CGS Spill Prevention, Control, and Countermeasure Plan would be updated as required by condition 5.9 of the site certificate. The transformer is an existing noise source and is currently in operation at the location of the new substation (e.g.i.e., the new substation is being built around the existing transformer so that it can be reused). Because the transformer is the only noise-emitting component, the substation is not considered a new noise source.

The temporary disturbance footprint is estimated to be 0.6 acre, which assumes a 10-foot buffer around the fence line. New transmission infrastructure would relocate the existing 230 kV from the power block at BCP to a new dead-end structure. The new Carty Substation infrastructure would support the future abandonment of the existing 500 kV line connecting BCP to Grassland Substation, while maintaining optical ground wire for communication needs. New distribution lines would be constructed to (1) connect to the existing pump house and construction substation via an existing underground conduit, (2) connect to the existing intake structure via an existing underground conduit from CGS to the intake structure, and (3) connect to the existing H-frame to connect to CGS for backup power supply via a new overhead line.

#### *Office and Warehouse Space*

The certificate holder proposes to construct a new building within the existing CGS fence line to provide additional office and warehouse space (RFA2 Figure 2b, Figure 4). The building would

1 be approximately 60 feet by 100 feet and approximately 20 feet tall. It would provide both  
2 office and warehouse space and be similar in appearance to the existing site buildings.  
3 Temporary disturbance is estimated at 0.2 acres and assumes a 10-foot disturbance buffer  
4 around the building. As explained in RFA2, the construction duration of the office and  
5 warehouse space is anticipated at 10 to 12 months, and would require use of a small wheeled  
6 crane, excavator, front-end loader, compactor, aerial lifts, telehandler, triaxle dump truck, a  
7 skid steer loader, and pickup trucks.

#### 8 9 *Security Guard Station*

10  
11 The certificate holder proposes to construct a new security guard station along Tower Road to  
12 the north of CGS. An entry gate and new fencing would connect to existing fencing on either  
13 side of Tower Road. New fencing would not exceed 200 linear feet. The security guard station  
14 would have a maximum footprint of 250 square feet and would include a single restroom. The  
15 proposed location for the security guard station and new fencing is on currently vegetated land.  
16 New potable water, wastewater, electricity, and communication lines for the new security  
17 guard station would need to be installed. These new lines would be placed underground and  
18 are anticipated to cross through existing paved, unpaved, and vegetated areas. The temporary  
19 disturbance footprint for these lines is estimated to be 0.26 acre, which assumes a 4-foot-wide  
20 trench for the plumbing and communication lines and a 10-foot disturbance buffer around the  
21 building. The permanent disturbance footprint would be approximately 250 square feet. The  
22 duration of construction is anticipated at 6 months and would require a telehandler, a backhoe,  
23 skid steer, triaxle dump truck, auger, small excavator, and several pickup trucks.

#### 24 25 *Modifications to the Water Pollution Control Facility Permit*

26  
27 In RFA2, the certificate holder requests modifications to Water Pollution Control Facilities  
28 (WPCF) Permit 100189, a permit issued by DEQ but governed by the site certificate. The  
29 requested modification applies to Schedule A, Condition 6 and would authorize discharge of  
30 turbine rinse water to Carty Reservoir. The technical analysis and proposed findings for the  
31 Water Pollution Control Facilities Permit Modification (Addendum 2) is included at Attachment  
32 E to this Order. The WPCF permit modification also included several requested language changes  
33 related to ongoing management of the facility as the coal fired plant (the Boardman Power Plant)  
34 is slated to cease burning coal by end of 2020. The modified language would allow the Carty  
35 Generating Station to continue operation with oversight of the WPCF Permit for management of  
36 industrial wastewater, ~~and domestic wastewater, and for the closure of the coal ash landfill.~~ The  
37 modification also includes required language for proper closure of the sanitary lagoons once  
38 taken out of service during the permit term.  
39

**Commented [LCC11]:** Although the WPCF will continue to apply to the closure of the coal ash landfill; closure of the landfill is not something that will be transferred to CGS; therefore, PGE suggests deleting this portion of the sentence.

1 **II.B. Recommended Amended Site Certificate and Condition Format**

2  
3 The recommended amended site certificate includes existing and recommended new and  
4 amended conditions. Some of the conditions apply to the facility, with proposed changes, some  
5 conditions apply only to existing operational facility components, and some conditions apply  
6 only to the proposed facility components.

7  
8 Previously imposed conditions that are not recommended to be amended through new or  
9 deleted language would apply to both existing and proposed facility components. Previously  
10 imposed conditions that are recommended to be amended, but that include differing  
11 requirements for existing operational components and proposed components include a  
12 delineation format, where a roman numeral “i” indicates the requirements of the condition  
13 apply to operating components, or Unit 1 and its related or supporting facilities; roman numeral  
14 “ii” indicates that requirements of the amended condition apply to components from  
15 Amendment 1, including the Carty Solar Farm and its related or supporting facilities; and,  
16 roman numeral “iii” indicates that the requirements of the amended condition apply to  
17 proposed components of Request for Amendment 2, including existing infrastructure from the  
18 Boardman Coal Plant.

19  
20 **II.C. Amendment Review Process**

21  
22 Council rules describe the processes for transfers, Type A, Type B, and Type C review of a  
23 request for amendment at OAR 345-027-0351. The Type A review is the standard or “default”  
24 site certificate amendment process for changes that require an amendment. Type C review  
25 process is associated with construction-related changes. The key procedural difference  
26 between the Type A and Type B review is that the Type A review includes a public hearing on  
27 the draft proposed order and an opportunity for a contested case proceeding. The primary  
28 timing differences between Type A and Type B review are the maximum allowed timelines for  
29 the Department’s determination of completeness of the preliminary request for amendment,  
30 as well as the issuance of the draft proposed order, and proposed order. It is important to note  
31 that Council rules authorize the Department to adjust the timelines for these specific  
32 procedural requirements, if necessary.

33  
34 A certificate holder may submit an amendment determination request to the Department for a  
35 written determination of whether a request for amendment justifies review under the Type B  
36 review process. The certificate holder has the burden of justifying the appropriateness of the  
37 Type B review process as described in OAR 345-027-0351(3). The Department may consider,  
38 but is not limited to, the factors identified in OAR 345-027-0357(8) when determining whether  
39 to process an amendment request under Type B review.

40  
41 On February 28, 2020, the certificate holder submitted a Type B Review amendment  
42 determination request (Type B Review ADR), requesting the Department’s review and  
43 determination of whether, based on evaluation of the OAR 345-027-0357(8) factors, the  
44 amendment request could be reviewed under the Type B review process. On May 29, 2020, the

1 Department determined that Request for Amendment 2 of the Carty Generating Station site  
2 certificate justifies Type B review, based on the low level of complexity, the limited level of  
3 interest in the proposed changes anticipated by the Department, and the low likelihood of  
4 significant adverse impacts or additional mitigation from the proposed change.

5  
6 Under OAR 345-027-0360(3), the analysis area for any Council standard that requires evaluation  
7 of impacts within an analysis area is the larger of either the study area as defined in OAR 345-  
8 001-0000(59) or the analysis areas described in the project order for the facility, unless  
9 otherwise approved in writing by the Department following a pre-amendment conference. On  
10 September 29, 2020, the Department approved, in writing, use of analysis area based on the  
11 sites of potential project impact, as opposed to the entire amended Carty Generating Station  
12 facility site boundary.

13  
14 Pursuant to OAR 345-027-0363(2), on March 20, 2020, the Department determined pRFA2 to  
15 be incomplete and issued requests for additional information.<sup>5</sup> The Department also issued a  
16 second batch of RAI's on May 13, 2020, and a third batch of RAI's on August 21, 2020. The  
17 certificate holder provided responses to the information request #1 on April 4, 2020, June 5,  
18 2020<sup>6</sup>, and responses to RAI #2 and #3 on September 15, 2020.<sup>7</sup> Additionally, the certificate  
19 holder provided the department with responses to additional clarification questions asked by  
20 the Department during a phone call on September 18, 2020.<sup>8</sup> After reviewing the responses to  
21 its information request, on October 2, 2020, the Department determined the RFA to be  
22 complete. Under OAR 345-027-0363(5), an RFA is complete when the Department finds that a  
23 certificate holder has submitted information adequate for the Council to make findings or  
24 impose conditions for all applicable laws and Council standards. The certificate holder  
25 submitted a complete RFA2 on October 2, 2020, which was then posted on October 2, 2020 to  
26 the Department's project website with an announcement notifying the public that the  
27 complete RFA had been received and is available for viewing.

#### 28 29 Reviewing Agency Comments on Request for Amendment 2

30  
31 As presented in Attachment B of this order, the Department received comments on pRFA2 from  
32 the following reviewing agencies and SAGs:

- 33
- 34 • Confederated Tribes of the Umatilla Indian Reservation (CTUIR)
- 35 • Morrow County Planning Department

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<sup>5</sup> CGSAMD2 Completeness Determination and RAI 2020-03-20.

<sup>6</sup> On June 5, 2020, the certificate holder requested to extend the deadline to provide responses to the Department's second batch of RAI's.

<sup>7</sup> On September 15, 2020, the certificate holder provided the Department with a revised Amendment Determination Request.

<sup>8</sup> CGSAMD2 PGE Responses to Questions 2020-09-18.

- Oregon Department of Environmental Quality (DEQ)<sup>9</sup>
- Oregon Department of Fish and Wildlife (ODFW)
- Oregon Department of Geologic and Mineral Industries (DOGAMI)
- Oregon Department of Aviation (ODA)

Issues raised by reviewing agencies regarding compliance with an applicable Council standard are addressed in Section III.A, *Applicable Division 27 Rule Requirements* of this order.

#### **II.D. Council Review Process**

On October 2, 2020, the Department issued this draft proposed order, and a notice of comment period on RFA2 and the draft proposed order (notice). The notice was distributed to all persons on the Council's general mailing list, to the special mailing list established for the facility, to an updated list of property owners supplied by the certificate holder, and to a list of reviewing agencies as defined in OAR 345-001-0010(52).

To raise an issue on the record of the draft proposed order, a person must raise the issue in a written comment submitted after the date of the notice of the draft proposed order received by the Department before the written comment deadline. The Council will not accept or consider public comments on RFA2 or on the draft proposed order after the written comment deadline, listed above, that closes the record on the draft proposed order. After the Department considers all comments received before the comment deadline for the draft proposed order, but not more than 21 days after the comment deadline, the Department will issue a proposed order. The proposed order shall recommend approval, modification, or denial of the second amended site certificate. Upon issuance of the proposed order, the Department will issue a notice of the proposed order.

The Council, may adopt, modify or reject the proposed order based on the considerations described in OAR 345-027-0375. In a written final order, the Council shall either grant or deny issuance of an amended site certificate. In making a decision to grant or deny issuance of an amended site certificate, the Council shall apply the applicable laws and Council standards required under OAR 345-027-0375 and in effect on the dates described in OAR 345-027-0375 (3). The Council's final order is subject to judicial review by the Oregon Supreme Court as provided in ORS 469.403.

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<sup>9</sup> The Department received two comments from ODEQ on the pRFA2, one from Fredrick Moore on 4/13/2020, and a second from Justin Sterger on 4/16/2020 which was the transmittal for Attachment E: Oregon Department of Environmental Quality Technical Analysis and Proposed Findings for Water Pollution Control Facilities Permit Modification (Addendum 2).



1 **II.E. Applicable Division 27 Rule Requirements**

2  
3 A site certificate amendment is necessary under OAR 345-027-0350(4) because the certificate  
4 holder requests to design, construct, and operate the facility in a manner different from the  
5 description in the site certificate, and the proposed change would impair the certificate holder's  
6 ability to comply with a site certificate condition, and would require new conditions or  
7 modification to existing conditions in the site certificate.

8  
9 The Type B amendment review process (consisting of rules 345-027-0359, -0360, -0363, -0365, -  
10 0368, -0372, and -0375) shall apply to the Council's review of a request for amendment that the  
11 Department or the Council approves for Type B review under 345-027-0357.

12  
13 **III. REVIEW OF REQUESTED AMENDMENT**

14  
15 Under ORS 469.310, the Council is charged with ensuring that the "siting, construction and  
16 operation of energy facilities shall be accomplished in a manner consistent with protection of  
17 the public health and safety." ORS 469.401(2) further provides that the Council must include in  
18 the amended site certificate "conditions for the protection of the public health and safety, for  
19 the time for completion of construction, and to ensure compliance with the standards, statutes  
20 and rules described in ORS 469.501 and ORS 469.503."<sup>10</sup> The Council implements this statutory  
21 framework by adopting findings of fact, conclusions of law, and conditions of approval  
22 concerning the amended facility's compliance with the Council's Standards for Siting Facilities  
23 at OAR 345, Divisions 22, 24, 26, and 27.

24  
25 This draft proposed order includes the Department's initial analysis of whether the changes  
26 proposed in RFA2, meet each applicable Council Standard (with mitigation and subject to  
27 compliance with recommended conditions, as applicable), based on the information in the  
28 record. Following the written comment period on the draft proposed order, the Department  
29 will issue its proposed order, which will include the Department's consideration of any oral  
30 comments made at the public hearing, agency consultation, applicant responses to comments,  
31 and any Council comments.

**Commented [LCC12]:** Consider modifying the language since a public hearing is not held for this Type B review.

32  
33 **III.A. Standards Potentially Impacted by Request for Amendment 2**

34  
35 **III.A.1. General Standard of Review: OAR 345-022-0000**

36  
37 *(1) To issue a site certificate for a proposed facility or to amend a site certificate, the*  
38 *Council shall determine that the preponderance of evidence on the record supports the*  
39 *following conclusions:*  
40

---

<sup>10</sup> ORS 469.401(2).

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

6  
7 (b) Except as provided in OAR 345-022-0030 for land use compliance and except for  
8 those statutes and rules for which the decision on compliance has been delegated by  
9 the federal government to a state agency other than the Council, the facility  
10 complies with all other Oregon statutes and administrative rules identified in the  
11 project order, as amended, as applicable to the issuance of a site certificate for the  
12 proposed facility. If the Council finds that applicable Oregon statutes and rules, other  
13 than those involving federally delegated programs, would impose conflicting  
14 requirements, the Council shall resolve the conflict consistent with the public interest.  
15 In resolving the conflict, the Council cannot waive any applicable state statute.

16 \*\*\*\*\*11

17  
18  
19 (4) In making determinations regarding compliance with statutes, rules and ordinances  
20 normally administered by other agencies or compliance with requirements of the Council  
21 statutes if other agencies have special expertise, the Department of Energy shall consult  
22 with such other agencies during the notice of intent, site certificate application, and site  
23 certificate amendment processes. Nothing in these rules is intended to interfere with the  
24 state's implementation of programs delegated to it by the federal government.

25  
26 **Findings of Fact**

27  
28 OAR 345-022-0000 provides the Council's General Standard of Review and requires the Council  
29 to make findings, on the record, based on the preponderance of evidence standard. These  
30 findings must support the conclusion that the facility, with proposed changes, complies with  
31 the requirements of Council statutes, the siting standards adopted by the Council, and all other  
32 Oregon Statutes and administrative rules identified in the project order and as applicable to the  
33 issuance of an amended site certificate for proposed facility modifications.

34  
  

---

  
<sup>11</sup> OAR 345-022-0000(2) and (3) apply to amendment requests where a certificate holder has shown that the amended facility cannot meet Council standards or has shown that there is no reasonable way to meet the Council standards through mitigation or avoidance of the damage to protected resources; and, for those instances, establish criteria for the Council to evaluate in making a balancing determination. The certificate holder does not assert that the amended facility cannot meet an applicable Council standard. Therefore, OAR 345-022-0000(2) and (3) do not apply to this review.

1 As discussed in Section II.B., *Amendment Review Process*, the Department consulted with other  
2 state agencies and both Gilliam and Morrow Counties during review of pRFA2 to aid in the  
3 evaluation of the proposal against the relevant statutes, rules, and ordinances administered by  
4 these agencies. Additionally, the Department relied upon reviewing agencies' special expertise  
5 in evaluating the facility's compliance with the requirements of the Council's standards. As  
6 presented in this order, the Department recommends Council find that the existing,  
7 recommended new and amended site certificate conditions would ensure that the facility, with  
8 proposed changes, would maintain compliance with all applicable statutes, administrative rules,  
9 and ordinances under Council jurisdiction.

10  
11 *Certificate Expiration [OAR 345-027-0013]*  
12

13 A site certificate, or amended site certificate, becomes effective upon execution by the Council  
14 Chair and the certificate holder. A site certificate, or amended site certificate, expires if  
15 construction has not commenced on or before the construction commencement deadline, as  
16 established in the site certificate and statutorily required under ORS 469.401(2).  
17

18 Included as Attachment 1 of RFA2, the certificate holder provided an amended site certificate  
19 with proposed updates to both the Introduction section and Facility descriptions section.  
20 Additionally, the certificate holder included requested amendments made to existing  
21 conditions<sup>12</sup>. One such amendment was made to existing Condition 4.1, which specifies the  
22 construction commencement dates for Unit 1 and construction commencement dates of the  
23 Carty Solar Farm. The certificate holder requests that Council amend Condition 4.1 to include  
24 specific construction commencement dates for the construction related to RFA2. Specifically,  
25 and as represented in Attachment 1, the certificate holder requests that Council grant a  
26 construction commencement deadline that is within three years after the effective date of the  
27 amended site certificate. To remain consistent with the existing format of the First Amended  
28 Site Certificate, the certificate holder amended Condition 4.1 to include a third delineation from  
29 the condition as roman numeral "iii". This delineation specifies the requested commencement  
30 dates for the construction of proposed RFA2 facility components. The Department recommends  
31 that Council amend Condition 4.1 to specify the construction commencement deadline based  
32 upon three years following the amended site certificate execution date.  
33

34 Existing Condition 4.2, which specifies construction completion dates for Unit 1 and the Carty  
35 Solar Facility, was also requested to include specific dates tailored to RFA2 construction. As  
36 represented in the proposed amended Condition 4.2, the certificate holder requests that the  
37 construction completion deadline be within six years of the effective date of the amended site  
38 certificate. The Department agrees with the requested timeframe to reach completion, and  
39 suggests that the three years for construction commencement and additional three years for

---

<sup>12</sup> CGSAMD2 Complete RFA with Attachments 2020-10-02, Section 4.

1 completion would be consistent with past Council requirements. As such, the Department  
2 recommends that Council amend Conditions 4.1 and 4.2 as follows:

3  
4 **Recommended Amended Condition 4.1:**

5 The certificate holder shall:

- 6 i. Begin construction of Unit 1 within three years after the effective date of the site  
7 certificate. Under OAR 345-015-0085(9), a site certificate is effective upon execution by  
8 the Council Chair and the applicant. The Council may grant an extension of the deadline  
9 to begin construction in accordance with OAR 345-027-0030 or any successor rule in  
10 effect at the time the request for extension is submitted.

11 [Final Order III.D.3; Mandatory Condition OAR 345-027-0020(4)]

- 12 ii. Begin construction of the Carty Solar Farm within three years after the effective date of  
13 the amended site certificate, or February 4, 2022. Under OAR 345-015-0085(8), the site  
14 certificate is effective upon execution by the Council Chair and the certificate holder.

15 [AMD1]

- 16 iii. Begin construction of facility components authorized by the Final Order on Request for  
17 Amendment 2 within three years after the effective date of the amended site certificate  
18 [TBD]. Under OAR 345-015-0085(8), the site certificate is effective upon execution by  
19 the Council Chair and the certificate holder.

20 [AMD2]

21  
22 **Recommended Amended Condition 4.2:**

23 The certificate holder shall:

- 24 i. Complete construction of Unit 1 of the facility within three years of beginning  
25 construction of Unit 1. Construction is complete when: 1) the facility is substantially  
26 complete as defined by the certificate holder's construction contract documents; 2)  
27 acceptance testing has been satisfactorily completed; and 3) the energy facility is ready  
28 to begin continuous operation consistent with the site certificate. The certificate holder  
29 shall promptly notify the Department of the date of completion of construction of Unit  
30 1. The Council may grant an extension of the deadline for completing construction in  
31 accordance with OAR 345-027-0030 or any successor rule in effect at the time the  
32 request for extension is submitted.

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

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

38 [AMD1]

- 39 iii. Complete construction of facility components authorized by the Final Order on Request  
40 for Amendment 2 within six years of the effective date of the amended site certificate  
41 [TBD]. The certificate holder shall promptly notify the Department of the date of  
42 completion of construction of these supporting facilities.

43 [AMD2]

1 *Mandatory and Site-Specific Conditions in Site Certificates [OAR 345-025-0006 and OAR 345-*  
2 *025-0010]*

3  
4 OAR 345-025-0006 lists certain mandatory conditions that the Council must adopt in every site  
5 certificate. The Council's October 2017 rule changes moved the mandatory conditions from  
6 Division 27 to Division 25. As such, the Department recommends Council impose new  
7 mandatory conditions for the proposed RFA2 facility modifications, using the language and  
8 citations consistent with the October 2017 rule change, as presented in draft amended site  
9 certificate and provided in Attachment A of this order.

10  
11 In Attachment A of the RFA2, the certificate holder proposes the creation of Condition 4.7. As  
12 proposed, Condition 4.7 would mirror the requirements of existing condition 4.4.<sup>13</sup> The only  
13 variation between the existing Condition 4.4 and proposed Condition 4.7 is when the 90 day  
14 timeframe to provide the Department with a legal description of the site begins. Existing  
15 Condition 4.4 requires the certificate holder to provide a legal description of the site 90 days  
16 after beginning operation of the facility, whereas Condition 4.7 would require the legal  
17 description be provided 90 days after the execution of the second amended site certificate. As  
18 Described in Section II.A. Requested Amendment, RFA2 proposes to both ~~incorporate~~  
19 ~~incorporate~~ shared infrastructure and existing facilities (shared by the Boardman Coal Plant and  
20 Carty Generating Station); and construct new infrastructure. The Department recommends that  
21 Council not impose Condition 4.7, as the requirements of existing Condition 4.4 would already  
22 apply to both the existing infrastructure proposed to be incorporated, and the new  
23 infrastructure to be built associated with RFA2. The Department interprets the requirements of  
24 Condition 4.4, as they relate to the incorporation of existing infrastructure to begin once the  
25 second amended site certificate was executed. Alternatively, the requirements of Condition 4.4,  
26 as they relate to the proposed new facility infrastructure, would not start until beginning  
27 operation.

28  
29 The Department recommends that Council administratively amend Conditions 2.10, 2.13, 4.4  
30 and 4.6, as presented in Attachment A of this order, to be consistent with the updated  
31 mandatory condition OAR chapter and numbering: Based on the administrative nature of the  
32 condition amendments, the proposed changes are not presented in this section. The  
33 Department recommends that the Council find that the requested condition amendments  
34 would not substantively change the intent of the previously imposed conditions and amend the  
35 conditions as requested.

36  
37 *Construction and Operation Rules for Facilities [OAR Chapter 345, Division 26]*

38  
39 The Council has also adopted rules at OAR Chapter 345, Division 26 to ensure that construction,  
40 operation, and retirement of facilities are accomplished in a manner consistent with the  
41 protection of public health, safety, and welfare and protection of the environment. These rules

---

<sup>13</sup> Condition 4.4 itself mirrors the OAR 345-025-0006(7) Mandatory Condition.

1 include requirements for compliance plans, inspections, reporting and notification of incidents.  
2 The certificate holder must construct the facility substantially as described in the site certificate  
3 and the certificate holder must construct, operate, and retire the facility in accordance with all  
4 applicable rules adopted by the Council in OAR Chapter 345, Division 26.  
5

#### 6 **Conclusions of Law**

7  
8 Based on the foregoing findings of fact and conclusions of law, and subject to compliance with  
9 the amended mandatory and site-specific conditions, the Department recommends the Council  
10 find that the facility, with proposed changes, would satisfy the requirements of OAR 345-022-  
11 0000.  
12

#### 13 **III.A.2. Organizational Expertise: OAR 345-022-0010**

14  
15 *(1) To issue a site certificate, the Council must find that the applicant has the*  
16 *organizational expertise to construct, operate and retire the proposed facility in*  
17 *compliance with Council standards and conditions of the site certificate. To conclude that*  
18 *the applicant has this expertise, the Council must find that the applicant has*  
19 *demonstrated the ability to design, construct and operate the proposed facility in*  
20 *compliance with site certificate conditions and in a manner that protects public health*  
21 *and safety and has demonstrated the ability to restore the site to a useful, non-*  
22 *hazardous condition. The Council may consider the applicant's experience, the*  
23 *applicant's access to technical expertise and the applicant's past performance in*  
24 *constructing, operating and retiring other facilities, including, but not limited to, the*  
25 *number and severity of regulatory citations issued to the applicant.*  
26

27 *(2) The Council may base its findings under section (1) on a rebuttable presumption that*  
28 *an applicant has organizational, managerial and technical expertise, if the applicant has*  
29 *an ISO 9000 or ISO 14000 certified program and proposes to design, construct and*  
30 *operate the facility according to that program.*  
31

32 *(3) If the applicant does not itself obtain a state or local government permit or approval*  
33 *for which the Council would ordinarily determine compliance but instead relies on a*  
34 *permit or approval issued to a third party, the Council, to issue a site certificate, must*  
35 *find that the third party has, or has a reasonable likelihood of obtaining, the necessary*  
36 *permit or approval, and that the applicant has, or has a reasonable likelihood of entering*  
37 *into, a contractual or other arrangement with the third party for access to the resource*  
38 *or service secured by that permit or approval.*  
39

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

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

3  
4 **Findings of Fact**

5 Subsections (1) and (2) of the Council's Organizational Expertise standard require that the  
6 certificate holder demonstrate its ability to design, construct and operate the facility, with  
7 proposed changes, in compliance with Council standards and all site certificate conditions, and  
8 in a manner that protects public health and safety, as well as its ability to restore the site to a  
9 useful, non-hazardous condition. The Council may consider the certificate holder's experience  
10 and past performance in constructing, operating and retiring other facilities in determining  
11 compliance with the Council's Organizational Expertise standard. Subsections (3) and (4)  
12 address third party permits.

13  
14 *Compliance with Council Standards and Site Certificate Conditions*

15  
16 The Council may consider a certificate holder's past performance, including but not limited to  
17 the quantity or severity of any regulatory citations in the construction or operation a facility,  
18 type of equipment, or process similar to the facility, in evaluating whether a proposed change  
19 may impact the certificate holder's ability to design, construct and operate a facility in  
20 compliance with Council standards and site certificate conditions.<sup>14</sup> To evaluate whether  
21 construction and operation of the proposed RFA2 facility modifications would impact the  
22 certificate holder's ability to comply with Council standards and site certificate conditions, the  
23 Department evaluates the certificate holder's relevant experience constructing and operating  
24 solar facilities and whether any regulatory citations have been received for its facilities.

25  
26 The certificate holder is an investor owned utility that has been operating in Oregon for 132  
27 years. The certificate holder owns and operates multiple generating and non-generating  
28 facilities in Oregon, including several energy facilities subject to Council jurisdiction. As  
29 mentioned above in Section II.A, *Requested Amendment*, Portland General Electric is also the  
30 certificate holder of the Boardman Coal Plant (BCP) which is a 550 MW coal-fueled electric  
31 generating power plant that was issued a site certificate in 1975, became operational in 1980,  
32 and will have to cease operations by December 31, 2020.

33  
34 In RFA2, the certificate holder explains that they have extensive experience in construction and  
35 operation of natural gas and transmission facilities and will provide financial security to ensure  
36 appropriate retirement.<sup>15</sup> Furthermore, the existing facility components shared between the  
37 Carty facility and BCP are currently operational, and compliant with their respective site  
38 certificate conditions. In the Final Order on the Application for the Carty Generating Station,  
39 Council found that the certificate holder has the organizational expertise to construct, operate

**Commented [LCC13]:** Consider modifying language since RFA2 is not specific to solar facilities.

<sup>14</sup> OAR 345-021-0010(1)(d)(D).

<sup>15</sup> CGSAMD2 Complete RFA with Attachments 2020-10-02, Section 8.1.

1 and retire the facility in compliance with the Council standards and the conditions of the site  
2 certificate. In the Final Order on the Application, the Council adopted conditions in Section  
3 IV.B.2 (IV.B.2.1 through 2.8) of the site certificate to ensure compliance with the Organizational  
4 Expertise standard. The existing Retirement and Financial Assurance conditions (15.1 through  
5 15.7) would also apply to the incorporated infrastructure. The Department's evaluation of the  
6 Retirement and Financial Assurance standard and RFA2 can be found in section *III.G, Retirement  
7 and Financial Assurance* of this order.

8  
9 The certificate holder requests to administratively amend Condition 2.1, as presented in  
10 Attachment A of this order. Based on the administrative nature of the condition amendment,  
11 the proposed changes are not presented in this section. The Department recommends that the  
12 Council find that the requested condition amendments would not substantively change the  
13 intent of the previously imposed conditions and amend the conditions as requested.

#### 14 15 *Public Health and Safety*

16  
17 The existing 500 kV Grassland to Slatt transmission line and the existing 230 kV BCP to Dalreed  
18 transmission line proposed in RFA2 to be included in the site boundary for the facility from BCP  
19 produce Electric fields (EMF). These two transmissions would operate not exceeding 9-kV per  
20 meter at one meter above ground levels. The evaluation of EMFs and induced current is  
21 presented in Section III.A.8, Public Services and Section *III.P.1., Siting Standards for  
22 Transmission Lines* of this order. Based on the reasoning and analysis provided in the sections  
23 described, the Department recommends that the Council find that the proposed RFA2  
24 modifications, including the incorporation of the 500 kV transmission line, and the 230 kV  
25 transmission line would not impact the certificate holder's ability to design, construct, and  
26 operate the facility in a manner that protects public health and safety.

#### 27 28 *Ability to Restore the Site to a Useful, Non-Hazardous Condition*

29  
30 The certificate holder's ability to restore the facility site to a useful, non-hazardous condition is  
31 evaluated in *Section III.G, Retirement and Financial Assurance*, of this order, in which the  
32 Department recommends that Council find that the certificate holder would continue to be able  
33 to comply with the Retirement and Financial Assurance standard.

#### 34 *ISO 900 or ISO 14000 Certified Program*

35  
36 OAR 345-022-0010(2) is not applicable because the certificate holder has not proposed to  
37 design, construct or operate the facility, with proposed changes, according to an ISO 9000 or  
38 ISO 14000 certified program.

#### 39 40 *Third-Party Permits*

41  
42 OAR 345-022-0010(3) addresses the requirements for potential third party permits, and for  
43 third party permits Council would ordinarily determine compliance, Council must find that the  
44 certificate holder has a reasonable likelihood of entering into a contract or other agreement

**Commented [LCC14]:** Suggested formatting, add space between previous section.



1 with the third-party for access to the resource secured by that permit, and that the third party  
2 has a reasonable likelihood of obtaining the necessary permit. In RFA2, the certificate holder  
3 identifies one state permit, two county permits, and one state program that may be required  
4 for construction and operation of the new facility infrastructure. The certificate holder is not  
5 relying on a third party for any permits identified for which the Council would ordinarily  
6 determine compliance.

#### 7 **Conclusions of Law**

9  
10 Based on the evidence presented in the RFA, the Department recommends the Council find  
11 that with existing site certificate conditions, the certificate holder has the ability to design,  
12 construct, and operate the facility, with proposed changes, in compliance with all Council  
13 standards and conditions, as required by the Organizational Expertise standard.

#### 14 **III.A.3. Structural Standard: OAR 345-022-0020**

15  
16  
17 *(1) Except for facilities described in sections (2) and (3), to issue a site certificate, the*  
18 *Council must find that:*

19  
20 *(a) The applicant, through appropriate site-specific study, has adequately characterized*  
21 *the seismic hazard risk of the site; and*

22  
23 *(b) The applicant can design, engineer, and construct the facility to avoid dangers to*  
24 *human safety and the environment presented by seismic hazards affecting the site, as*  
25 *identified in subsection (1)(a);*

26  
27 *(c) The applicant, through appropriate site-specific study, has adequately characterized*  
28 *the potential geological and soils hazards of the site and its vicinity that could, in the*  
29 *absence of a seismic event, adversely affect, or be aggravated by, the construction and*  
30 *operation of the proposed facility; and*

31  
32 *(d) The applicant can design, engineer and construct the facility to avoid dangers to*  
33 *human safety and the environment presented by the hazards identified in subsection (c).*

34  
35 *(2) The Council may not impose the Structural Standard in section (1) to approve or deny*  
36 *an application for an energy facility that would produce power from wind, solar or*  
37 *geothermal energy. However, the Council may, to the extent it determines appropriate,*  
38 *apply the requirements of section (1) to impose conditions on a site certificate issued for*  
39 *such a facility.*

40  
41 *(3) The Council may not impose the Structural Standard in section (1) to deny an*  
42 *application for a special criteria facility under OAR 345-015-0310. However, the Council*  
43 *may, to the extent it determines appropriate, apply the requirements of section (1) to*  
44 *impose conditions on a site certificate issued for such a facility.*

**Findings of Fact**

As provided in section (1) above, the Structural Standard generally requires the Council to evaluate whether the applicant (certificate holder) has adequately characterized the potential seismic, geological and soil hazards of the site, and whether the applicant (certificate holder) can design, engineer and construct the facility to avoid dangers to human safety and the environment from these hazards.<sup>16</sup> Pursuant to OAR 345-022-0020(2), the Council may issue a site certificate for a wind energy facility without making findings regarding compliance with the Structural Standard; however, the Council may apply the requirements of the standard to impose site certificate conditions.

The analysis area for the Structural Standard, as defined in the Project Order, is the area within the site boundary.

In the *Final Order*, the Council found that the design, construction, and operation of the facility would meet the Council's Structural Standard, subject to the conditions adopted in Section IV.C.2.<sup>17</sup> In the *Final Order on Amendment 1*, the Council found that with both the existing and amended site certificate conditions, the certificate holder continued to have the ability to design, construct, and operate the facility, including the proposed Carty Solar Farm to avoid dangers to human safety presented by the non-seismic hazards identified at the site.

In addition, while the last Council decision on the Carty Generating Facility amended the rule citations of previously imposed mandatory and site-specific conditions due to the Council's October 2017 rule change, changes to the language of applicable conditions were not amended. Based on the October 2017 rule changes, the Department recommends that Council administratively amend Conditions 6.7, 6.10, and 6.11 as follows to be consistent with the mandatory condition language:

**Recommended Amended Condition 6.7:** The certificate holder ~~shall~~must design, engineer and construct the facility to avoid dangers to human safety and the environment presented by seismic hazards affecting the site that are expected to result from all maximum probable seismic events. As used in this rule "Seismic hazard" includes ground shaking, ground failure, landslide, liquefaction, triggering and consequences (including flow failure, settlement buoyancy, and lateral spreading), cyclic softening of clays and silts, fault rupture,

**Commented [LCC15]:** Suggest deleting this portion since the CGS does not include a wind component.

**Commented [LCC16]:** PGE suggests that the description of the analysis area should be modified to be consistent with the September 29, 2020 email establishing the analysis area for RFA2.

<sup>16</sup> OAR 345-022-0020(3) does not apply to this facility because the facility, with proposed changes, is not a special criteria facility under OAR 345-015-0310.

<sup>17</sup> The conditions adopted in Section IV.C.2. of the Final Order (conditions IV.C.2.1, IV.C.2.2, IV.C.2.3., IV.C.2.4., IV.C.2.5., and IV.C.2.6.) are represented in the Site Certificate as conditions 5.4, 6.10, 6.11, 6.6, 6.7, and 6.8 respectively.

directivity effects and soil-structure interaction. For coastal sites, this also includes tsunami inundation hazards, and seismically-induced coastal fault displacement and subsidence.

[Final Order IV.C.2.5] [Mandatory Condition OAR 345-027025-00200006(12)][AMD2]

**Recommended Amended Condition 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 and implement corrective or mitigation actions.

[Final Order IV.C.2.2] [Mandatory Condition OAR 345-027025-00200006(13)] [AMD1]  
[AMD2]

**Recommended Amended Condition 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. After the Department receives notice, the Council may require the certificate holder to consult with the Department of Geology and Mineral Industries and the Building Codes Division to propose and implement corrective or mitigation actions.

[Final Order IV.C.2.3] [Mandatory Condition OAR 345-027025-00200006(14)][AMD2]

*Potential Seismic, Geological and Soil Hazards*

In RFA2, in response to a DOGAMI comment requesting that the certificate holder utilize the latest building codes, and also conduct site specific Geotechnical work that involves borings, the certificate holder clarifies that as proposed, the new related or supporting facility components of RFA2 are sited in areas that were previously characterized for potential geological and soil hazards.<sup>18</sup> Additionally, the certificate holder explains that the geotechnical investigations conducted as part of the 2011 ASC and also those provided in RFA1, along with the pre-construction geotechnical evaluation performed at Carty in 2013 (Terracon Consultants, Inc. 2013) per Condition 5.4, will be used and therefore no additional geotechnical investigations will be needed. As such, the certificate holder requests that Council amend Condition 5.4(a) to specify that the exploratory borings would not be required for the new construction of facility components associated with RFA2, presented below:

**Recommended Amended Condition 5.4:** Before beginning construction of Unit 1 and Carty Solar Farm, 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

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<sup>18</sup> CGSAMD2 Reviewing Agency Comment DOGAMI\_Wang 2020-04-15.

approval of the investigation report per Condition 5.4.b. The investigation must include at least the following activities...

[Final Order IV.C.2.1]

ii. Complete an investigation...

[AMD1] [AMD2]

As provided in the 2011 ASC on behalf of the certificate holder, Cornforth Consultants Inc. (CCI) conducted a preliminary geotechnical investigation for the facility site, characterizing potential seismic hazards at the site and in its vicinity. OAR 345-022-0020(1)(a) requires the certificate holder to adequately characterize the seismic hazard risk of the site. In the 2011 ASC geotechnical investigation, CCI identified two principal types of earthquake sources in the vicinity of the facility site: the Cascadian Subduction Zone (CSZ) and local crustal faults. Furthermore, Council previously determined that the facility is located over 200 miles from the CSZ and within the light damage zone as defined in the Oregon Resilience Resiliency-Plan (2013), making it inherently resilient to region-wide seismic disaster.

*Design, Engineer and Construct facility to Avoid Dangers to Human Safety from Seismic and Non-Seismic Hazards*

In RFA2, the certificate holder confirmed that the new facility components proposed to be constructed would occur in areas that were previously characterized in both the ASC and RFA1 for potential geologic and soil hazards.<sup>19</sup> Furthermore, the certificate holder cites site certificate conditions 5.4, 6.6, 6.7, 6.8, 6.10, and 6.11 and continued compliance with each condition respectively as a means to ensure that RFA2 would continue to comply with the standard. However, as represented in Attachment 1 of RFA2, the certificate holder proposes a modification to Condition 5.4, to clarify when exploratory borings would be required. During the completeness review of RFA2, the Department of Geology and Mineral Industries (DOGAMI) provided comments indicating that “the applicant needs to utilize the latest building codes [for the construction of the new proposed components, and that]... the applicant needs to conduct site specific [Geotechnical] work that involves borings”.<sup>20</sup> The Certificate holder explains in RFA2 that the geotechnical investigations associated with potential geological and soil hazard assessments characterized in the 2011 ASC and RFA1, along with the pre-construction geotechnical evaluation performed at Carty in 2013 (Terracon Consultants, Inc. 2013), will be used and therefore no additional geotechnical investigations will be needed. Additionally, the new security guard station, and office/warehouse building are considered “light structures,” and therefore would not require a geotechnical investigation. Lastly, the new septic system, water pipeline, and wastewater pipeline would not require a geotechnical investigation, and percolation test have already been performed satisfactorily for the septic system.

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<sup>19</sup> CGSAMD2 Complete RFA with Attachments 2020-10-02, Section 8.2.

<sup>20</sup> CGSAMD2 Reviewing Agency Comment DOGAMI\_Wang 2020-04-15.

1  
2  
3  
4 *Integration of Disaster Resilience Design*  
5

6 In RFA2, the certificate holder explains that as proposed, the new related or supporting  
7 facilities components would also be located over 200 miles from the Cascadia Subduction Zone,  
8 within the light damage zone as defined in the Oregon Resiliency Plan (2013). As such, the  
9 certificate holder concludes that the new related or supporting facilities would inherently be  
10 resilient to region-wide seismic disaster, per their proposed location. Furthermore, the RFA  
11 indicates that ~~Local~~ seismic resiliency will be addressed by adhering to current seismic  
12 building codes, when building codes are applicable to the new construction. Lastly, the  
13 certificate holder explains that the construction of the Carty substation will ensure CGS  
14 continues to have a backup power supply, which directly helps maintain the resiliency of CGS as  
15 a whole.<sup>21</sup>  
16

17 **Conclusions of Law**  
18

19 Based on the foregoing analysis, subject to compliance with existing and recommended  
20 conditions, and in compliance with OAR 345-022-0020(2), the Department recommends that  
21 the Council find that the certificate holder would satisfy the requirements of the Council's  
22 Structural Standard.  
23

24 **III.A.4. Soil Protection: OAR 345-022-0022**  
25

26 *To issue a site certificate, the Council must find that the design, construction and*  
27 *operation of the facility, taking into account mitigation, are not likely to result in a*  
28 *significant adverse impact to soils including, but not limited to, erosion and chemical*  
29 *factors such as salt deposition from cooling towers, land application of liquid effluent,*  
30 *and chemical spills.*  
31

32 **Findings of Fact**  
33

34 The Soil Protection standard requires the Council to find that taking into account mitigation, the  
35 design, construction, and operation of the facility, with proposed changes, are not likely to  
36 result in significant adverse impacts to soil.  
37

38 In the *Final Order*, the Council found that the design, construction, and operation of the facility  
39 would not result in a significant adverse impact to soils. The Council adopted conditions in

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<sup>21</sup> CGSAMD2 Complete RFA with Attachments 2020-10-02, Section 8.2.

1 Section IV.D.2. of the site certificate to ensure compliance with the Soil Protection standard.<sup>22</sup>  
2 These conditions would continue to apply to the construction and operation of the new  
3 proposed RFA2 facility components, with the exception of those that apply to the 1200-C  
4 National Pollutant Discharge Elimination System (NPDES) permit.

5  
6 *Potential Significant Adverse Impacts to Soils*

7  
8 The analysis area for the Soil Protection standard is the area within the site boundary. In RFA2,  
9 the analysis area is the area that will be affected during construction and operation of the new  
10 proposed RFA2 facility components.<sup>23</sup> In RFA2, the certificate holder explains that potential  
11 adverse impacts to soils during construction of new RFA2 facility components would be similar  
12 to those evaluated in the 2011 ASC and RFA1 such as impacts caused by wind or water erosion;  
13 potential oil or other spills from stationary or power-driven equipment; soil compaction; and,  
14 possibly, construction debris and other construction pollutants. Existing conditions 9.2, 9.3, and  
15 9.5 through 9.7 impose measures to control soil erosion and sediment runoff during  
16 construction, and the revegetation and monitoring of disturbed sites post-construction. In  
17 RFA2, the certificate holder confirms that a 1200-C NPDES would not be required because  
18 stormwater would not reach waters of the state, therefore Conditions 9.1 and 9.4 would not  
19 apply.

20  
21 In Request for Amendment 1, Council deleted Condition 9.8 from the site certificate. Condition  
22 9.8 requires the certificate holder to remove and then dispose of all accumulated evaporation  
23 pond solids, at a landfill approved for such waste material. All residual solids deposited in the  
24 evaporation ponds must be removed to an appropriate disposal facility upon closure of the  
25 facility. This condition was removed from the site certificate because the certificate holder no  
26 longer maintained the ability to construct and operate Unit 2, Unit 2 associated components, or  
27 the previously approved but not yet constructed related and supporting facilities. In request for  
28 Amendment 2, the two existing BCP evaporation ponds are proposed to be incorporated into  
29 the CGS Site Certificate. The certificate holder proposes that the evaporation ponds would be  
30 operated in compliance with Condition 9.8, as previously imposed in the Final Order, but  
31 removed in the Final Order on Amendment 1. The Department recommends that Council  
32 reapply Condition 9.8 to the Site Certificate, as originally imposed.

33  
34 **Conclusions of Law**

35  
36 Based on the foregoing recommended findings of fact and conclusions of law, and subject to  
37 compliance with existing and recommended amended site certificate conditions, the

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<sup>22</sup> The conditions adopted in Section IV.D.2. of the Final Order (conditions IV.D.2.1, IV.D. 2.2., IV.D.2.3., IV.D.2.4., IV.D.2.5., IV.D.2.6., IV.D.2.7. IV.D.2.8., IV.D.2.9., IV.D.2.10., IV.D.2.11., and IV.C.2.12.) are represented in the Site Certificate as conditions 9.1, 9.2, 9.3, 9.4, 9.5, 5.5, 9.6, 9.7, 9.8, 9.9, 9.10, and 9.11 respectively.

<sup>23</sup> CGSAMD2 Analysis Area adjustment ODOE EMAIL 2020-09-29.

1 Department recommends that the Council find that the certificate holder would continue to  
2 comply with the Council's Soil Protection standard.

3  
4  
5 III.A.5. Land Use: OAR 345-022-0030

6  
7 *(1) To issue a site certificate, the Council must find that the proposed facility complies with*  
8 *the statewide planning goals adopted by the Land Conservation and Development*  
9 *Commission.*

10  
11 *(2) The Council shall find that a proposed facility complies with section (1) if:*

12 *\*\*\**

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

15  
16 *(A) The proposed facility complies with applicable substantive criteria as described in*  
17 *section (3) and the facility complies with any Land Conservation and Development*  
18 *Commission administrative rules and goals and any land use statutes directly*  
19 *applicable to the facility under ORS 197.646(3);*

20  
21 *(B) For a proposed facility that does not comply with one or more of the applicable*  
22 *substantive criteria as described in section (3), the facility otherwise complies with*  
23 *the statewide planning goals or an exception to any applicable statewide planning*  
24 *goal is justified under section (4); or*

25  
26 *(C) For a proposed facility that the Council decides, under sections (3) or (6), to*  
27 *evaluate against the statewide planning goals, the proposed facility complies with*  
28 *the applicable statewide planning goals or that an exception to any applicable*  
29 *statewide planning goal is justified under section (4).*

30  
31 *(3) As used in this rule, the "applicable substantive criteria" are criteria from the affected*  
32 *local government's acknowledged comprehensive plan and land use ordinances that are*  
33 *required by the statewide planning goals and that are in effect on the date the applicant*  
34 *submits the application. If the special advisory group recommends applicable*  
35 *substantive criteria, as described under OAR 345-021-0050, the Council shall apply them.*  
36 *If the special advisory group does not recommend applicable substantive criteria, the*  
37 *Council shall decide either to make its own determination of the applicable substantive*  
38 *criteria and apply them or to evaluate the proposed facility against the statewide*  
39 *planning goals.*

40  
41 *(4) The Council may find goal compliance for a proposed facility that does not otherwise*  
42 *comply with one or more statewide planning goals by taking an exception to the*  
43 *applicable goal. Notwithstanding the requirements of ORS 197.732, the statewide*  
44 *planning goal pertaining to the exception process or any rules of the Land Conservation*

and Development Commission pertaining to the exception process, the Council may take an exception to a goal if the Council finds:

- (a) The land subject to the exception is physically developed to the extent that the land is no longer available for uses allowed by the applicable goal;
- (b) The land subject to the exception is irrevocably committed as described by the rules of the Land Conservation and Development Commission to uses not allowed by the applicable goal because existing adjacent uses and other relevant factors make uses allowed by the applicable goal impracticable; or
- (c) The following standards are met:

- (A) Reasons justify why the state policy embodied in the applicable goal should not apply;
- (B) The significant environmental, economic, social and energy consequences anticipated as a result of the proposed facility have been identified and adverse impacts will be mitigated in accordance with rules of the Council applicable to the siting of the proposed facility; and
- (C) The proposed facility is compatible with other adjacent uses or will be made compatible through measures designed to reduce adverse impacts.

\*\*\*

#### **Findings of Fact**

The Council must apply the Land Use standard in conformance with the requirements of ORS 469.504. Under ORS 469.504(1)(b)(A), the Council may find compliance with statewide planning goals if the Council finds that the amendment request “complies with 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 in effect on the date the application is submitted” (the initial amendment request was received on August 29, 2016).

~~The analysis area for potential land use impacts, as defined in the project order, is the area within and extending ½ mile from the site boundary, as amended;~~

**Commented [LCC17]:** Redundant, see next paragraph.

The analysis area for potential land use impacts, as defined in the Project Order, is the area within and extending ½-mile from the site boundary. RFA2 proposes to modify the site boundary; therefore, the analysis area includes the area within and extending ½-mile from the proposed amended site boundary, but for this amendment request, focuses on the area within and extending ½-mile from proposed RFA2 facility component locations which would be limited to area within Morrow County.

Previously approved, and existing facility components of the Boardman Coal Plant, proposed to be incorporated into the Carty Generating Station site certificate have already been approved and constructed in accordance with the BCP Site Certificate; ~~and~~ an evaluation of applicable substantive criteria has therefore not been included in this order.



Local Applicable Substantive Criteria

Under OAR 345-022-0030(2), the Council must apply the applicable substantive criteria recommended by the Special Advisory Group (SAG). On November 19, 2009, the Council appointed the Gilliam County Board of Commissioners and Morrow County Board of Commissioners as the Special Advisory Group (SAG) for the facility. In its consideration of a site certificate amendment request, the Council applies the “applicable substantive criteria,” as described in the rule above, that are in effect on the date the certificate holder submitted the amendment request. Proposed RFA2 facility components would be located entirely within Morrow County; therefore, the Department coordinated review of pRFA2 with Morrow County Planning Department on behalf of Morrow County Board of Commissioners.<sup>24</sup> Comments received on pRFA2 from Morrow County are addressed in RFA2 and in this order and are provided as Attachment B of this order.

The applicable substantive criteria for proposed RFA2 facility components are presented in Table 1, Morrow County Applicable Substantive Criteria below. As described above, while the facility, as approved, would be located within Gilliam and Morrow County, proposed RFA2 facility components would be located entirely within Morrow County. Therefore, for this amendment request, substantive criteria from Gilliam County Development Code and Comprehensive Plan do not apply.

**Table 1: Morrow County Applicable Substantive Criteria**

| <b>Morrow County Zoning Ordinance (MCZO)</b> |                              |
|----------------------------------------------|------------------------------|
| <i>Article 1 – Introductory Provisions</i>   |                              |
| Section 1.050                                | Zoning Permit                |
| <i>Article 3 – Use Zones</i>                 |                              |
| Section 3.010                                | Exclusive Farm Use, EFU Zone |
| Section M                                    | Yards                        |
| Section N                                    | Transportation Impacts       |
| Section 3.070                                | General Industrial Zone      |
| Section D                                    | Dimension Requirements       |
| Section E                                    | Transportation Impacts       |
| <i>Article 4 – Supplementary Provisions</i>  |                              |
| Section 4.165                                | Site Plan Review             |
| <i>Article 9 – Sewage Disposal Approval</i>  |                              |
| Section 9.060                                | Sewage Disposal Approval     |

<sup>24</sup> CGSAMD2 Special Advisory Group Comment Morrow County\_Wreccsics 2020-04-10.

**Table 1: Morrow County Applicable Substantive Criteria**

| <b>Morrow County Comprehensive Plan</b>   |
|-------------------------------------------|
| Agricultural Policy 1 and 4               |
| Energy Policies 3 and 9                   |
| Economic Element Policy 2A, 3A, 5A and 6C |

As presented in the following section, the Department recommends Council find that the certificate holder demonstrates that the components of the amendment request would comply with all of the applicable substantive criteria in Morrow County.

### III.A.5.1 Morrow County Zoning Ordinance (MCZO)

Facility modifications proposed in RFA2 include the Carty Substation and associated distribution lines, septic system, water pipeline, wastewater pipeline, security guard station, and office/warehouse building. These facilities would be constructed as part of the existing facility and therefore are considered an “accessory use or accessory structure” to a “commercial utility facilities for the purpose of generating power for public use by sale..”. The septic system and a portion of the wastewater pipeline are within Morrow County’s Exclusive Farm Use (EFU) zone. The Carty Substation and associated distribution lines, security guard station, and portion of the wastewater pipeline connecting CGS to the evaporation ponds are within the General Industrial (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.<sup>25</sup>

The following analysis addresses the applicable substantive criteria identified in the MCZO.

#### MCZO Section 1.050 Introductory Provisions, 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.*

<sup>25</sup> CGSAMD2 Complete RFA with Attachments 2020-10-02, Section 8.4.

MCZO Section 1.050 requires projects larger than 100 square feet, including the construction, reconstruction, alteration or change of use of any structure, or use for which a zoning permit is required, to obtain a zoning permit. A zoning permit, as described in Article 1, is issued prior to a building permit, or prior to commencement of a use subject to administrative review, and states that the proposed use is in accordance with requirements of the corresponding land use zone.

The construction and operation of the components proposed in the amendment request would alter or change the existing land use by more than 100 square feet. Therefore, the certificate holder would be required to obtain a zoning permit, which would be subject to administrative review under the provisions of MCZO Article 4.165. As described below, existing Condition 4.6 requires that the certificate holder obtain all necessary local permits, including the zoning permit; this condition would apply to the proposed facility components of RFA2. Moreover, the Department presents its evaluation of the certificate holder's MCZO Section 4.165 compliance assessment below. Based upon compliance with existing Condition 4.6 and consistency with MCZO Section 4.165 provisions, the Department recommends Council find that the components proposed in the amendment request would satisfy the MCZO Section 1.050 provision.

#### MCZO Section 3.010 Exclusive Farm Use, EFU Zone

##### *MCZO 3.010(B) Uses Permitted Outright*

*In the EFU zone, the following uses and activities and their accessory buildings and uses are permitted subject to the general provisions set forth by this ordinance:*

*22. Commercial utility facilities for the purpose of generating power for public use by sale, not including wind power generation facilities or photovoltaic solar power generation facilities subject to Subsection K.*

The Carty Generating Station is a commercial utility facility for the purpose of generating power for public use by sale. Therefore, the requirement under MCZO Section 3.010(M) and (N) apply.

*MCZO Section 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*

1        *all streams and lakes a minimum of 100 feet, measured at right angles to the*  
2        *high-water line or mark. All structures, buildings, or similar permanent fixtures*  
3        *shall be set back from the high-water line or mark along all streams or lakes a*  
4        *minimum of 100 feet measured at right angles to the high-water line or mark.*  
5

6        The EFU Yard Setback Requirements under MCZO Section 3.010(M)(1-3) apply to “open spaces  
7        on a lot” (i.e., “yards”) and establish minimum setback distances from the front, side and rear  
8        yards to road rights-of-way and intensive agricultural use. The EFU Yard Setback Requirements  
9        under MCZO Section 3.010(M)(4) apply to sewage disposal installation and establish minimum  
10       setback distances from streams and lakes. Council previously imposed Condition 6.22(b), which  
11       mirrors the requirements of MCZO Section 3.010(M)(1-4). The certificate holder affirms that  
12       the proposed RFA2 facility modifications would be designed to satisfy the setback requirements  
13       established in Condition 6.22(b). Based upon compliance with Condition 6.22(b), the  
14       Department recommends Council find that the facility, with proposed changes, would satisfy  
15       the provisions of MCZO Section 3.010(M).  
16

17        *MCZO Section 3.010(N) Transportation Impacts*

- 18        1. *Traffic Impact Analysis (TIA). In addition to the other standards and conditions set forth*  
19        *in this section, a TIA will be required for all projects generating more than 400*  
20        *passenger car equivalent trips per day. Heavy vehicles – trucks, recreational vehicles*  
21        *and buses – will be defined as 2.2 passenger car equivalents. A TIA will include: trips*  
22        *generated by the project, trip distribution for the project, identification of intersections*  
23        *for which the project adds 30 or more peak hour passenger car equivalent trips, and*  
24        *level of service assessment, impacts of the project, and, mitigation of the impacts. If*  
25        *the corridor is a State Highway, use ODOT standards. (MC-C-8-98)*  
26

27        The EFU Transportation Impact Analysis (TIA) under MCZO Section 3.010(N) applies to projects  
28        that would generate more than 400 passenger equivalent trips per day. Based on the estimated  
29        peak daily vehicle and truck trip generation during construction, less than 400 passenger car  
30        equivalents per day are expected and therefore a TIA is not required to satisfy the  
31        requirements of Section 3.010(N).  
32

33        Potential traffic-related impacts on surrounding roadways would be limited to Tower Road.  
34        Council previously imposed Condition 6.17 under the Public Services standard requiring  
35        implementation of traffic control measures during construction. The Department recommends  
36        Council find that compliance with existing Condition 6.17 would minimize construction traffic  
37        related impacts.  
38

39        Long-term operational traffic would generate approximately less than 10 passenger car or  
40        pickup truck trips per day, with infrequent heavy vehicle trips and would not trigger the  
41        requirements of Section 3.010(N). Based on estimated operational traffic, the Department  
42        recommends Council conclude that the certificate holder is not required to satisfy the  
43        requirements of Section 3.010(N).  
44

1 MCZO Section 3.070 General Industrial, MG

2  
3 Facility components to be located within General Industrial (MG) zoned land include the Carty  
4 Substation and associated distribution lines, water pipelines, portion of the wastewater  
5 pipeline, security guard station, and office/warehouse building (if constructed within the MG  
6 zone). Therefore, the applicable code provisions within MG-zoned land are evaluated below.

7  
8 *The General Industrial Zone is intended to provide, protect and recognize areas well*  
9 *suited for medium and heavy industrial development and uses free from conflict with*  
10 *commercial, residential and other incompatible land uses. This district is intended to*  
11 *be applied generally only to those areas which have available excellent highway, rail*  
12 *or other transportation.*

13  
14 MCZO Section 3.070 does not include a commercial utility facility for purpose of generating  
15 power for public use by sale as a use permitted outright or a conditional use. Pursuant to OAR  
16 345-022-0030(1), if the proposed RFA2 facility components do not comply with local land use  
17 regulations, the Council must determine whether the establishment of proposed facility  
18 components in the MG zone complies with statewide planning goals. This evaluation is  
19 addressed below.

20  
21 MCZO Section 3.070(D) Dimension Requirements

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

- 24  
25 1. *Lot size and frontage: A minimum lot size has not been determined for this zone*  
26 *although the lot must be of a size necessary to accommodate the proposed use,*  
27 *however, it is anticipated that most, if not all uses will be sited on lots of at least*  
28 *two acres. The determination of lot size will be driven by the carrying capacity of*  
29 *the land given the proposed use. Minimum lot frontage shall be 300 feet on an*  
30 *arterial or collector; 200 feet on a local street.*  
31  
32 2. *Setbacks: No specific side or rear yard setbacks are identified within this zone,*  
33 *but may be dictated by provisions of the Building Code or other siting*  
34 *requirements. The minimum setback between a structure and the right-of-way of*  
35 *an arterial shall be 50 feet. The minimum setback of a structure from the right-of-*  
36 *way of a collector shall be 30 feet, and from all lower class streets the minimum*  
37 *setback shall be 20 feet. There shall be no setback requirement where a property*  
38 *abuts a railroad siding or spur if the siding or spur will be utilized by the*  
39 *permitted use.*  
40  
41 3. *Stream Setback: All sewage disposal installations such as outhouses, septic tank*  
42 *and drainfield systems shall be set back from the high-water line or mark along*  
43 *all streams and lakes a minimum of 100 feet, measured at right angles to the*  
44 *high-water line or mark. All structures, buildings, or similar permanent fixtures*

1 shall be set back from the high-water line or mark along all streams or lakes a  
2 minimum of 10 feet measured at right angles to the high-water line or mark.

- 3  
4 4. Uses adjacent to residential uses. A sight-obscuring fence shall be installed to  
5 buffer uses permitted in the General Commercial Zone from residential uses.  
6 Additional landscaping or buffering such as diking, screening, landscaping or an  
7 evergreen hedge may be required as deemed necessary to preserve the values of  
8 nearby properties or to protect the aesthetic character of the neighborhood or  
9 vicinity.

10  
11 MCZO Section 3.070(D) establishes dimensional requirements including lot size and frontage;  
12 setbacks from streams, road rights-of-way and structures; and installation of a sight-obscuring  
13 fence from uses adjacent residential uses.

14  
15 MCZO Section 3.070(D)(1) requires the lot used by facility components within MG-zoned land  
16 to be adequate to accommodate the proposed use and include minimum lot frontage of 300  
17 feet from arterial or collector roads and 200 feet from local streets. The certificate holder  
18 asserts that the area within MG-zoned land to be utilized for siting of proposed facility  
19 components are adequate in size for the proposed use. The certificate holder also confirms  
20 that the frontage distance from the nearest road is 5,000 feet, which satisfies the minimum  
21 frontage requirements. Therefore, the Department recommends Council find that the  
22 proposed components within MG-zoned land would satisfy the MCZO Section 3.070(D)(1)  
23 provision.

24  
25 MCZO Section 3.070(D)(2) and (3) require proposed uses within MG-zoned land to comply  
26 with setback distances from proposed structures to arterial road rights-of-way; and, to  
27 streams and lakes when the proposed use includes a sewage disposal installation. The  
28 certificate holder describes that, in MG-zoned land, Tower Road terminates at the BCP and is  
29 classified as a private roadway for approximately 2.27 miles; the nearest road is located a  
30 distance of 2.27 proposed structures and is a private segment of Tower Road, because the  
31 proposed structures would be located along a private road of which the provisions do not  
32 apply. The certificate holder is not proposing sewage disposal installations confirms that  
33 proposed structures will be located greater than 10 feet from the high-water line or mark  
34 along all streams and lakes. Therefore, the Department recommends Council find that the  
35 proposed components within MG-zoned land would satisfy the provisions of MCZO Section  
36 3.070(D)(2), and find that MCZO Section 3.070(D)(3) would not apply.

37  
38 MCZO Section 3.070(D)(4) requires installation of a sight-obscuring fence when a proposed  
39 use would be adjacent to residences. The certificate holder affirms that there are no  
40 residential uses within proximity of the site. Therefore, the Department recommends Council  
41 find MCZO Section 3.070(D)(4) does not apply.

42  
43 MCZO Section 3.070(E) Transportation Impacts

**Commented [LCC18]:** Suggested edits. Additional language is from Exhibit K page K-20 of RFA1 and Page 52 of RFA2.

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

10  
11       The MG Transportation Impact Analysis (TIA) under MCZO Section 3.070(E) applies to projects  
12       that would generate more than 400 passenger equivalent trips per day, mirroring the  
13       requirements of MCZO Section 3.010(N). Based on the estimated peak daily vehicle and truck  
14       trip generation during construction, less than 400 passenger car equivalents per day are  
15       expected and therefore a TIA is not required to satisfy the requirements of Section 3.070(E).<sup>26</sup>  
16       Council previously imposed Condition 6.17 under the Public Services standard requiring  
17       implementation of traffic control measures during construction, which would support  
18       minimization of traffic impacts.

19  
20       Long-term operational traffic would generate approximately 10 passenger car or pickup truck  
21       trips per day, with infrequent heavy vehicle trips and would not trigger the requirements of  
22       Section 3.010(N). Based on estimated operational traffic, the Department recommends Council  
23       conclude that the certificate holder is not required to satisfy the requirements of Section  
24       3.070(E).

25  
26       MCZO Section 4.165 Site Plan Review

27       *Site Plan Review is a non-discretionary or “ministerial” review conducted without a*  
28       *public hearing by the County Planning Director or designee. Site Plan Review is for*  
29       *less complex developments and land uses that do not require site development or*  
30       *conditional use review and approval through a public hearing.*

- 31  
32       A. *Purpose. The purpose of Site Plan Review (ministerial review) is based on clear*  
33       *and objective standards and ensures compliance with the basic development*  
34       *standards of the land use district, such as building setbacks, lot coverage,*  
35       *maximum building height, and similar provisions. Site Plan review also addresses*  
36       *conformity to floodplain regulations, consistency with the Transportation System*  
37       *Plan, and other standards identified below.*

---

<sup>26</sup> CGSAMD1. RFA Exhibit U. 2018-02-20. The certificate holder estimates peak construction related traffic based on 104 worker trips per day, which includes a 1.25 carpool factor, and 28 two-way truck trips per day. The Department evaluates whether a TIA is necessary based on maximum vehicle trips per day, without adjusting for carpooling and the passenger car equivalent factor of 2.2 for heavy trucks, as follows: 130 workers per day x 2 trips per day + 28 2-way truck trips per day x 2.2 passenger car equivalent = 322 trips per day.

1  
2 C. *Applicability. Site Plan Review shall be required for all land use actions requiring*  
3 *a Zoning Permit as defined in Section 1.050 of this Ordinance. The approval shall*  
4 *lapse, and a new application shall be required, if a building permit has not been*  
5 *issued within one year of Site Review approval, or if development of the site is in*  
6 *violation of the approved plan or other applicable codes.*  
7

8 The Site Plan Review is the county's ministerial review conducted prior to issuance of a zoning  
9 permit, defined under MCZO Section 1.050 as "an authorization issued prior to a building  
10 permit, or commencement of a use subject to administrative review, stating that the proposed  
11 use is in accordance with the requirements of the corresponding land use zone." As required  
12 by Condition 4.6, previously imposed by Council, the certificate holder is required to secure  
13 zoning, building and Conditional Use permits from Morrow County prior to construction of the  
14 energy facility.<sup>27</sup>  
15

16 D. *Review Criteria.*  
17

- 18 1. *The land use, building/yard setback, lot area, lot dimension, density, lot coverage,*  
19 *building height and other applicable standards of the underlying land use district and*  
20 *any sub-district(s) are met.*  
21

22 Condition 6.22.b of the First Amended Site Certificate for CGS requires compliance with the  
23 yard and stream setback requirements of MCZO 3.010.M. The septic system would be set back  
24 100 feet from the high-water line of all nearby water sources. The Carty Substation, guard  
25 station, and office/warehouse building side and back yard setbacks would be over 100 feet  
26 from the adjacent lot.  
27

- 28 2. *Development in flood plains shall comply with Section 3.100 Flood Hazard Overlay Zone*  
29 *of the Ordinance.*  
30

31 The development proposed in this RFA2 is not within a floodplain.  
32

- 33 3. *Development in hazard areas identified in the Morrow County Comprehensive Plan shall*  
34 *safely accommodate and not exacerbate the hazard and shall not create new hazards.*  
35

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

---

<sup>27</sup> Pursuant to ORS 469.401(3), the county must issue a zoning permit upon submittal of the proper applications and fees, but without hearings or other proceedings and subject only to conditions set forth in the site certificate.



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

6  
7 As indicated in response to MCZO 4.165(D)(4), the new development proposed in this RFA2 is  
8 not within a floodplain. Section 6.2 of this RFA2 addresses soil conditions. Moreover, conditions  
9 of the First Amended Site Certificate for CGS address natural hazards. Condition 6.8 requires  
10 the certificate holder to “design, engineer and construct the facility to avoid dangers to human  
11 safety presented by non-seismic hazards,” including “settlement, landslides, flooding and  
12 erosion.” Condition 6.7 requires the certificate holder to “design, engineer and construct the  
13 facility to avoid danger to human safety presented by seismic hazards affecting the area that  
14 are expected to result from all maximum probable seismic events.” Other conditions (6.10 and  
15 6.11) require notification to the ODOE, Department of Geology and Mineral Industries, and the  
16 State Building Codes Division if previously unknown conditions are identified at the energy  
17 facility site. PGE proposes to implement actions included in RFA2 in compliance with these  
18 standards.

- 19  
20 4. *Off-street parking* and loading-unloading facilities shall be provided as required in  
21 Section 4.040 and 4.050 of the Morrow County Zoning Ordinance. Safe and convenient  
22 pedestrian access to off-street parking areas also shall be provided as applicable.  
23

24 Any permanent employees associated with CGS would park on-site, which has developed  
25 parking facilities.

- 26  
27 5. *County transportation facilities shall be located, designed and constructed* in accordance  
28 with the design and access standards in the Morrow County Transportation System Plan.  
29

30 The facilities proposed in this RFA2 do not involve or require the development of new county  
31 transportation facilities or new access to existing county transportation facilities.  
32

- 33 6. *Site planning, including the siting of structures, roadways and utility easements, shall*  
34 *provide, wherever practicable, for the protection of trees eight-inch caliper or greater*  
35 *measured four feet from ground level, with the exception of noxious or invasive species,*  
36 *such as Russian olive trees.*  
37

38 Development and operation of the Carty Substation and associated distribution lines, septic  
39 system, water pipeline, wastewater pipeline, security guard station, or office/warehouse  
40 building are not expected to require the removal of any trees 8 inches or more in diameter.  
41

- 42 7. *Development shall comply with Section 3.200 Significant Resources Overlay Zone or*  
43 *3.300 Historic Buildings and Sites* protecting inventoried significant natural and historic  
44 resources.

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.*

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.*

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.*

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.*

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.*

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.*

The locations of the Carty Substation and associated distribution lines, septic system, water pipeline, wastewater 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.

The new Carty Substation and associated distribution lines, septic system, water pipeline, 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. The certificate holder complies with Policy 4 by meeting the criteria for approval of non-farm uses in the EFU zone.

#### Directly Applicable Statutes and Administrative Rules

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

*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.*

The new Carty Substation and associated distribution lines, septic system, water pipeline, 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. As stated in the Final Order on the Application for Site Certificate the predominate farming practice in the area is center pivot irrigation, the proposed structures will not create any new interference with the predominate farming practice.

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

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**

1 As discussed in the sections above, the proposed isolation and separation of infrastructure  
2 currently shared by CGS and BCP and the construction and operation of the Carty Substation  
3 and associated distribution lines, septic system, water pipeline, and office/warehouse building  
4 described in this RFA2 will not alter the Council's basis for its previous findings that an  
5 exception to the statewide planning goal for construction of the Carty Solar Farm is justified.  
6 These proposed changes do not require an exception to the goal; therefore, the Facility will  
7 continue to comply with the standard if the Council approves the proposed RFA2.

8  
9 ***Statewide Planning Goal 6–Air, Water, and Land Resources Quality***

10  
11 *Air Quality*

12  
13 The proposed isolation and separation of infrastructure currently shared by CGS and BCP and  
14 the construction and operation of the Carty Substation and distribution lines, septic system,  
15 water pipeline, wastewater pipeline, security guard station, and office/warehouse building  
16 described in this RFA2 will not alter the Council's basis for its previous findings that the Facility  
17 complies with this standard, and the Facility will continue to comply with the standard if the  
18 Council approves the proposed RFA2.

19  
20 *Water Quality*

21  
22 The proposed isolation and separation of infrastructure currently shared by CGS and BCP and  
23 the construction and operation of the Carty Substation and associated distribution lines, septic  
24 system, water pipeline, wastewater pipeline, security guard station, and office/warehouse  
25 building described in this RFA2 will not alter the quantity of water usage for CGS. Discharges to  
26 Carty Reservoir will also remain the same. Sanitary sewer waste from CGS will be managed by  
27 the existing BCP sewage lagoons until the new septic system is constructed, at which time  
28 sanitary waste from both CGS and the remaining administrative buildings after BCP ceases  
29 operations will be managed by the septic system. The existing sewage lagoons are covered  
30 under WPCF permit number 100189 issued by DEQ. PGE would continue to satisfy the  
31 conditions of the permit to ensure that waste and process discharges do not exceed the  
32 carrying capacity, degrade, or threaten the availability of water resources. Umatilla County  
33 Public Health will issue a Construction Permit for On-site Sewage Treatment System for  
34 construction and operation of the new septic system. On January 10, 2020, the Umatilla County  
35 Public Health Department performed a site evaluation and determined the site to be  
36 acceptable for a standard, non-residential septic system. The system will be sited with enough  
37 distance from groundwater and surface waters to prevent pollution to water resources and will  
38 be consistent with Goal 6.

39  
40 *Land Resources*

41  
42 Potential impacts to land resources are addressed above under the discussion of Statewide  
43 Planning Goal 3.

1 The Site Certificate for CGS issued in 2012 included seven site certificate conditions for land  
2 use to ensure consistency with the land use standard. The Site Certificate on Amendment 1 for  
3 CGS did not alter the conditions applied to land use. Similarly, no modifications to existing  
4 conditions or new conditions associated with land use are necessary for RFA2, except for  
5 clarifying the application of Condition 6.17 to pertain specifically to Carty Solar Farm. Therefore,  
6 the continued operation of related or supporting facilities currently authorized under the Site  
7 Certificate for CGS or BCP and the construction and operation of new minor infrastructure (see  
8 Section 5) will not alter the Council's basis for its previous findings that an exception to  
9 ~~Statewide Planning Goal 3~~the statewide planning goal is justified. The proposed changes in  
10 RFA2 do not require an exception to the goal, and therefore the Facility will continue to comply  
11 with this standard if the Council approves the proposed RFA2. The Council may conclude that  
12 CGS will continue to comply with OAR 345-022-0030.

#### 13 14 **Conclusions of Law**

15 Based on the foregoing findings and the evidence in the record, and subject to the  
16 recommended conditions, the Department recommends the Council find that the proposed  
17 facility complies with the Council's Land Use standard.

#### 18 19 **III.A.6. Retirement and Financial Assurance: OAR 345-022-0050**

20  
21 *To issue a site certificate, the Council must find that:*

- 22  
23 (1) *The site, taking into account mitigation, can be restored adequately to a useful, non-*  
24 *hazardous condition following permanent cessation of construction or operation of*  
25 *the facility.*  
26 (2) *The applicant has a reasonable likelihood of obtaining a bond or letter of credit in a*  
27 *form and amount satisfactory to the Council to restore the site to a useful, non-*  
28 *hazardous condition.*

#### 29 30 **Findings of Fact**

31 The Retirement and Financial Assurance standard requires a finding that the facility site can be  
32 restored to a useful, non-hazardous condition at the end of the facility's useful life, should  
33 either the certificate holder stop construction or should the facility cease to operate.<sup>28</sup> In  
34 addition, it requires a demonstration that the certificate holder can obtain a bond or letter of  
35 credit in a form and amount satisfactory to the Council to restore the site to a useful, non-  
36 hazardous condition.

#### 37 38 *Restoration of the Site Following Cessation of Construction or Operation*

39

---

<sup>28</sup> OAR 345-022-0050(1).

OAR 345-022-0050(1) requires the Council to find that the site of the facility, with proposed changes, can be restored to a useful non-hazardous condition at the end of the facility's useful life, or if construction of the facility were to be halted prior to completion.

In RFA2, the certificate holder describes the methods and assumptions necessary to restore the site of proposed RFA2 facility components to a useful, nonhazardous condition. Summarized below are the methods and assumptions ~~for~~ associated with decommissioning specific RFA2 facility components:

Carty Reservoir and intake structure

- Draining of reservoir over scheduled period using existing outlet works at a rate to minimize downstream flooding.
- Excavation of a 200-foot wide breach in the West Dam at lowest point, hauling of excavated material to the center of the reservoir area, and spreading of hauled material to promote drainage
- Seeding and mulching disturbed areas (including area of breach and area of the spread soil)
- Removal of the West Dam concrete spillway, and breaking and stockpiling concrete
- Removal of intake structure (including concrete wall and screen equipment), slab, wet well area, and inlet water channel concrete removal
- Fill wet well and inlet water channel with self-compacting fill
- Demolition, removal and disposal of pumps and other equipment materials including the intake building and circulating water pumphouse
- Asbestos abatement at intake building

Discharge Structure and Channel

- Demolition of existing rock channel
- Demolition of outlet structure and discharge apron
- Remove and dispose of 2,200 linear feet of 90-inch FRP discharge pipe from discharge channel to outlet structure
- Fill former channel with soil or fill
- Seed and mulch disturbed area

Sanitary Sewer Lagoons

- Stabilization of lagoon solids (6-inch layer of will require stabilization with fly ash or lime prior to disposal)
- Excavation of solids, liner, and underlying soils (1-foot thick layer will require excavation and disposal)
- Disposal of soils, liner and underlying soils (1.2 tons/CY for transport/disposal at Columbia Ridge Landfill (35 miles one way))
- Fine grading of entire area of berms and lagoon area
- Fill (10 foot thickness) and grade 10 acre percolation pond
- Seed and mulch disturbed area

Evaporation Ponds and Wastewater Line

- Remove and dispose of residual solids (6-inch thick layer) in base of ponds, and liner system (also 6-inch in thickness). Transportation and disposal at Columbia Ridge Landfill
- Fine regrading evaporation ponds and berms
- Decommissioning (including grouting) of wastewater line

Other structures

- Removal of office and warehouse building, including excavation and disposal
- Removal of Carty substation, including distributor lines to raw water intake building
- Decommissioning and removal of irrigation pump station, including the filling of the wet well with soil or flowable fill, and the removal of the wet well concrete slab. Additionally, the intake line from the reservoir to the wet well will be grouted in place
- Removal of existing (and buried) 34.5 kV transmission line leading from the irrigation pump
- Remove ~~and dispose of and decommission~~ Boeing well and ~~dispose of~~ pump associated with the existing water pipeline. Additional removal and disposal of associated 12.5 kV transmission line from Boeing well to the construction substation
- Removal of 300,000-gallon carbon steel potable/fire water tank
- Removal and disposal of 230 kV Transmission line from Boardman Coal Plant to Dalreed substation. Removal and disposal includes both the 3 phase transmission line and transmission line towers
- Pump out and dispose sewer system (includes 3,000 gallon septic tank and 2,374 Linear feet of sewer lines)
- Removal and disposal of 3,000 gallon septic tank, backfilling and compacting with clean soil
- Backfilling and compacting large manholes and medium distribution drop boxes with clean soil
- Excavation of sewer lines and disposal of PVC
- Separate and dispose of filter fabric
- Load and dispose of trench fill drain media/gravel, and replace with gravel and clean fill
- Seed and mulch disturbed area
- Remove and dispose electrical equipment (including transformer, conduit and cable, sensor, and controller)

The Council previously found that the facility site could be restored adequately to a useful, non-hazardous condition following permanent cessation of construction or operation of the facility. The Council previously imposed several conditions to ensure the certificate holder could restore the site to a useful, nonhazardous condition in accordance with the Retirement and Financial Assurance standard as summarized below:

- Condition 15.1, requires the certificate holder to submit a bond or letter of credit to the State of Oregon, through the Council, in a form and amount satisfactory to the Council

to restore both Block 1 of the Carty Generating Station, and the Carty Solar Farm and its supporting facilities to a useful nonhazardous condition. [the certificate holder has provided a bond for \$9,114,000 (Q1 2020), in accordance with the site certificate, related to Block 1 of the Carty facility]

- Condition 15.2, requires the certificate holder to ensure that the surety is obligated to comply with the requirements of applicable statutes, Council rules, and the site certificate when the surety exercises any legal or contractual right it may have to assume construction, operation, or retirement of the facility, if a bond is used to meet the requirements of Condition 15.1.
- Condition 15.3, which mirrors the OAR 345-025-0006(7) Mandatory Condition, requires that the certificate holder prevent the development of any condition on the site that would preclude restoration of the site to a useful, non-hazardous condition
- Condition 15.4, which mirrors the OAR 345-025-0006(9) Mandatory Condition, requires the certificate holder to retire the facility in accordance with a Council-approved retirement plan
- Condition 15.5, which mirrors the OAR 345-025-0006(16) Mandatory Condition, obligates the certificate holder to retire the facility upon permanent cessation of construction or operation. Additionally, the condition provides the Department the authority to develop a retirement plan, for Council approval, in the event the certificate holder ceases operation of its facility and does not retire the facility in accordance with a Council approved retirement plan
- Condition 15.6, which also mirrors the OAR 345-025-0006(16) Mandatory Condition, allows Council the ability to draw on the bond or letter of credit per Condition 15.1
- Condition 15.7, which mirrors the OAR 345-026-0048 Mandatory Condition, requires the certificate holder to implement a compliance plan following receipt of the site certificate or an amended site certificate

#### *Estimated cost of Site Restoration*

OAR 345-022-0050(2) requires the Council to find that the certificate holder continues to have a reasonable likelihood of obtaining a bond or letter of credit in a form and amount necessary to restore the site of the facility, with proposed RFA2 facility components, to a useful non-hazardous condition.

**Table 2: Proposed RFA2 Decommissioning and Site Restoration Cost Estimate**

| Restoration Task or Activity                       | Quantity | Unit Cost | Unit   | Estimate    |
|----------------------------------------------------|----------|-----------|--------|-------------|
| <b>Carty Reservoir and Intake Structure</b>        |          |           |        |             |
| Development of Reservoir Decommissioning Work Plan | 1        | \$75,000  | Each   | \$75,000    |
| Draining of reservoir                              | 308      | \$5,000   | Days   | \$1,540,000 |
| Excavate breach in West Dam                        | 205,000  | \$10      | Cu. Yd | \$2,050,000 |
| Haul excavated soil to center of reservoir area    | 205,000  | \$2       | Cu. Yd | \$410,000   |



**Table 2: Proposed RFA2 Decommissioning and Site Restoration Cost Estimate**

| <b>Restoration Task or Activity</b>                                                                     | <b>Quantity</b> | <b>Unit Cost</b> | <b>Unit</b> | <b>Estimate</b>    |
|---------------------------------------------------------------------------------------------------------|-----------------|------------------|-------------|--------------------|
| Spread and grade hauled soil                                                                            | 205,000         | \$2              | Cu. Yd      | \$410,000          |
| Seed and mulch disturbed area                                                                           | 44,444          | \$1              | Sq. Yd      | \$44,444           |
| Remove West Dam concrete spillway                                                                       | 3,765           | \$100            | Cu. Yd      | \$376,500          |
| Remove intake structure, concrete wall and foundations, wet well, equipment and demolish building       | 1               | \$350,000        | Lump Sum    | \$350,000          |
| Fill wet well and inlet water channel with self-compacting fill                                         | 1,000           | \$30             | Cu. Yd      | \$30,000           |
| Intake building asbestos abatement                                                                      | 1               | \$25,000         | Each        | \$25,000           |
| <i>Subtotal =</i>                                                                                       |                 |                  |             | <i>\$5,310,944</i> |
| <b>Discharge Structure and Channel</b>                                                                  |                 |                  |             |                    |
| Demolition of existing rock channel                                                                     | 1,667           | \$50             | Cu. Yd      | \$83,350           |
| Demolition of outlet structure and discharge apron                                                      | 245             | \$150            | Cu. Yd      | \$36,750           |
| Remove and dispose of 2,200 lf of 90-inch FRP discharge pipe from discharge channel to outlet structure | 1               | \$12,500         | Each        | \$12,500           |
| Fill former channel with soil or fill                                                                   | 4,500           | \$10             | Cu. Yd      | \$45,000           |
| Seed and mulch disturbed area                                                                           | 2,500           | \$1              | Sq. Yd      | \$2,500            |
| <i>Subtotal =</i>                                                                                       |                 |                  |             | <i>\$180,100</i>   |
| <b>Sanitary Sewer Lagoons</b>                                                                           |                 |                  |             |                    |
| Stabilization of lagoon solids (North, Middle and South)                                                | 6,023           | \$25             | Cu. Yd      | \$150,575          |
| Excavation of solids, liner, and underlying soils                                                       | 12,047          | \$8              | Cu. Yd      | \$96,376           |
| Disposal of soils, liner and underlying soils                                                           | 14,456          | \$40             | Ton         | \$578,240          |
| Grading of berms and lagoon area                                                                        | 36,142          | \$2              | Sq. Yd      | \$72,284           |

**Table 2: Proposed RFA2 Decommissioning and Site Restoration Cost Estimate**

| Restoration Task or Activity                                                          | Quantity          | Unit Cost | Unit   | Estimate           |
|---------------------------------------------------------------------------------------|-------------------|-----------|--------|--------------------|
| Placement of onsite fill                                                              | 161,000           | \$10      | Cu. Yd | \$1,610,000        |
| Seeding and mulching of area                                                          | 36,142            | \$1       | Sq. Yd | \$36,142           |
| <i>Subtotal =</i>                                                                     |                   |           |        | <i>\$2,543,617</i> |
| <b>Evaporation Ponds and Wastewater Line</b>                                          |                   |           |        |                    |
| Remove and Disposal Residual Solids and Liner System                                  | 1                 | \$725,000 | Each   | \$725,000          |
| Regrading of Berms and Evaporation Pond Area                                          | 67,150            | \$2       | Sq. Yd | \$134,000          |
| Decommissioning of Wastewater Line                                                    | 1                 | \$7,200   | Each   | \$7,200            |
| <i>Subtotal =</i>                                                                     |                   |           |        | <i>\$866,500</i>   |
| <b>Other Structures</b>                                                               |                   |           |        |                    |
| New Office and Warehouse Building Demo CGS (60' x 100')                               | 6,000             | \$6       | Sq. Ft | \$36,000           |
| Remove Carty Substation                                                               | 1                 | \$72,000  | Each   | \$72,000           |
| Remove 7.2kV distributor lines from new Carty Substation to raw water intake building | 1                 | \$5,000   | Each   | \$5,000            |
| Decommission/remove irrigation pump stations                                          | 1                 | \$30,000  | Each   | \$30,000           |
| Remove 34.5 kV (existing, buried) leading from the irrigation pump                    | 1                 | \$28,000  | Each   | \$28,000           |
| Boeing Well and pump associate existing water pipeline to Boeing Well                 | 1                 | \$8,500   | Each   | \$8,500            |
| 300,000-gallon carbon steel potable /fire water tank                                  | 1                 | \$19,500  | Each   | \$19,500           |
| 12.5kV transmission from construction sub to Boeing Well                              | 1                 | \$20,000  | Each   | \$20,000           |
| 7.2 kV transmission from BCP to CGS                                                   | 1                 | \$20,000  | Each   | \$20,000           |
| 230 kV from BCP to Dalreed 16 miles                                                   | See Details Below |           |        |                    |
| Remove and reel up 3 phase transmission line 16 miles x 3                             | 48                | \$1,500   | Mile   | \$72,000           |

**Table 2: Proposed RFA2 Decommissioning and Site Restoration Cost Estimate**

| Restoration Task or Activity                                                                                              | Quantity          | Unit Cost      | Unit      | Estimate              |
|---------------------------------------------------------------------------------------------------------------------------|-------------------|----------------|-----------|-----------------------|
| wires = 48 miles (253,440ft) of wire                                                                                      |                   |                |           |                       |
| Towers @ 80' apart = 1,048 supports x 2,096 tons . Disposal \$16 a ton special waste Finley Buttes Marrow County landfill | 2,096             | \$16           | Ton       | \$33,536              |
| 18 wheel tractor and flat-bed trailer, 80,000 pound capacity that costs \$125/hour                                        | 100               | \$1,500        | Hour      | \$150,000             |
| Backfill qty 2 pole holes with self compacting gravel and 12" topsoil at each of the 1,048 locations                      | 1,048             | \$50           | Each      | \$52,400              |
| Sanitary Drainage System                                                                                                  | See Details Below |                |           |                       |
| Pump out & dispose sewer system                                                                                           | 1                 | \$4,500        | Each      | \$4,500               |
| 3,000 gallon septic tank remove and dispose                                                                               | 1                 | \$3,500        | Each      | \$3,500               |
| Large Manholes and medium Distribution Drop Boxes                                                                         | 7                 | \$350          | Each      | \$2,450               |
| Excavate Sewer lines and dispose of PVC                                                                                   | 2,374             | \$3            | Linear Ft | \$7,122               |
| Separate and dispose of Filter Fabric                                                                                     | 222               | \$5            | Sq. Yd    | \$1,110               |
| Load and dispose of trench fill drain media/gravel                                                                        | 148               | \$38           | Cu. Yd    | \$5,624               |
| Replace gravel with clean fill                                                                                            | 148               | \$15           | Cu. Yd    | \$2,220               |
| Replace removed fill that was over gravel                                                                                 | 296               | \$15           | Cu. Yd    | \$4,440               |
| Seed and mulch disturbed area                                                                                             | 500               | \$1            | Sq. Yd    | \$500                 |
| Remove and Dispose Electrical Equipment                                                                                   | 1                 | \$5,500        | Each      | \$5,500               |
| <b>Subtotal =</b>                                                                                                         |                   |                |           | <b>\$583,902</b>      |
| <b>General Costs</b>                                                                                                      |                   |                |           |                       |
| Overhead, Profit, Insurance                                                                                               | 1                 | \$1,902,134.56 |           | \$1,902,134.56        |
| <b>Subtotal =</b>                                                                                                         |                   |                |           | <b>\$1,902,134.56</b> |
| <b>RFA2 Decommissioning Subtotal =</b>                                                                                    |                   |                |           | <b>\$11,387,198</b>   |
| <b>Applied Contingencies</b>                                                                                              |                   |                |           |                       |

**Table 2: Proposed RFA2 Decommissioning and Site Restoration Cost Estimate**

| Restoration Task or Activity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Quantity | Unit Cost        | Unit    | Estimate        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|------------------|---------|-----------------|
| Performance Bond <sup>1</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          | 1                | Percent | \$113,871.98    |
| Administrative and Project Management <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          | 10 <sup>29</sup> | Percent | \$1,138,719.80  |
| Future Development Contingency <sup>3</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |          | 10               | Percent | \$1,138,719.80  |
| ODOE Contingency Subtotal =                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |          |                  |         | \$2,391,311.58  |
| Total RFA2 Decommissioning Cost Estimate, Adjusted with ODOE Contingencies (4 <sup>th</sup> Qtr 2020 Dollars) =                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |          |                  |         | \$13,778,509.58 |
| <p>*Notes: The Department recommends Council apply additional contingencies, consistent with those applied to the approved facility, as follows:</p> <ol style="list-style-type: none"> <li>1. 1% to account for the cost of a performance bond that would be posted by the contractor as assurance that the work will be completed as agreed.</li> <li>2. 10% for the Department's administrative and management expenses.</li> <li>3. 10% for future uncertainties such as changes in environmental standards or other legal requirements, availability of disposal sites, and the cost of labor and equipment.</li> </ol> |          |                  |         |                 |

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As presented in Table 4, *Proposed RFA2 Decommissioning and Site Restoration Cost Estimate*, the Department recommends Council add contingency costs for future development, administration and project management cost, and cost for maintaining a performance bond. The 10 percent future development contingency accounts for uncertainty in the decommissioning estimate. If site restoration becomes necessary, it might be many years in the future where there is uncertainty of continued adequacy of the retirement cost estimate. Uncertainty factors include different environmental standards or other legal requirements; and, changes in cost of labor and equipment that increase at a rate exceeding the standard inflation adjustment. The 10 percent contingency for administrative and management expenses are the anticipated direct costs borne by the State in the course of managing site restoration and would include the preparation and approval of a final retirement plan, obtaining legal permission to proceed with demolition of the facility, legal expenses for protecting the State's interest, preparing specification bid documents and contracts for demolition work, managing the bidding process, negotiations of contracts, and other tasks. Based on the adjustments from contingencies, the Department recommends Council find that \$13.779 million (Q4 2020 dollars) is a reasonable estimate of an amount satisfactory to restore the site to a useful, nonhazardous condition. The Department, therefore, recommends the Council amend Condition 15.1 as follows:

<sup>29</sup> In the cost estimate provided as Attachment 4 of RFA2, the certificate holder did not include costs associated with Overhead, Profit, and Insurance when determining cost estimates for the Applied Contingencies. Additionally, the percentage value applied by the certificate holder for Administrative and Project management was 5 percent. The cost estimates of both the Final Order and Final Order on Amendment 1 of the Carty Generating Station included a 10 percent cost for Administration and Project Management. As such, the Department recommends that Council maintain a 10 percent Administrative and Project Management contingency for RFA2.

**Recommended Amended Condition 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 Unit 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 \$2.713 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. The initial bond or letter of credit amount for the related or supporting facilities associated with Amendment 2 is \$13.779 million (in 4<sup>th</sup> Quarter 2020 dollars) to be adjusted to the date of issuance and submitted within 60 days of execution of the Second Amended Site Certificate, and adjusted on an annual basis thereafter, as described in sub-paragraph (b) 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 by applying the unit costs and general costs presented in Site Restoration Cost Estimate of the Final Order on ASC for Unit 1; Table 4 of the Final Order on RFA1 for Carty Solar Farm; and Table 2 of the Final Order on RFA2 for the approved related or supporting facilities. 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 ~~2015-2016~~ dollars) and related or supporting facilities approved in RFA2 (expressed in 4<sup>th</sup> Quarter 2020 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 to Unit 1, ~~and~~ Carty Solar Farm, and RFA2 facility components 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 to present value. [AMD1]
  - 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.

1 [Final Order IV.G.2.9] [Mandatory Condition OAR 345-025-0020(8)] [AMD1][AMD2]

2  
3 Based on compliance with recommended amended Condition 15.1, the Department  
4 recommends Council find that the retirement cost estimate, with applied contingencies, is a  
5 reasonable estimate of an amount satisfactory to restore the site of the Carty Generating  
6 Station, including the Carty Solar Farm and its supporting facilities to a useful, non-hazardous  
7 condition.

8  
9 *Ability of the Certificate Holder to Obtain a Bond or Letter of Credit*

10  
11 OAR 345-022-0050(2) requires the Council to find that the certificate holder has a reasonable  
12 likelihood of obtaining a bond or letter of credit in a form and amount necessary to restore the  
13 site to a useful non-hazardous condition [Emphasis added]. A bond or letter of credit provides a  
14 site restoration remedy to protect the state of Oregon and its citizens if the certificate holder  
15 fails to perform its obligation to restore the site. The bond or letter of credit must remain in  
16 force until the certificate holder has fully restored the site. OAR 345-025-0010(8) establishes a  
17 mandatory condition, imposed as Condition 15.1, which ensures compliance with this  
18 requirement.

19  
20 In accordance with site certificate Condition 15.1, a letter of credit for the existing facility is  
21 currently maintained and updated annually. In the most recent update, the letter of credit  
22 stood at \$9,114,000 in 1<sup>st</sup> Qtr. 2020 dollars.

23  
24 Based on the estimate shown in Table 2, *Proposed RFA2 Decommissioning and Site Restoration*  
25 *Cost Estimate*, the value of the financial assurance bond or letter of credit for restoring the site  
26 of the proposed RFA2 facility components would be approximately \$13.779 million (Q4 2020  
27 dollars), adjusted annually as described in the recommended amended condition above. To  
28 demonstrate its ability to receive an adequate bond or letter of credit, the certificate holder  
29 provided a September 14<sup>th</sup>, 2020 letter from Bank of the West, stating that it would be willing  
30 to furnish or arrange a letter of credit to the certificate holder in an amount up to \$25 million,  
31 which would exceed the sum of the existing letter of credit and the \$13.779 million retirement  
32 cost estimate for RFA2 facility components. The bank letter is intended solely to demonstrate,  
33 for Council's review of the amendment request and the certificate holder's ability to satisfy the  
34 requirements of the Retirement and Financial Assurance standard, that the certificate holder  
35 has a reasonable likelihood of obtaining a bond or letter of credit, prior to construction, in the  
36 amount necessary for site restoration. The Department recommends Council consider the bank  
37 letter sufficient for representing a reasonable likelihood of obtaining a bond or letter of credit  
38 in the amount necessary for site restoration. Additionally, as described above and in  
39 accordance with amended Condition 15.1, construction cannot begin until the Department  
40 receives a satisfactory bond or letter of credit.

41  
42 In the Final Order on Amendment 1, the Council found that the certificate holder had a  
43 reasonable likelihood of obtaining a bond or letter of credit in a form and amount satisfactory  
44 to restore the site of the proposed Carty Solar Farm and its supporting facilities adequately to a

1 useful, non-hazardous condition following permanent cessation of construction or operation.  
2 The Council found that the value of the financial assurance bond or letter of credit to restore  
3 the site of the proposed Carty Solar Farm and its supporting facilities would be approximately  
4 \$2.713 million (Q3 2016 dollars). In Request for Amendment 1, the certificate holder provided a  
5 January 2018 letter from JPMorgan Chase Bank, N.A., stating that it would be willing to issue a  
6 letter of credit to the certificate holder in an amount up to \$12 million, which exceeds the  
7 \$2.713 million retirement cost estimate for the proposed Carty Solar Farm and its supporting  
8 facilities.

9  
10 Subject to compliance with existing and recommended amended conditions, the Department  
11 recommends the Council find that the proposed RFA2 facility components can be restored  
12 adequately to a useful, non-hazardous condition following permanent cessation of construction  
13 or operation. Additionally, the Department recommends that the Council find that the  
14 certificate holder has a reasonable likelihood of obtaining a bond or letter of credit in a form  
15 and amount satisfactory to the Council to restore the site to a useful, non-hazardous condition.

#### 16 **Conclusions of Law**

17  
18 For the reasons describe above, and subject to the existing and recommended amended site  
19 certificate conditions, the Department recommends that the Council find that the facility, with  
20 proposed changes, would comply with the Council's Retirement and Financial Assurance  
21 standard.

#### 22 **III.A.7. Fish and Wildlife Habitat: OAR 345-022-0060**

23  
24  
25 *To issue a site certificate, the Council must find that the design, construction and operation of*  
26 *the facility, taking into account mitigation, are consistent with:*

- 27  
28 (1) *The general fish and wildlife habitat mitigation goals and standards of OAR 635-415-*  
29 *0025(1) through (6) in effect as of February 24, 2017*

30 \*\*\*

#### 31 **Findings of Fact**

32  
33 The Fish and Wildlife Habitat standard requires the Council to find that the design,  
34 construction, and operation of a facility is consistent with the Oregon Department of Fish and  
35 Wildlife's (ODFW) habitat mitigation goals and standards, as set forth in OAR 635-415-0025.  
36 This rule creates requirements for mitigating impacts to fish and wildlife habitat, based on the  
37 functional quantity and quality of the habitat impacted as well as the nature, extent, and  
38 duration of the impact. The rule also establishes a habitat classification system based on the  
39 function and value of the habitat it would provide to a species or group of species likely to use  
40 it. ODFW policy identifies six habitat categories, with Category 1 being the most valuable, and  
41 Category 6 the least valuable.

1 The analysis area for potential fish and wildlife habitat impacts used to evaluate RFA2, is the  
2 area within and extending ½-mile of areas that would be disturbed during construction of  
3 proposed new RFA2 facility infrastructure.<sup>30</sup> In the Final Order on the Application, Habitat  
4 Categories 1, 2, 3, 4, and 6 were found to occur within the analysis area as defined in the  
5 project order. These Habitat Categories occur within the analysis area of RFA2 proposed new  
6 facility components. The Council addressed the Fish and Wildlife Habitat standard in the *Final*  
7 *Order on the ASC, and Final Order on Amendment 1* and found that adoption of Conditions  
8 10.1-10.13 would ensure compliance with the general fish and wildlife habitat mitigation goals  
9 and standards.

10  
11 In *Request for Amendment 2*, the certificate holder proposes minor administrative amendments  
12 to Conditions 10.1, 10.4, 10.6, and 10.11, as presented in Attachment A of this order. Based on  
13 the administrative nature of the amendments to these five previously imposed conditions, the  
14 proposed changes are not presented in this section. The Department recommends that the  
15 Council find that the requested administrative condition amendments would not substantively  
16 change the intent of the previously imposed conditions and amend the conditions as requested.

17  
18 The Department recommends that Council amend Condition 10.2 to require the certificate  
19 holder to provide a habitat assessment of the habitat mitigation area for the facility with  
20 proposed changes. The Department recommends Council amend Condition 10.2 as follows:

21  
22 **Recommended Amended Condition 10.2:**

23 The certificate holder shall:

- 24 a. Prior to construction, acquire the legal right to create, enhance, maintain and protect  
25 a habitat mitigation area as long as the facility is in operation and the site certificate  
26 is in effect by means of an outright purchase, conservation easement or similar  
27 conveyance and shall provide a copy of the documentation to the Department.
- 28 b. Prior to construction of the Carty Solar Farm and its supporting facilities, and facility  
29 components approved in the Final Order on RFA2, the certificate holder shall provide  
30 a habitat assessment of the habitat mitigation area, based on a protocol approved by  
31 the Department in consultation with ODFW, which includes methodology, habitat  
32 map, and available acres by habitat category and subtype in tabular format.
- 33 c. During operations, the certificate holder shall improve and monitor the habitat  
34 quality within the habitat mitigation area, in accordance with the Wildlife and Habitat  
35 Monitoring and Mitigation Plan approved by the Department per Condition 10.1.

36 [Final Order IV.H.2.2] [AMD1] [AMD2]

37  
38 The Certificate Holder also proposes to eliminate the reference to the implementation of a fire  
39 control plan for wildfire suppression within the HMA, in accordance with the existing Boardman  
40 Wildfire Control Plan in Condition 10.5. This proposed modification corresponds to the

**Commented [LCC20]:** PGE requests this modification be removed.

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<sup>30</sup> CGSAMD2 Analysis Area adjustment Department EMAIL 2020-09-29.



December 2020 cease of operations at the BCP, and wouldn't change the intent of the condition. As such, the Department recommends Council amend Condition 10.5 as follows:

**Recommended Amended Condition 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]

*Potential Impacts to Fish and Wildlife Habitat*

Construction and operation of the proposed new Facility components of RFA2 would result in both temporary and permanent habitat impacts to Category 4 (shrub-steppe); and Category 6 (developed areas). With the exception of the Carty Substation and associated distribution lines, disturbance areas associated with the new facility components would occur in areas of Category 4, shrub-steppe habitat. The Carty Substation and associated distribution lines would be sited in developed areas designated as Category 6 habitat.<sup>31</sup> As presented in Table 3, *Estimated Temporary and Permanent Habitat Impacts, by Category, for Facility, with Proposed Changes*, the proposed new Facility components of RFA2 would temporarily disturb 1, and 1.15 acres of Category 4 and 6 habitat, respectively, ~~resulting in temporary and temporal habitat impacts.~~ ~~p~~Proposed new Facility components of RFA2 would permanently disturb .6, and .85 acres of Category 4, and 6 habitat respectively.

**Table 3: Estimated Temporary and Permanent Habitat Impacts, by Category, for Facility, with Proposed Changes**

| Habitat Category                                                                                 | Temporary Impacts <sup>1</sup> | Permanent Impact <sup>2</sup> | Calculated Mitigation Area (Temporal and Permanent Impacts) <sup>1,2</sup> |
|--------------------------------------------------------------------------------------------------|--------------------------------|-------------------------------|----------------------------------------------------------------------------|
| Acres                                                                                            |                                |                               |                                                                            |
| <b>Facility, as Approved/Operating: Unit 1 and Supporting Facilities<sup>3</sup></b>             |                                |                               |                                                                            |
| Category 4                                                                                       |                                |                               |                                                                            |
| Total Area =                                                                                     | 55.40                          | 45.00                         | 72.75                                                                      |
| <b>Proposed Changes: Proposed new Facility components of Request for Amendment 2<sup>4</sup></b> |                                |                               |                                                                            |
| Category 4                                                                                       | 1.0                            | 0.6                           | 1.10                                                                       |
| Category 6                                                                                       | 1.15                           | 0.85                          | 0.0                                                                        |
| Total Area =                                                                                     | 2.15                           | 1.45                          | 1.10                                                                       |
| <b>Carty Solar Farm and Supporting Facilities<sup>5</sup></b>                                    |                                |                               |                                                                            |
| Category 2                                                                                       | 6.39                           | 259.32                        | 525.03                                                                     |

<sup>31</sup> CGSAMD2 Complete RFA with Attachments 2020-10-02, Section 8.7.

**Table 3: Estimated Temporary and Permanent Habitat Impacts, by Category, for Facility, with Proposed Changes**

| Habitat Category                                                                       | Temporary Impacts <sup>1</sup> | Permanent Impact <sup>2</sup> | Calculated Mitigation Area (Temporal and Permanent Impacts) <sup>1,2</sup> |
|----------------------------------------------------------------------------------------|--------------------------------|-------------------------------|----------------------------------------------------------------------------|
|                                                                                        | Acres                          |                               |                                                                            |
| Category 3                                                                             | 7.66                           | 42.84                         | 46.67                                                                      |
| Category 4                                                                             | 90.57                          | 18.79                         | 64.08                                                                      |
| Category 6                                                                             | 2.81                           | 0.19                          | 0.00                                                                       |
| Total Area =                                                                           | 107.43                         | 321.14                        | 635.78                                                                     |
| <b>Estimated Size of Habitat Mitigation Area Summary</b>                               |                                |                               |                                                                            |
| Size of Habitat Mitigation Area for Facility, as Approved/Operating =                  | 72.75                          |                               |                                                                            |
| Size of Habitat Mitigation Area Required under RFA1=                                   | 635.78                         |                               |                                                                            |
| Size of Habitat Mitigation Area Required under proposed RFA2 =                         | 1.10                           |                               |                                                                            |
| <b>Size of Habitat Mitigation Area for Facility, with Proposed Changes <u>RFA2</u></b> | <b>73.85</b>                   |                               |                                                                            |

Notes:

In all cases impacts in a given area would only be mitigated once.

1. Temporary ryl 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.
2. 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.
3. Facility, as approved and operating, includes Unit 1 and its related or supporting facilities.
4. New Facility components as proposed in RFA2 include the new security guard station, wastewater pipeline, septic system, water pipeline, and the Carty substation and associated distribution lines
5. The Carty Solar Farm and Supporting Facilities includes areas of disturbance within the proposed site boundary expansion areas, 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.

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In an April 10, 2020 comment letter provided to the Department during the completeness review of the pRFA, ODFW, in response to the certificate holder's proposal to modify the site boundary to include the Carty Reservoir, requested that the wildlife values of the Carty Reservoir and surrounding riparian vegetation be maintained into the future.<sup>32</sup> In response, the certificate holder proposed that a new Site Certificate Condition be imposed (Condition 10.40), which would commit PGE to operate the Carty Reservoir at an elevation no lower than an annual average of 665 feet mean sea level (MSL). After additional consultation with ODFW, the certificate holder explains that the Carty Reservoir is a wastewater facility constructed for the BCP. Furthermore, the elevation of the reservoir has been maintained at a consistent elevation between 667 and 668 feet MSL due to operational needs of the BCP. With BCP ceasing operations, the Carty reservoir does not need to be maintained at the same elevation, and PGE agrees to maintain the reservoir at a minimum annual average of 665 foot MSL. On August 31,

<sup>32</sup> CGSAMD2 Reviewing Agency Comment ODFW\_Cherry 2020-04-10.

2020, in an email sent to both the Department and the certificate holder, ODFW agreed that the proposed condition language of Condition 10.40 was acceptable.<sup>33</sup> The Department recommends that Council impose Condition 10.40, to require the certificate holder to maintain the Carty reservoir at an annual average of 665 feet mean sea level (MSL).

**Recommended Condition 10.40 (New Condition):** The certificate holder shall maintain the reservoir at an elevation no lower than an annual average of 665 feet mean sea level (MSL). The certificate holder may operate the reservoir at a lower elevation without a site certificate amendment if the certificate holder consults with the Department and ODFW to determine that the lower elevation would not result in a net loss of habitat and, therefore, does not warrant further analysis and potential mitigation through a site certificate amendment process. The certificate holder shall submit an Amendment Determination Request supporting a conclusion that a site certificate amendment is not required and receive concurrence with the conclusions of the ADR prior to operating the reservoir at a lower elevation.  
[AMD2]

#### *Proposed Habitat Mitigation*

The mitigation goal for Category 2 habitat is no net loss of either habitat quantity or quality and provision of a net benefit of habitat quantity or quality. To achieve this goal, impacts must be avoided or unavoidable impacts must be mitigated through “reliable in-kind, in-proximity” habitat mitigation to achieve no net loss; and a net benefit of habitat quantity or quality must be provided. The mitigation goal for Category 3 habitat is no net loss of either habitat quantity or quality. The goal is achieved by avoidance of impacts or by mitigation of unavoidable impacts through “reliable in-kind, in-proximity” habitat mitigation. The mitigation goal for Category 4 habitat, similar to the mitigation goal for Category 3 habitat impacts, is no net loss of either habitat quantity or quality. The Category 4 mitigation goal differs from the Category 3 mitigation goal in that achievement may be reached through avoidance of impacts or by mitigation of unavoidable impacts through “reliable in-kind or out-of kind,” and “in- or off-of proximity” habitat mitigation.

To mitigate the permanent and temporary habitat impacts, Council previously imposed Condition 10.2 requiring the certificate holder to, prior to construction, provide a habitat assessment including habitat (in acres) by habitat category and subtype of the proposed HMA along with the easement.

An amended draft Wildlife and Habitat Monitoring and Mitigation Plan (WHMMP) was prepared by the certificate holder and evaluated by both the Department and ODFW for RFA2. The amended WHMMP is included in this order as Attachment C. Proposed updates made to

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<sup>33</sup> CGSAMD2 ODFW Carty Reservoir Condition 2020-08-31.

1 the WHMMP were made to accurately describe the proposed amended facility. In the amended  
2 draft WHMMP, the certificate holder proposes to mitigate permanent impacts to Category 4  
3 habitat by including 1 acre for every 1 acre that is permanently impacted within its existing  
4 HMA (a 1:1 ratio to provide no net loss) and .5 acre for every 1 acre that is temporarily  
5 impacted. This approach is consistent with the ODFW Fish and Wildlife Habitat Mitigation Policy  
6 and the EFSC Fish and Wildlife Habitat standard. Based on this proposed methodology, the size  
7 of the Habitat Mitigation Area required to mitigate for habitat loss (both temporary and  
8 permanent) associated with RFA2 would be 1.10 acres.

9  
10 In RFA2, the certificate holder explains that the 78-acre parcel of land already approved by the  
11 Department and ODFW for the impacts associated with Unit 1 and supporting facilities, is 5.25  
12 acres larger than required. Therefore, the certificate holder proposes that the additional 1.10  
13 acres of mitigation required for the temporary and permanent impacts to Category 4 Habitat  
14 associated with the proposed new RFA2 facility infrastructure would be covered within this  
15 HMA. The Department recommends that the Council find that 78-acre HMA associated with  
16 Unit 1 and supporting facilities contains sufficient land to provide the required compensatory  
17 mitigation for the RFA2 facility component impacts.

#### 18 19 *State Sensitive Species within Analysis Area*

20  
21 In *Request for Amendment 2*, the certificate holder relied upon previous surveys completed for  
22 both the 2011 Application for Site Certificate and 2018 Request for Amendment 1 to identify  
23 State Sensitive species with the potential to occur within the RFA2 analysis area. The certificate  
24 holder states that construction of the new Carty Substation would occur within approximately  
25 2,000 feet of an active red tailed hawk nest, identified on the north shore of the Carty Reservoir  
26 during field surveys conducted in 2016.<sup>34</sup>

#### 27 28 *Potential Impacts to State Sensitive Species*

29  
30 Council Previously imposed Conditions 10.1 through 10.13 under the Fish and Wildlife Habitat  
31 standard that would require that the certificate holder to implement measures and practices to  
32 avoid and minimize potential impacts to State Sensitive species. In *Request for Amendment 2*,  
33 the certificate holder explains that based on the continued operation of related and supporting  
34 facilities currently authorized under the Carty Generating Station Site Certificate and the BCP  
35 Site Certificate, and compliance with the existing and modified Site Certificate Conditions 10.1  
36 through 10.13, Council may conclude that the construction and operation of the new proposed  
37 RFA2 facility infrastructure would continue to comply with the requirements of the Fish and  
38 Wildlife Habitat Standard.

39  

---

<sup>34</sup> CGSAMD2 Complete RFA with Attachments 2020-10-02, Section 8.7.

1 **Conclusions of Law**

2 Based on the foregoing findings of fact and conclusions, and subject to compliance with existing  
3 and recommended amended site certificate conditions, the Department recommends the  
4 Council find that the facility, with proposed changes, would comply with the Council's Fish and  
5 Wildlife Habitat standard.

6 **III.A.8. Threatened and Endangered Species: OAR 345-022-0070**

7  
8 *To issue a site certificate, the Council, after consultation with appropriate state agencies,*  
9 *must find that:*

10  
11 *(1) For plant species that the Oregon Department of Agriculture has listed as*  
12 *threatened or endangered under ORS 564.105(2), the design, construction and*  
13 *operation of the proposed facility, taking into account mitigation:*

14  
15 *(a) Are consistent with the protection and conservation program, if any, that the*  
16 *Oregon Department of Agriculture has adopted under ORS 564.105(3); or*

17  
18 *(b) If the Oregon Department of Agriculture has not adopted a protection and*  
19 *conservation program, are not likely to cause a significant reduction in the*  
20 *likelihood of survival or recovery of the species; and*

21  
22 *(2) For wildlife species that the Oregon Fish and Wildlife Commission has listed as*  
23 *threatened or endangered under ORS 496.172(2), the design, construction and*  
24 *operation of the proposed facility, taking into account mitigation, are not likely to*  
25 *cause a significant reduction in the likelihood of survival or recovery of the species.*  
26

27 **Findings of Fact**

28 The Threatened and Endangered Species standard requires the Council to find that the design,  
29 construction, and operation of the facility, with proposed changes, are not likely to cause a  
30 significant reduction in the likelihood of survival or recovery of a fish, wildlife, or plant species  
31 listed as threatened or endangered by Oregon Department of Fish and Wildlife (ODFW) or  
32 Oregon Department of Agriculture (ODA). For threatened and endangered plant species, the  
33 Council must also find that the facility, with proposed changes, is consistent with an adopted  
34 protection and conservation program from ODA. Threatened and endangered species are those  
35 listed under ORS 564.105(2) for plant species and ORS 496.172(2) for fish and wildlife species.  
36 For the purposes of this standard, threatened and endangered species are those identified as

1 such by either the Oregon Department of Agriculture or the Oregon Fish and Wildlife  
2 Commission.<sup>35</sup>

3  
4 The analysis area for threatened or endangered plant and wildlife species used to evaluate  
5 RFA2, is the area within and extending ½-mile of areas that would be disturbed during  
6 construction of proposed new RFA2 facility infrastructure.<sup>36</sup>

7  
8 *Potential Impacts to Identified Threatened and Endangered Species*

9  
10 In *Request for Amendment 2*, based on available data including previous surveys completed in  
11 both 2011 and 2018 for the Carty Generating Station, the certificate holder determined that  
12 one state listed threatened wildlife species - Washington Ground Squirrel (WGS) – was the only  
13 state-listed wildlife species that could occur within the analysis area of RFA2. WGS habitat is  
14 Category 1 habitat, and includes the area within a 785-foot buffer of an active colony. In RFA2,  
15 the certificate holder explains that the areas of proposed ground disturbance associated with  
16 the construction of the new security guard station and new water pipeline would occur within  
17 approximately 0.3 to 0.5 miles of the Category 1 WGS habitat. All other areas of proposed  
18 ground disturbance associated with RFA2 facilities would be more than 0.5 miles from Category  
19 1 Habitat.

20  
21 In the Final Order on the Application, the Council imposed numerous conditions (conditions  
22 10.1, 10.7, 10.14, 10.15, 10.17, 10.18, 10.20, and 10.21) to avoid and minimize potential direct  
23 and indirect impacts to WGS and to Category 1 WGS habitat. In Request for Amendment 1,  
24 Council administratively amended Conditions 10.18, 10.19, 10.20, and 10.21, and found that  
25 the requested condition amendments did not substantively change the intent of the previously  
26 imposed conditions. Furthermore, Council found that the facility, with proposed changes would  
27 not be likely to cause a significant reduction in the likelihood of any wildlife species listed as  
28 threatened or endangered. In *Request for Amendment 2*, the Certificate Holder requests  
29 additional administrative amendments be made to Condition 10.1, 10.4, 10.6, 10.11, 10.21.  
30 Based on the administrative nature of the condition amendments, the proposed changes are  
31 not presented in this section.

32  
33 The Department recommends Council find that based upon compliance with previously  
34 imposed and recommended amended conditions, the facility with proposed changes would not  
35 be likely to cause a significant reduction in the likelihood of survival of any wildlife species listed  
36 as threatened or endangered.

37  

---

  
35 Although the Council's standard does not address federally-listed threatened or endangered species, certificate holders must comply with all applicable federal laws, including laws protecting those species, independent of the site certificate.

36 CGSAMD2 Analysis Area adjustment Department EMAIL 2020-09-29

1 **Conclusions of Law**

2 Based on the foregoing findings of fact and conclusions, and subject to compliance with the  
3 existing and recommended amended conditions, the Department recommends Council find  
4 that the facility, with proposed changes complies with the Council's Threatened and  
5 Endangered Species standard.

6  
7 **III.A.9. Historic, Cultural, and Archaeological Resources: OAR 345-022-0090**  
8

9 *(1) Except for facilities described in sections (2) and (3), to issue a site certificate, the*  
10 *Council must find that the construction and operation of the facility, taking into account*  
11 *mitigation, are not likely to result in significant adverse impacts to:*  
12

13 *(a) Historic, cultural or archaeological resources that have been listed on, or would*  
14 *likely be listed on the National Register of Historic Places;*  
15

16 *(b) For a facility on private land, archaeological objects, as defined in ORS*  
17 *358.905(1)(a), or archaeological sites, as defined in ORS 358.905(1)(c); and*  
18

19 *(c) For a facility on public land, archaeological sites, as defined in ORS 358.905(1)(c).*  
20

21 *(2) The Council may issue a site certificate for a facility that would produce power from*  
22 *wind, solar or geothermal energy without making the findings described in section*  
23 *(1). However, the Council may apply the requirements of section (1) to impose*  
24 *conditions on a site certificate issued for such a facility.*  
25

26 **Findings of Fact**  
27

28 Subsection (1) of the Historic, Cultural and Archaeological Resources standard, OAR 345-022-  
29 0090, requires the Council to find that the facility is not likely to result in significant adverse  
30 impacts to identified historic, cultural, or archaeological resources. Pursuant to OAR 345-022-  
31 0090(2), the Council may issue a site certificate for a facility that would produce power from  
32 wind energy without making findings regarding the Historic, Cultural and Archeological  
33 standard; however, the Council may impose site certificate conditions based upon the  
34 requirements of the standard.  
35

36 The analysis area for the evaluation of potential impacts to identified historic, cultural or  
37 archeological resources, as defined in the project order, is the area within the site boundary.  
38

39 In RFA2, the certificate holder proposes to add and remove area from the existing site  
40 boundary. Most of the area within the proposed site boundary has been previously surveyed  
41 for cultural, historic and archeological resources; however, there are some areas that remain  
42 unsurveyed. The unsurveyed areas include the ROW for the 230 kV BCP to Dalreed transmission  
43 line and areas along the western and southern shores of the Carty Reservoir ~~and potentially the~~

**Commented [LCC21]:** PGE suggests that the description of the analysis area should be modified to be consistent with the September 29, 2020 email establishing the analysis area for RFA2.

1 footprint of the proposed new septic and security guard station. Council previously imposed  
2 Condition 11.3 requiring that, prior to construction in areas that lie outside of previously  
3 surveyed areas, cultural surveys be conducted. The Department recommends Council continue  
4 to apply this condition and require that the unsurveyed areas be properly surveyed prior to any  
5 ground disturbing activities.<sup>37</sup>  
6

7 The locations of the proposed new Carty Substation, septic system, security guard station,  
8 water pipeline, wastewater pipeline, and office/warehouse building have been previously  
9 surveyed. The certificate holder describes completion of cultural surveys in 2009 and 2016.  
10 Through these survey efforts, more than 120 shovel probes were excavated within and in close  
11 proximity to the project area, rendering a complete understanding of landforms, resource  
12 types, and resource densities. Results of these various studies conducted at the facility suggest  
13 that precontact site 35MW15 is outside of areas identified for new construction as part of  
14 RFA2, and therefore would not be impacted by any actions proposed. Intensive survey-level  
15 work was conducted to identify and assess site 35MW19 in 2016 and no evidence of the site  
16 was found. SHPO concurred with this finding.  
17

#### 18 **Conclusions of Law**

19  
20 Based on the foregoing analysis, and subject to compliance with existing conditions, the  
21 Department recommends the Council find that the facility, with proposed changes, would  
22 continue to comply with the Council's Historic, Cultural, and Archaeological Resources  
23 Standard.  
24

#### 25 **III.A.10. Public Services: OAR 345-022-0110**

26  
27 *(1) Except for facilities described in sections (2) and (3), to issue a site certificate, the*  
28 *Council must find that the construction and operation of the facility, taking into account*  
29 *mitigation, are not likely to result in significant adverse impact to the ability of public*  
30 *and private providers within the analysis area described in the project order to provide:*  
31 *sewers and sewage treatment, water, storm water drainage, solid waste management,*  
32 *housing, traffic safety, police and fire protection, health care and schools.*  
33

34 *(2)The Council may issue a site certificate for a facility that would produce power from*  
35 *wind, solar or geothermal energy without making the findings described in section (1).*  
36 *However, the Council may apply the requirements of section (1) to impose conditions on*  
37 *a site certificate issued for such a facility.*  
38 \*\*\*

#### 39 **Findings of Fact**

<sup>37</sup> CGSAMD2 Reviewing Agency Comment CTUIR Farrow Ferman 2020-04-09. CTUIR Cultural Resources Protection Manager, Teara Farrow Ferman, commented on pRFA2 and confirmed that CTUIR did not have concerns regarding the proposed modifications and that additional archeological work was not required.

**Commented [LCC22]:** In the RFA2 this statement was made in error. Within RFA2 the next sentence confirms that the footprint of the proposed new septic and security guard station have been previously surveyed, this is also reflected in the following paragraph of the DPO.



1  
2 The Public Services standard requires the Council to evaluate the likelihood of a facility or  
3 facility, with proposed changes, to result in significant adverse impacts to the ability of public  
4 and private service providers to supply sewer and sewage treatment, water, stormwater  
5 drainage, solid waste management, housing, traffic safety, police and fire protection, health  
6 care, and schools.

7  
8 For Council reference, the certificate holder must commence construction of the Carty Solar  
9 Farm, approved in *Final Order on RFA1*, by February 2022; and, complete construction of the  
10 Carty Solar Farm by February 2025. If not constructed by the established deadline (Conditions  
11 4.1 and 4.2), approval to construct and operate these components would effectively expire,  
12 unless the certificate holder receives approval from Council of an extension to the construction  
13 commencement deadline. As described in recommended amended Conditions 4.1 and 4.2 in  
14 Section III.A.1. *General Standard of Review* of this order, the Department recommends Council  
15 establish a construction commencement and completion deadline for proposed RFA2 facility  
16 components of three and six years, respectively, from the effective date of the amended site  
17 certificate, if approved. Based on the potential for overlapping construction timeframes of  
18 previously approved and proposed facility components, the evaluation provided below is based  
19 on the maximum number of workers from construction of Carty Solar Farm (100 to 130) and  
20 RFA2 facility components (44 to 51), or 180 construction workers and 23 operational workers.

21  
22 In accordance with OAR 345-001-0010(59)(b) and consistent with the study area boundary, the  
23 analysis area for potential impacts to public services from construction and operation of the  
24 facility, with proposed changes, is defined as the area within and extending 10-miles from the  
25 site boundary.

#### 26 27 *Sewer and Sewage Treatment; Stormwater Drainage*

28  
29 The facility, with proposed RFA2 modifications, would generate sewage during construction  
30 from portable toilets. Council previously imposed Condition 6.2 requiring that the certificate  
31 holder, during construction, provide portable toilets and ensure a licensed contractor properly  
32 cleans and pumps the toilets. The Department recommends Council continue to rely upon the  
33 existing condition to find that construction would not be likely to impact sewage service  
34 providers.

35  
36 Facility modifications proposed in RFA2 would not generate sewage but does include a new  
37 septic system, which would provide additional onsite sewage treatment of sewage generated at  
38 the facility. The septic system would be sized in accordance with state and county standards  
39 and the Umatilla County Public Health Department requirements and in a location deemed  
40 acceptable for a standard, non-residential septic system (see recommended amended  
41 Condition 10.29(a) in Attachment A of this order). Because sewage generated during plant  
42 operations would continue to be managed onsite, in accordance with applicable state and local  
43 permit requirements, the Department recommends Council find that operation of related or  
44 supporting facilities proposed in RFA2 would not be likely to impact sewage service providers.

**Commented [LCC23]:** PGE suggests that the description of the analysis area should be modified to be consistent with the September 29, 2020 email establishing the analysis area for RFA2.

**Commented [LCC24]:** See PGE edits to proposed condition regarding reference to the North Lagoon.

1  
2 In RFA2, the certificate holder describes that stormwater would be minimized through site  
3 grading and would infiltrate into the ground. The facility modifications proposed in RFA2 would  
4 not require new or expanded stormwater drainage systems provided by existing systems. For  
5 these reasons, the Department recommends Council find that construction and operation of  
6 related or supporting facilities proposed in RFA2 would not be likely to impact stormwater  
7 service providers.

8  
9 *Water*

10  
11 Facility modifications proposed in RFA2 would require up to 220,000 gallons of water during  
12 construction for dust suppression; and, service and fire water during operations. Construction  
13 and operational water needs would be served by the Carty Reservoir, which withdraws water  
14 from the Columbia River, and the onsite Boeing Well. The facility modifications proposed in  
15 RFA2 would not require offsite water from any service providers and therefore the Department  
16 recommends Council find that construction and operation of the proposed facility modifications  
17 would not be likely to result in impacts to water service providers.

18  
19 *Solid Waste Management*

20  
21 Construction activities associated with facility modifications proposed in RFA2 are anticipated  
22 to generate small quantities of solid waste, including domestic refuse, office waste, packaging  
23 materials, and various types of common construction materials, such as concrete waste, wood,  
24 plastic, glass, and used erosion control materials. This waste may also include hazardous  
25 materials, such as oil rags and depleted batteries. The certificate holder describes that the  
26 anticipated solid waste quantities are “well within the handling capacities” of the Sanitary  
27 Disposal Inc.

28  
29 During operation, the certificate holder expects to generate “negligible” solid waste, consisting  
30 primarily of office and maintenance waste. Waste generated during operations would be  
31 disposed through its existing CGS plant services building. The certificate holder anticipates  
32 being a “Conditionally Exempt Generator,” which is a classification reserved for organizations  
33 that generate less than 220 pounds of hazardous waste per month.<sup>38</sup>

34  
35 Council previously imposed Condition 6.3 and 10.22 requiring that the certificate holder, during  
36 construction and operation, develop Waste Management Plans that would implement waste  
37 reducing measures including training employees to segregate and recycle recyclable materials.  
38 These conditions would continue to apply to the facility, with proposed changes. Therefore, the  
39 Department recommends Council find that waste generating during construction and operation

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<sup>38</sup> CGSAMD2 Complete RFA with Attachments 2020-10-02, Section 8.2.

1 of the proposed Carty Solar Farm would not result in significant adverse impacts on the ability  
2 of public or private providers to provide solid waste management services.

#### 3 4 *Housing, Health Care and Schools* 5

6 Construction and operation of the facility modifications proposed in RFA2 would result in  
7 approximately 51 temporary workers for up to 10 months and **CGS would continue to have up**  
8 **to 20 permanent workers on average per day.** In RFA2, the certificate holder relies on the  
9 experience of Unit 1 construction (existing operational facility) to assert that most construction  
10 workers would be either permanent residents of the City of Boardman area or temporary  
11 residents who commute from the Tri-Cities area in Washington. Therefore, given the relatively  
12 low number of onsite workers anticipated and the assumption that most would be local, the  
13 Department recommends Council find that the facility modifications proposed in RFA2 would  
14 not be likely to impact providers of housing or schools.

15  
16 Health care services for Trauma III level would be provided, if necessary, in Hermiston and  
17 Trauma I level in Portland. Emergency medical transport would be provided by the Morrow  
18 County Health District Emergency Medical Services, which maintains ambulances in Boardman  
19 and Irrigon. Council previously imposed Conditions 8.2 and 8.3, requiring that the certificate  
20 holder implement a site health and safety plan, which would continue to apply and would  
21 minimize potential onsite risks resulting in the use of local health care providers.

22  
23 Based on the short-term duration of construction, relatively low number of workers (an average  
24 of 44 to 51 construction workers per day if all new construction occurred simultaneously), and  
25 the existing availability of health care facilities, the Department recommends Council find that  
26 the facility modifications proposed in RFA2 would not be likely to result in significant adverse  
27 impacts to health care service providers.

#### 28 29 *Traffic Safety* 30

31 The facility modifications proposed in RFA2 could result in up to 26 one-way trips (assumes two  
32 workers per vehicle) and up to 17 one-way truck trips, or a total of 86 round trips, over a 10 to  
33 12 month construction period. The primary transportation route used would be I-84.

34  
35 Potential traffic-related impacts on surrounding roadways would be limited to Tower Road.  
36 Council previously imposed Condition 6.17 requiring that, during construction, the certificate  
37 holder implement measures expected to reduce passenger car equivalent trips per day  
38 including carpooling, staggering worker start times, installation of temporary traffic controls,  
39 funding for overtime to provide additional traffic patrols along Tower Road, coordination of  
40 random patrols along Tower Road, and/or frequency coordination with the Morrow County  
41 Sheriff's office to inform them of periods of increased traffic to the site. Based on continued  
42 compliance with this existing condition, the Department recommends Council find that that the  
43 facility modifications proposed in RFA2 would not be likely to result in a significant adverse  
44 impact on the ability of public or private traffic safety (road) providers to provide services.

**Commented [LCC25]:** Suggested edit to clarify that the modification in RFA2 would not result in an additional 20 permanent workers in addition to the workers already working daily at the site.

1  
2  
3  
4 *Fire Services*  
5

6 Construction and operation of facility modifications proposed in RFA2 could result in increased  
7 fire risk at the site, resulting in increased demand for fire protection services. Council previously  
8 imposed Condition 8.7, requiring that, during construction and operation of the facility, the  
9 certificate holder develop and implement fire safety plans in consultation with the Boardman  
10 Rural Fire Protection District. In developing the fire safety plans, the existing condition requires  
11 that the certificate holder consider the dry nature of the region and address risks on a seasonal  
12 basis. The existing condition also requires that the certificate holder meet annually with local  
13 fire protection agency personnel to discuss emergency planning and invite local fire protection  
14 agency personnel to observe any emergency drill conducted at the facility. Based on continued  
15 compliance with this existing condition, the Department recommends Council find that that the  
16 facility modifications proposed in RFA2 would not be likely to result in a significant adverse  
17 impact on the ability of public or private fire service providers to provide services.  
18

19 *Police Protection*  
20

21 Construction and operation of facility modifications proposed in RFA2 could result in increased  
22 activity at the site, resulting in increased demand for law enforcement. Law enforcement  
23 services in the analysis area are provided by Morrow County Sherriff's Office. Council previously  
24 imposed Condition 8.1 requiring that, during construction, the certificate holder provide for on-  
25 site security and establish good communication with Morrow County Sheriff's Office. Based on  
26 continued compliance with this existing condition, the Department recommends Council find  
27 that the facility modifications proposed in RFA2 would not be likely to result in a significant  
28 adverse impact on the ability of public or private police protection service providers to provide  
29 services.  
30

31 **Conclusions of Law**

32 Based on the foregoing analysis, and subject to existing conditions, the Department  
33 recommends that the Council find that the facility, with proposed changes, would continue to  
34 comply with the Council's Public Services standard.  
35

36 **III.A.11. Waste Minimization: OAR 345-022-0120**  
37

38 *(1) Except for facilities described in sections (2) and (3), to issue a site certificate, the*  
39 *Council must find that, to the extent reasonably practicable:*  
40

41 *(a) The applicant's solid waste and wastewater plans are likely to minimize*  
42 *generation of solid waste and wastewater in the construction and operation of the*

1 facility, and when solid waste or wastewater is generated, to result in recycling and  
2 reuse of such wastes;

3  
4 (b) The applicant's plans to manage the accumulation, storage, disposal and  
5 transportation of waste generated by the construction and operation of the facility  
6 are likely to result in minimal adverse impact on surrounding and adjacent areas.

7  
8 (2) The Council may issue a site certificate for a facility that would produce power from  
9 wind, solar or geothermal energy without making the findings described in section (1).  
10 However, the Council may apply the requirements of section (1) to impose conditions on  
11 a site certificate issued for such a facility.

12 \*\*\*

#### 13 14 **Findings of Fact**

15  
16 The Waste Minimization standard requires the Council to find that the certificate holder will  
17 minimize the generation of solid waste and wastewater, and that the waste generated would  
18 be managed to minimally impact surrounding and adjacent areas.

#### 19 20 *Solid Waste*

21  
22 Construction activities associated with the new Carty Substation and associated distribution  
23 lines, septic system, water pipeline, wastewater pipeline, security guard station, and  
24 office/warehouse building are anticipated to generate small quantities of solid waste, including  
25 domestic refuse, office waste, packaging materials, and various types of common construction  
26 materials, such as concrete waste, wood, plastic, glass, and used erosion control materials. This  
27 waste may also include hazardous materials, such as oil rags and depleted batteries. The  
28 certificate holder describes that the anticipated solid waste quantities are "well within the  
29 handling capacities" of the Sanitary Disposal Inc.

30  
31 During operation, the certificate holder expects to generate "negligible" solid waste, consisting  
32 primarily of office and maintenance waste. Waste generated during operations would be  
33 disposed through its existing CGS plant services building. The certificate holder anticipates  
34 being a "Conditionally Exempt Generator," which is a classification reserved for organizations  
35 that generate less than 220 pounds of hazardous waste per month.

36  
37 Council previously imposed Condition 6.3 and 10.22 requiring that the certificate holder, during  
38 construction and operation, develop Waste Management Plans that would implement waste  
39 reducing measures including training employees to segregate and recycle recyclable materials.  
40 These conditions would continue to apply to the facility, with proposed changes. Therefore, the  
41 Department recommends Council find that the facility, with proposed changes, would continue  
42 to minimize and manage solid waste, resulting in minimal adverse impacts on surrounding and  
43 adjacent areas from construction of the proposed RFA2 facility components.

1  
2 *Wastewater*  
3

4 Construction and operation of the proposed RFA2 facility components would generate  
5 wastewater for disposal. During construction, wastewater would be generated from washing  
6 equipment and vehicles, washing concrete trucks after delivery of concrete loads, and fire  
7 suppression. The certificate holder maintains an existing Water Pollution Control Facilities  
8 (WPCF) permit, issued by Oregon Department of Environmental Quality but governed and  
9 incorporated into the site certificate. The existing WPCF authorizes wastewater disposal  
10 through evaporation and seepage from construction-related wastewater. During operations,  
11 approximately 800 gallons of wastewater would be generated per year from turbine  
12 compressor blade washing. Based on analytical testing, the certificate holder seeks approval to  
13 discharge the turbine rinse water (wastewater) into the Carty Reservoir, which is not currently  
14 authorized by the WPCF permit. Based on DEQ's review of the WPCF permit modification  
15 request, as provided in Attachment E of this order, the Department recommends Council  
16 amend Condition 10.28 to authorize the requested wastewater discharge, as described in  
17 Section III.A.13.2 *Water Pollution Control Facility Permit* of this order.  
18

19 Therefore, based on compliance with the WPCF, as amended, the Department recommends  
20 Council find that the facility, with proposed changes, would continue to minimize and manage  
21 wastewater, resulting in minimal adverse impacts on surrounding and adjacent areas from  
22 construction of the proposed RFA2 facility components.  
23

24 **Conclusions of Law**

25 Based on the foregoing analysis, and subject to existing and recommended amended  
26 conditions, the Department recommends that the Council find that that facility, with proposed  
27 changes, would continue to comply with the Council's Waste Minimization standard.  
28

29 **III.A.12. Division 24 Standards**  
30

31 The Council's Division 24 standards include specific standards for siting facilities including wind,  
32 underground gas storage reservoirs, transmission lines, and facilities that emit carbon dioxide.  
33 The only applicable Division 24 specific standard to the components included in the  
34 amendment request is Siting Standards for Transmission Lines (OAR 345-024-0090).  
35

36 It is noted that OAR 345-024-0550 through -0600 applies to the Carty Generating Station, for  
37 which the certificate holder has complied. The facility components included in the amendment  
38 request would not emit carbon dioxide emissions regulated under the Council's standard.  
39 Therefore, the proposed facility components are not required to demonstrate compliance with  
40 the Council's Carbon Dioxide Standard and is not evaluated in this order.  
41

42 **III.A.12.1. Siting Standards for Transmission Lines: OAR 345-024-0090**  
43

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

#### **Findings of Fact**

The Siting Standards for Transmission Lines address issues associated with alternating current electric fields and induced currents generated by high-voltage transmission lines. OAR 345-024-0090(1) sets a limit for electric fields from transmission lines of not more than 9 kV per meter at one meter above the ground surface in areas that are accessible to the public. Section (2) requires the certificate holder design, construct and operate the line in a manner that reduces the risk posed by induced current.

#### **Electric Fields**

Electric fields around transmission lines are produced by the presence of an electric charge, measured as voltage, on the energized conductor. Electric field strength is directly proportional to the line's voltage; increased voltage produces a stronger electric field. In the Final Order on the ASC, the council found that the certificate holder could design, construct, and operate the proposed 500 kV transmission line so that alternating current electric fields do not exceed 9kV per meter at one meter above the ground surface in areas accessible to the public.

In RFA2, the certificate holder ~~modeled-measured~~ electric fields and magnetic fields within the boundaries of the existing 230 kV BCP to Dalreed substation transmission line. The ~~model~~ measurements showed that the highest electric field measurement collected was 1.36kV per meter (kV/m) at one meter above ground. With a ~~modeled-measured~~ maximum of 1.36 kV/m, the proposed transmission would remain below the 9-kV per meter threshold set forth in OAR 345-024-0090(1). Therefore, based on the certificate holder's ~~modelingmeasurements~~, the Department recommends that Council find that the existing 230-kV BCP to Dalreed transmission line would not exceed 9-kV per meter at one meter above ground level. The second existing transmission line proposed to be incorporated into the site certificate is the 500 kV BCP to Slatt substation transmission line. The 500 kV transmission line was previously evaluated in Exhibit AA of the 2011 ASC. In the Final Order, Council imposed Condition V.D.2.1 as a Public Health and Safety condition. Condition V.D.2.1 was imposed to address reasonable steps that the certificate holder ~~must~~ take to reduce or manage human exposure to electric and magnetic fields. In RFA2, the certificate holder proposes to amend Condition 7.1(b) to include a date (June 29, 2012), clarifying the requirements s apply only to transmission lines

1 constructed after the date of the Final Order. The Department recommends that Council amend  
2 Condition 7.1 to incorporate the proposed amendment to Condition 7.1(b) as represented in  
3 Attachment A of this Order. In the Final Order of the ASC, Council found that subject to  
4 conditions adopted in Section IV.O.2,<sup>39</sup> the certificate holder could design, construct, and  
5 operate the proposed 500 kV transmission line so that alternating current electric fields do not  
6 exceed 9kV per meter at one meter above the ground.

#### 7 8 *Induced Voltage and Current* 9

10 The Siting Standards for Transmission Lines requires the Council to find that the certificate  
11 holder “can design, construct and operate the proposed transmission line so that induced  
12 currents resulting from the transmission line and related or supporting facilities will be as low as  
13 reasonably achievable.”

14  
15 In the Final Order on the ASC, Final Order on Amendment 1, the Council found that the  
16 certificate holder could construct, and operate the proposed transmission lines so that induced  
17 currents resulting from the transmission lines would be as low as reasonably achievable. Council  
18 imposed Condition 6.5 into the site certificate, which reflected the requirements of Mandatory  
19 Condition OAR 345-0027-0023(4). Condition 6.5 requires the certificate holder design, construct  
20 and operate transmission lines in accordance with requirements of the National Electrical Safety  
21 Code. In RFA2, the Certificate holder proposes an administrative change to Condition 6.5, as  
22 represented in Attachment A, to clarify that as proposed, multiple transmission lines would be  
23 operated and would be subject to Condition 6.5.

#### 24 25 **Conclusions of Law**

26 For the reasons discussed above, and subject to compliance with the existing and  
27 recommended amended conditions, the Department recommends Council find that the facility,  
28 with proposed changes, would comply with the Council’s Siting Standards for Transmission  
29 Lines.

#### 30 31 **III.A.13. Other Applicable Regulatory Requirements Under Council Jurisdiction** 32

33 Under ORS 469.503(3) and under the Council’s General Standard of Review (OAR 345-022-  
34 0000), the Council must determine whether the components proposed in the amendment  
35 request would comply with “all other Oregon statutes and administrative rules...,” as applicable  
36 to the issuance of an amended site certificate. This section addresses the applicable Oregon  
37 statutes and administrative rules that are not otherwise addressed in Council standards,  
38 including noise control regulations, regulations for removal or fill of material affecting waters of

---

<sup>39</sup> The conditions adopted in Section IV.O.2. of the Final Order (conditions IV.C.2.1, and IV.O.2.2) are represented in the Site Certificate as conditions 6.5 and 7.9 respectively.



the state, water pollution control facility permits and regulations for appropriating ground water.

**III.A.13.1. Noise Control Regulations: OAR 340-035-0035**

*(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.*

\*\*\*

**Findings of Fact**

The Department of Environmental Quality (DEQ) noise control regulations at OAR 340-035-0035 have been adopted by Council as the compliance requirements for EFSC-jurisdiction energy facilities. OAR 340-035-0035 provides the DEQ noise regulations for industry and commerce. The DEQ noise rules set noise limits for new industrial or commercial noise sources based upon whether those sources would be developed on a previously used or previously unused site.<sup>40</sup>

**Table 4: Statistical Noise Limits for Industrial and Commercial Noise Sources**

| Statistical Descriptor <sup>1</sup>                                                                                                                                                                            | Maximum Permissible Hourly Statistical Noise Levels (dBA) |                                   |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|-----------------------------------|
|                                                                                                                                                                                                                | Daytime<br>(7:00 AM - 10:00 PM)                           | Nighttime<br>(10:00 PM - 7:00 AM) |
| L50                                                                                                                                                                                                            | 55                                                        | 50                                |
| L10                                                                                                                                                                                                            | 60                                                        | 55                                |
| L1                                                                                                                                                                                                             | 75                                                        | 60                                |
| Notes:<br>1. The hourly L50, L10 and L1 noise levels are defined as the noise levels equaled or exceeded 50 percent, 10 percent, and 1 percent of the hour, respectively.<br>Source: OAR 340-035-0035, Table 8 |                                                           |                                   |

<sup>40</sup> A “previously unused industrial or commercial site” is defined in OAR 340-035-0015(47) as property which has not been used by any industrial or commercial noise source during the 20 years immediately preceding commencement of construction of a new industrial or commercial source on that property.

1 In the Final Order on the Application, the Council found the facility met the DEQ noise standard  
2 and imposed Site Certificate Conditions V.A.2.1 through V.A.2.3 to address noise from the  
3 facility.

#### 4 *Potential Construction Noise*

6  
7 OAR 340-035-0035(5) outlines exemptions to the DEQ noise rules including exemptions for  
8 emergency equipment, warning devices not operating continuously for more than 5 minutes,  
9 and sounds created in construction or maintenance of capital equipment. OAR 340-035-  
10 0035(5)(g) specifically exempts noise that originates on construction sites. Therefore,  
11 construction related noise is not required to be evaluated to demonstrate compliance with this  
12 rule.

13  
14 In section 9.1 of RFA2, the certificate holder explains that the construction of the new proposed  
15 RFA2 facility components would not alter the Council's basis for its previous findings that the  
16 Facility complies with the standard. The certificate holder indicates that noise from  
17 construction activities associated with RFA2 will generally be of lesser magnitude and duration  
18 than construction of Unit 1 and existing related or supporting facilities.

#### 19 *Potential Operational Noise*

21  
22 The certificate holder proposes that operation of the Carty Substation is not considered a new  
23 noise source because the only noise-emitting component, the transformer, is currently in  
24 operation at a location immediately adjacent to the proposed construction location and will be  
25 reused as part of this action.

#### 26 **Conclusions of Law**

28  
29 Based on the foregoing findings, the Department recommends Council finds that the facility,  
30 with proposed RFA2 facility modifications, would comply with the Noise Control Regulations in  
31 OAR 340-035-0035(1)(b)(A).

#### 32 **III.A.13.2. Water Pollution Control Facility Permit**

34  
35 Water Pollution Control Facility (WPCF) Permits are issued by Oregon Department of  
36 Environmental Quality (DEQ), but for facilities under EFSC jurisdiction, WPCF permits are  
37 incorporated and governed by the site certificate. In circumstances where an EFSC-jurisdictional  
38 energy facility needs another state agency permit that is governed by the site certificate, both  
39 agencies retain compliance and enforcement responsibility of the applicable conditions and  
40 requirements.

41  
42 As authorized in the *Final Order on the Application*, the certificate holder maintains WPCF Permit  
43 100189 for the management and disposal of wastewater streams generated by the facility. WPCF

1 Permit 100189 includes requirements that apply to both CGS and BCP. For the CGS site certificate,  
2 Conditions 10.28 – 10.36 were imposed to incorporate the requirements of the WPCF Permit.

3  
4 In RFA2, the certificate holder requests to modify WPCF Permit 100189 to allow the addition of  
5 turbine rinse water as an allowed discharge to Carty Reservoir, which had been previously  
6 approved for discrete discharge events based on submitted analytical results. Additionally, the  
7 certificate holder requests several WPCF Permit language changes due to the scheduled BCP  
8 shutdown. The modified language would allow the facility to continue operation with oversight of  
9 the WPCF Permit for management of industrial wastewater, ~~and~~ domestic wastewater, ~~and for~~  
10 ~~the closure of the coal ash landfill~~. The modification also includes required language for proper  
11 closure of the sanitary lagoons once taken out of service during the permit term.

### 12 **Findings of Fact**

14  
15 In RFA2, the certificate holder describes that routine operations and maintenance include  
16 washing of combustion turbine generator compressor blades. Compressor blade washing occurs  
17 approximately two times per year, to remove fouling, and includes use of up to 1,000 mL of a  
18 non-phosphate, biodegradable detergent (Product Name: ZOK 27, manufactured by ZOK  
19 International Group) to aid in cleaning. Compressor blade washing results in ~~approximately up to~~  
20 800 gallons of wastewater ~~each washing~~, which the certificate holder requests authorization to  
21 discharge into the Carty Reservoir via existing holding ponds. The certificate holder submitted  
22 analytical testing results of four batches of turbine rinse water to DEQ for the parameters listed in  
23 Schedule A, Condition 7 of the WPCF Permit with reported results within the sample maximum  
24 limits specified in the WPCF Permit. Based on review of the analytical results, as described in  
25 DEQ's technical analysis provided in Attachment E of this order, the Department recommends  
26 Council approve the certificate holder's request to discharge turbine rinse water into Carty  
27 Reservoir and approve the WPCF Permit modification.<sup>41</sup>

28  
29 The certificate holder requests several other permit modifications, as follows:

- 30
- 31 • A change to language regarding the recirculation line for the Carty Generating Station and  
32 Boardman Power Plant. This was corrected to state "intake structure" rather than  
33 "recirculation line" to better address intake for the Boardman and Carty facilities.
  - 34 • Removal of language for submittal of a hydrogeologic characterization report (already  
35 submitted during permit term).
  - 36 • Clarification regarding the facility lined evaporation ponds and to reflect that the ~~existing~~  
37 ~~previous~~ clay lined sewage lagoons were relined in 2014. The facility also has stated that  
38 while the sanitary sewage lagoons will remain operational for a period of time, there is a  
39 possibility that sewage flows will be routed to a newly constructed septic system with

**Commented [LCC26]:** Although the WPCF will continue to apply to the closure of the coal ash landfill; closure of the landfill is not something that will be transferred to CGS; therefore, PGE suggests deleting this portion of the sentence.

<sup>41</sup> CGSAMD2 Reviewing Agency Comment ODEQ\_Moore 2020-04-13. See also Attachment E: Oregon Department of Environmental Quality Technical Analysis and Proposed Findings for Water Pollution Control Facilities Permit Modification (Addendum 2).

flows <2500 gpd. This system would be separately permitted through Umatilla County Public Health. The permit modification has included added language to Schedule C for required steps to properly decommission the sewage lagoons and evaporative ponds.

- The facility is working on a final cover system for the ash disposal landfill, which will be reviewed by DEQ solid waste and water quality staff as part of the ash landfill closure plan. Schedule A, Condition 20 requires an Ash Disposal Plan. Per PGE description, storm water from the final cover system will be collected and dissipated to sheet flow in the direction of Carty Reservoir following natural terrain. It is unlikely that stormwater flow from the cover system will reach the reservoir.
- Condition 22 of Schedule A was added regarding groundwater limitations at the compliance points established in the groundwater monitoring plan. This language was added because any change to the compliance limitations in the plan would not require an EFSC site certificate amendment but still ensures limitations are enforceable under the WPCF permit.
- PGE proposed to replace composite sampling requirements for influent into the sanitary lagoons due to mixing in the lift station. This change was not included in the permit modification draft as requested. This is because while the lift station will allow mixing, the purpose of composite sampling is to collect a representative 24-hour period sample each quarter which may not be achieved by a discrete grab sample from the lift station.
- PGE requested to reduce perimeter inspection of the sanitary lagoon and lined evaporation ponds from daily to weekly due to the presence of staff at the site during business hours. This change was incorporated into Schedule B, Condition 1a and 1b of the permit modification based on history of inspections and presence of staff at the site as opposed to a remote un-staffed location.
- Schedule B, Condition 1c was updated to accurately describe flow meter configuration at the facility. Flow metering exists at the irrigation withdrawal without flow metering for cycling of Carty Reservoir water withdrawal that is used for industrial uses.
- The language “unless otherwise approved in writing by the Department” was added to Schedule B, Condition 4 to allow flexibility in resampling schedule upon DEQ approval. This is warranted due to the remote nature of the location and during poor weather months.
- The permittee requested to change language in reference to the formerly named “Boardman Power Plant Water Quality Management Program” to the “Wastewater Water Quality Management Program” and this language was updated.
- Schedule C, Condition 10 was added to require a closure plan ~~to document a closure plan~~ for DEQ review for the sanitary lagoons and Boardman evaporation ponds. For the sanitary lagoons, the closure plan must be submitted by June 31, 2022. For evaporation ponds, the plan must be submitted at least 6 months before planned closure.

Based on the above-described analysis, and technical evaluation provided by DEQ and included in Attachment E of this order, the Department recommends Council amend Condition 10.28 as follows:

**Recommended Amended Condition 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. Prior to operation of Unit 1, 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. Prior to operation of the Carty Solar Farm, Addendum 1 of the modified Water Pollution Control Facilities Permit 100189 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]
- iii. Prior to operation of facility components authorized by the Final Order on Request for Amendment 2, Addendum 2 of the modified Water Pollution Control Facilities Permit 100189, substantially in the form of Attachment E of the Final Order on Request for Amendment 2.  
[AMD2]

#### **Conclusions of Law**

The Department recommends Council find, based on the analysis presented above and in Attachment E of this order, subject to compliance with the site certificate conditions and conditions contained in WPCF Permit 100189 Addendum 2, the facility, with proposed changes, meets the requirements of the WPCF Permit for wastewater discharges. The Department recommends Council authorize DEQ to issue the certificate holder Addendum 2 of the WPCF Permit substantially in the form of Attachment E of this order, pursuant to ORS 469.401.

#### **III.A.13.3. Water Rights**

Under ORS Chapters 537 and 540 and OAR Chapter 690, the Oregon Water Resources Department (OWRD) administers water rights for appropriation and use of the water resources of the state. Under OAR 345-022-0000(1)(b), the Council must determine whether the facility, with proposed changes, would comply with the statutes and administrative rules identified in the project order. The project order identifies OAR 690, Divisions 310 and 380 (Water Resources Department permitting requirements) as the administrative rules governing use of water resources and water rights as applicable to the facility.

#### **Findings of Fact**

OAR 690 establishes the procedures and standards which shall be applied by the OWRD in the evaluation of applications for a permit to appropriate surface water, ground water, to construct a reservoir and store water, to use reserved water, or to use water stored in a reservoir. The certificate holder is not requesting a groundwater permit, a surface water permit, or a water rights transfer during the construction and operation of the proposed related and supporting facilities described in RFA2.

Construction and operation of the proposed related and supporting facilities described in RFA2 would result in water use. Approximately 222,000 gallons of water would be used during construction for dust abatement, obtained from either the onsite Boeing Well or Carty Reservoir. Other facility operational water would be obtained from the Carty Reservoir, which withdraws water from the Columbia River.

Based on the certificate holder's assessment, the Department recommends Council concur that it can obtain adequate water for construction and operation of the proposed related and supporting facilities described in RFA2, and does not need a new groundwater permit, surface water permit, or water right transfer. If such a permit or transfer is required at a later time, a site certificate amendment would be required to review and consider such a permit application.

#### **Conclusions of Law**

Based on the foregoing findings of fact, the Council concludes that the facility, with proposed changes, does not need a new groundwater permit, surface water permit, or water right transfer.

#### **III.A.13.4. Removal-Fill**

The Oregon Removal-Fill Law (ORS 196.795 through 196.990) and Department of State Lands (DSL) regulations (OAR 141-085-0500 through 141-085-0785) require a removal-fill permit if 50 cubic yards or more of material is removed, filled, or altered within any "waters of the state."<sup>42</sup> The Council, in consultation with DSL, must determine whether a removal-fill permit is needed and if so, whether a removal-fill permit should be issued. The analysis area for wetlands and other waters of the state is the area within the site boundary.

#### **Findings of Fact**

The certificate holder states that a removal-fill permit is not required because construction and operation of the proposed RFA2 facility components would not require removal of materials from or placement of materials in any wetland or waterbody features. Information regarding wetlands and other waters of the state was previously provided in the 2011 ASC, where based

---

<sup>42</sup> ORS 196.800(15) defines "Waters of this state." The term includes wetlands and certain other waterbodies.

on the information, Council concluded that a removal-fill permit would not be required. Council previously imposed Condition 10.26 and 10.13 requiring that the certificate holder provide final design maps to the Department demonstrating that proposed facility components would be sited to avoid jurisdictional waters, and requiring that the certificate holder avoid disturbance to delineated wetlands during construction, respectively.

Because the proposed RFA2 facility modifications resulting in construction (or new ground disturbance) would be located within previously approved site boundary, the Department recommends Council rely on the 2011 ASC wetland delineation data and ~~continue to find that~~ the removal-fill permit would not be required for construction or operation of the proposed RFA2 facility components.

### **Conclusions of Law**

Based on the foregoing analysis, and in accordance with Oregon Removal-Fill Law (ORS 196.795 through 196.990) and regulations (OAR 141-085-0500 through 141-085-0785), the Department recommends Council find that a removal-fill permit is not needed for the proposed RFA2 facility modifications.

### **III.B. Standards Not Likely to Be Impacted by Request for Amendment 2**

RFA2, as described throughout this order, requests the incorporation of existing infrastructure shared by BCP and CGS into the Second Amended Site certificate for CGS, authorization to construct and operate new related or supporting facility components, and a site boundary modification. The Department recommends Council find that the Council's findings on the record of the EFSC proceedings for the Carty Generating Facility from 2010-2019 would not be impacted for the standards listed below.

Sections III.B.1 through III.B.4 present the language of the identified standards and other applicable laws and regulations not likely to be impacted by RFA2, for reference purposes only.

#### **III.B.1. Division 23 Standards**

The Division 23 standards apply only to "nongenerating facilities" as defined in ORS 469.503(2)(e)(K), except nongenerating facilities that are related or supporting facilities. The facility is not a nongenerating facility as defined in statute, and therefore Division 23 is inapplicable to the requested amendment.

#### **III.B.2. Protected Areas: OAR 345-022-0040**

*(1) Except as provided in sections (2) and (3), the Council shall not issue a site certificate for a proposed facility located in the areas listed below. To issue a site certificate for a proposed facility located outside the areas listed below, the Council must find that, taking into account mitigation, the design, construction and operation of the facility*

are not likely to result in significant adverse impact to the areas listed below.  
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;



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

4 (m) Agricultural experimental stations established by the College of Agriculture,  
5 Oregon State University, including but not limited to: Coastal Oregon Marine  
6 Experiment Station, Astoria Mid-Columbia Agriculture Research and Extension  
7 Center, Hood River Agriculture Research and Extension Center, Hermiston Columbia  
8 Basin Agriculture Research Center, Pendleton Columbia Basin Agriculture Research  
9 Center, Moro North Willamette Research and Extension Center, Aurora East Oregon  
10 Agriculture Research Center, Union Malheur Experiment Station, Ontario Eastern  
11 Oregon Agriculture Research Center, Burns Eastern Oregon Agriculture Research  
12 Center, Squaw Butte Central Oregon Experiment Station, Madras Central Oregon  
13 Experiment Station, Powell Butte Central Oregon Experiment Station, Redmond  
14 Central Station, Corvallis Coastal Oregon Marine Experiment Station, Newport  
15 Southern Oregon Experiment Station, Medford Klamath Experiment Station, Klamath  
16 Falls;

17  
18 (n) Research forests established by the College of Forestry, Oregon State University,  
19 including but not limited to McDonald Forest, Paul M. Dunn Forest, the Blodgett  
20 Tract in Columbia County, the Spaulding Tract in the Mary's Peak area and the  
21 Marchel Tract;

22  
23 (o) Bureau of Land Management areas of critical environmental concern,  
24 outstanding natural areas and research natural areas;

25  
26 (p) State wildlife areas and management areas identified in OAR chapter 635,  
27 Division 8.

28  
29 III.B.3. Scenic Resources: OAR 345-022-0080

30  
31 (3) Except for facilities described in section (2), to issue a site certificate, the Council  
32 must find that the design, construction and operation of the facility, taking into  
33 account mitigation, are not likely to result in significant adverse impact to scenic  
34 resources and values identified as significant or important in local land use plans,  
35 tribal land management plans and federal land management plans for any lands  
36 located within the analysis area described in the project order.

37 \*\*\*

38  
39 III.B.4. Recreation: OAR 345-022-0100

40  
41 (1) Except for facilities described in section (2), to issue a site certificate, the Council must  
42 find that the design, construction and operation of a facility, taking into account  
43 mitigation, are not likely to result in a significant adverse impact to important  
44 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.

\*\*\*43

#### **IV. PROPOSED CONCLUSIONS AND ORDER**

Based on the recommended findings and conclusions included in this order, the Department recommends that Council make the following findings:

1. The proposed facility modifications included in Request for Amendment 2 of the Carty Generating Station site certificate ~~complies~~ with the requirements of the Oregon Energy Facility Siting Statutes, ORS 469.300 to 469.520.
2. The proposed facility modifications included in Request for Amendment 2 of the Carty Generating Station site certificate ~~complies~~ comply with the standards adopted by the Council pursuant to ORS 469.501.
3. The proposed facility modifications included in Request for Amendment 2 of the Carty Generating Station site certificate ~~complies~~ comply with all other Oregon statutes and administrative rules identified in the project order as applicable to the issuance of a site certificate for the proposed facility.

Accordingly, the Department recommends that the Council find that the proposed facility modifications included in Request for Amendment 2 of the Carty Generating Station site certificate ~~complies~~ comply with the General Standard of Review (OAR 345-022-0000). The Department recommends that the Council find, based on a preponderance of the evidence on the record, that the site certificate may be amended as requested.

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<sup>43</sup> The facility is not a special criteria facility under OAR 345-0015-0310; therefore, OAR 345-022-0100(2) is not applicable.

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**Draft Proposed Order**

The Department recommends Council approve Amendment 2 of the Carty Generating Station site certificate.

Issued this 2<sup>nd</sup> day of October, 2020

The Oregon Department of Energy

By: \_\_\_\_\_  
Todd R. Cornett, Assistant Director, Siting Division  
Oregon Department of Energy

**Attachments:**

- Attachment A: Proposed Amended Site Certificate (red-line)
- Attachment B: Reviewing Agency Comments and Documents Referenced in Order
- Attachment C: Draft Amended Wildlife and Habitat Monitoring and Mitigation Plan
- Attachment D: Draft Amended Revegetation and Noxious Weed Control Plan
- Attachment E: Attachment E: Oregon Department of Environmental Quality Technical Analysis and Proposed Findings for Water Pollution Control Facilities Permit Modification (Addendum 2)

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**Notice of the Right to Appeal**  
[Text to be added to Final Order]

**From:** [ESTERSON Sarah \\* ODOE](#)

**Sent:** Tuesday, November 3, 2020 11:12 AM

**To:** [MCVEIGH-WALKER Chase \\* ODOE](#)

**Subject:**

FW: SHPO Case Nbr SHPO Case No.: 10-0046, PGE Carty  
Generating Station Proj-Carty Solar Farm

**Attachments:** SHPO Response Letter Case Nbr SHPO Case No.\_ 10-0046.pdf

---



**Sarah T. Esterson**

Senior Policy Advisor

550 Capitol St. NE | Salem, OR  
97301

P: 503-373-7945

C: 503-385-6128

P (In Oregon): 800-221-8035



Stay connected!

---

**From:** POULEY John \* OPRD <[John.Pouley@oregon.gov](mailto:John.Pouley@oregon.gov)>

**Sent:** Tuesday, November 3, 2020 10:01 AM

**To:** ESTERSON Sarah \* ODOE <[Sarah.Esterson@oregon.gov](mailto:Sarah.Esterson@oregon.gov)>

**Subject:** SHPO Case Nbr SHPO Case No.: 10-0046, PGE Carty Generating Station Proj-Carty Solar Farm

Please find the SHPO's response to your request for comment on cultural resources at the above-identified project. This attachment serves as your file copy. If you have any questions, please feel free to contact me.



**John O. Pouley** | Assistant State Archaeologist

Oregon Parks and Recreation Department, Heritage Division

State Historic Preservation Office

725 Summer Street NE, Suite C, Salem, OR 97301

Office: 503.480.9164 | Sign up to the [Archaeology mailing list](#)



Oregon  
Kate Brown, Governor

Parks and Recreation Department  
State Historic Preservation Office  
725 Summer St NE Ste C  
Salem, OR 97301-1266  
Phone (503) 986-0690  
Fax (503) 986-0793  
[www.oregonheritage.org](http://www.oregonheritage.org)



November 3, 2020

Ms. Sarah Esterson  
OR Dept of Energy  
550 Capitol St NE, 1st Flr  
Salem, OR 97301

RE: SHPO Case No. 10-0046  
PGE Carty Generating Station Proj-Carty Solar Farm  
Natural gas station and solar panel farm  
Multiple legals, Gilliam/Morrow County

Dear Ms. Esterson:

Oregon SHPO received the cover letter for the project referenced above. Based on the information provided, Oregon SHPO concurs:

- that the 2009 surveys may be relied upon for new components within disturbed areas, with SHPO's reasoning (e.g. areas graveled or previously disturbed can reasonably be expected not to contain resources that could be impacted), and;
- that new, current surveys should be conducted prior to construction of new facility components in areas of minimal or no prior disturbance, even though previously surveyed in 2009.

Under Oregon Revised Statute (ORS 358.905-955 & ORS 97.740) archaeological sites, objects and human remains are protected on both public and private land in Oregon. If you have any questions please feel free to contact our office at your convenience.

Sincerely,

John Pouley, M.A., RPA  
Assistant State Archaeologist  
(503) 480-9164  
[john.pouley@oregon.gov](mailto:john.pouley@oregon.gov)



**Attachment 2: Comments Received on the Record of the Draft Proposed Order (supplement)**

**From:** [THOMPSON Seth](#)

**Sent:** Friday, November 6, 2020 10:37 AM

**To:** [MCVEIGH-WALKER Chase \\* ODOE](#)

**Cc:** [PECK Heather](#)

**Subject:**

RE: Carty Generating Station RFA2 Transmission  
Line Question

---

Hi Chase,

I just left you a voicemail detailing ODA's position on the RFA2 Transmission Line.

ODA will not request airspace review of the transmission line in question if it was included in the original Carty Generating Station Site Certificate.

At this time, I don't feel the need to discuss further with Lenna at PGE, but thank you for offering to set up a meeting.

Thanks again and please let me know if you have further questions.

Best regards,

**Seth Thompson**  
OREGON DEPARTMENT OF AVIATION  
AVIATION PLANNER



OFFICE 503-378-2529 CELL 503-507-6965

EMAIL [seth.thompson@aviation.state.or.us](mailto:seth.thompson@aviation.state.or.us)

3040 25<sup>TH</sup> STREET SE, SALEM, OR 97302

[WWW.OREGON.GOV/AVIATION](http://WWW.OREGON.GOV/AVIATION)

---

**From:** MCVEIGH-WALKER Chase \* ODOE <[Chase.McVeigh-Walker@oregon.gov](mailto:Chase.McVeigh-Walker@oregon.gov)>

**Sent:** Thursday, November 5, 2020 1:38 PM

**To:** THOMPSON Seth <[Seth.THOMPSON@aviation.state.or.us](mailto:Seth.THOMPSON@aviation.state.or.us)>

**Subject:** Carty Generating Station RFA2 Transmission Line Question

Seth,

It was great talking with you this afternoon, and discussing/clarifying my questions on ODA's comment letter. Should you want to get in contact with Lenna Cope (Senior Environmental Specialist) at PGE, please find her contact information below. Lenna is my contact at PGE for this Amendment Request. Alternatively, if you would like me to set up a call between PGE, ODA and ODOE, please let me know of your availability.

Lenna Cope

[Lenna.Cope@pgn.com](mailto:Lenna.Cope@pgn.com)

Environmental Compliance and Permitting

Senior Environmental Specialist

p:503-464-2634 • c:503-313-5022

Regards,

-Chase

**Chase McVeigh-Walker**  
Senior Siting Analyst  
550 Capitol St. NE | Salem, OR 97301





P: 503-934-1582

P (In Oregon): 800-221-8035



Stay connected!

**From:** [ESTERSON Sarah \\* ODOE](#)

**Sent:** Thursday, November 5, 2020 10:16 AM

**To:** [MCVEIGH-WALKER Chase \\* ODOE](#)

**Subject:**

FW: Carty pRFA DEQ 1200-C Comment - Request  
for DEQ Response

---

**From:** NIGG Eric <[Eric.Nigg@state.or.us](mailto:Eric.Nigg@state.or.us)>

**Sent:** Thursday, November 5, 2020 9:29 AM

**To:** ESTERSON Sarah \* ODOE <[Sarah.Esterson@oregon.gov](mailto:Sarah.Esterson@oregon.gov)>

**Cc:** SVETKOVICH Christine <[Christine.SVETKOVICH@state.or.us](mailto:Christine.SVETKOVICH@state.or.us)>

**Subject:** RE: Carty pRFA DEQ 1200-C Comment - Request for DEQ Response

Hi, Sarah.

Again, sorry for the delay. We've had turnover among our staff, so I've asked the inspector that will be assigned to this application to make a quick review and provide me with information. His assessment of the application materials is:

"... I'm focusing on Sheet 1 [*of application materials*] and the work shown that's adjacent to Sixmile Canyon, which is a water of the state. The soil type here, where the work is to occur, is Sagehill fine sandy loam, which has a moderate susceptibility to sheet and rill erosion, which would lead straight into the canyon. Just this one area provides the necessary *potential* to discharge to waters of the state that would require permit coverage. Their information regarding rainfall potential is moot, as that's not a condition for coverage.

I don't have the additional figures they reference in the recent emails that show the expanded areas, so I cannot make a determination on that. However, Sheet 1 of the 2016 plans shows potential to discharge, which would bring in the entire project regardless."

Based on this review and on the advice of the original inspector who reviewed documents in the 2016 application, we believe the project requires coverage under the construction stormwater (1200C) permit.

I'm happy to discuss this further with you and or PGE if you like.

Thanks

Eric Nigg

Eastern Region Water Quality Manager

Oregon Department of Environmental Quality

475 NE Bellevue Dr., Bend, OR 97701

541-633-2035

---

**From:** ESTERSON Sarah \* ODOE <[Sarah.Esterson@oregon.gov](mailto:Sarah.Esterson@oregon.gov)>

**Sent:** Wednesday, November 4, 2020 3:59 PM

**To:** NIGG Eric <[Eric.Nigg@state.or.us](mailto:Eric.Nigg@state.or.us)>

**Subject:** FW: Carty pRFA DEQ 1200-C Comment - Request for DEQ Response

Apologies on the name misspelling – Eric – please see below:

**Sarah T. Esterson**

Senior Policy Advisor

550 Capitol St. NE | Salem, OR



97301  
P: 503-373-7945  
C: 503-385-6128  
P (In Oregon): 800-221-8035



Stay connected!

---

**From:** ESTERSON Sarah \* ODOE  
**Sent:** Wednesday, November 4, 2020 3:58 PM  
**To:** 'NIGG Eric' <[Eric.Nigg@state.or.us](mailto:Eric.Nigg@state.or.us)>  
**Cc:** ISAAK Patty <[Patty.Isaak@state.or.us](mailto:Patty.Isaak@state.or.us)>; MCVEIGH-WALKER Chase \* ODOE <[Chase.McVeigh-Walker@oregon.gov](mailto:Chase.McVeigh-Walker@oregon.gov)>  
**Subject:** RE: Carty pRFA DEQ 1200-C Comment - Request for DEQ Response

Erica,

Thanks so much for the phone call. Per the email chain provided below, PGE asserts the following:

"Although Carty Reservoir is not a water of the state; Sixmile Canyon, an ephemeral drainage that potentially contains waters of the state, is adjacent to the site and shown on the attached figure. Stormwater associated with land disturbances for the proposed additional facilities at CGS are not expected to reach Sixmile Canyon. Carty Generating Station is in an area that receives low amounts of rainfall. According to the Western Region Climate Center, precipitation averages 8.55 inches annually in Boardman, with monthly average precipitation ranging from 0.22 inches in July to 1.32 inches in December. Topography in proposed disturbance areas closest to Sixmile Canyon is sloped away from Carty Reservoir toward a low area below the Carty Reservoir dam where the Sixmile Canyon drainage is located. The closest land disturbance to Sixmile Canyon drainage is the planned septic drain field approximately 630 feet away, as shown in the attached figure. Attached photos show the area between the proposed disturbance area and Sixmile Canyon drainage is well vegetated and lacks significant rilling or other features that would suggest concentrated water flow, thereby indicating that soils are amenable to infiltration. These conditions and observations indicate that water primarily infiltrates locally and is not expected to reach areas that may contain potential waters of the state."

Does DEQ disagree with this information, or consider some of these facts to trigger requirements for NPDES 1200-C?

Thanks in advance,  
Sarah



**Sarah T. Esterson**  
Senior Policy Advisor  
550 Capitol St. NE | Salem, OR  
97301  
P: 503-373-7945  
C: 503-385-6128  
P (In Oregon): 800-221-8035



Stay connected!

---

**From:** NIGG Eric <[Eric.Nigg@state.or.us](mailto:Eric.Nigg@state.or.us)>  
**Sent:** Tuesday, November 3, 2020 3:13 PM  
**To:** ESTERSON Sarah \* ODOE <[Sarah.Esterson@oregon.gov](mailto:Sarah.Esterson@oregon.gov)>  
**Cc:** ISAAK Patty <[Patty.Isaak@state.or.us](mailto:Patty.Isaak@state.or.us)>  
**Subject:** RE: Carty pRFA DEQ 1200-C Comment - Request for DEQ Response

Hi, Sarah.

I appreciate your patience. We've had some turnover in our stormwater program and I'm still looking into this. I hope to get back with you tomorrow with an answer.

Thanks.

Eric Nigg  
Eastern Region Water Quality Manager  
Oregon Department of Environmental Quality  
475 NE Bellevue Dr., Bend, OR 97701  
541-633-2035

---

**From:** ISAAK Patty <[Patty.Isaak@deq.state.or.us](mailto:Patty.Isaak@deq.state.or.us)>  
**Sent:** Tuesday, November 3, 2020 9:26 AM  
**To:** NIGG Eric <[Eric.Nigg@deq.state.or.us](mailto:Eric.Nigg@deq.state.or.us)>  
**Cc:** RATLIFF Krista <[Krista.RATLIFF@deq.state.or.us](mailto:Krista.RATLIFF@deq.state.or.us)>  
**Subject:** FW: Carty pRFA DEQ 1200-C Comment - Request for DEQ Response

---

**From:** ESTERSON Sarah \* ODOE <[Sarah.Esterson@oregon.gov](mailto:Sarah.Esterson@oregon.gov)>  
**Sent:** Tuesday, November 3, 2020 6:01 AM  
**To:** ISAAK Patty <[Patty.Isaak@state.or.us](mailto:Patty.Isaak@state.or.us)>  
**Cc:** MCVEIGH-WALKER Chase \* ODOE <[Chase.McVeigh-Walker@oregon.gov](mailto:Chase.McVeigh-Walker@oregon.gov)>  
**Subject:** FW: Carty pRFA DEQ 1200-C Comment - Request for DEQ Response

Good morning Patty,

We are seeking DEQ's input on whether a NPDES 1200-C is required for work to be conducted at the Carty Generating Station (natural gas facility in Morrow County). Work would result in more than 1 acre of disturbance and would be in proximity to the Carty Reservoir, which as noted by Fredrick, is not a typical reservoir (it is an industrial wastewater pond). PGE, DEQ and ODOE had a conference call several months ago where PGE assumed it was agreed upon that a NPDES 1200-C permit would not be required (see below). But, we did not receive concurrence from DEQ and remain uncertain.

If possible, could you review the email below and let us know if you have time to evaluate whether a 1200-C permit is required; we would like to clarify in our permit, and need to clarify by Friday.

Please let us know if you need maps or any additional information to support this review request. Feel free to call if easier or would like to discuss.

Thanks,  
Sarah



**Sarah T. Esterson**  
Senior Policy Advisor  
550 Capitol St. NE | Salem, OR  
97301  
P: 503-373-7945  
C: 503-385-6128  
P (In Oregon): 800-221-8035



**Stay connected!**

---

**From:** Lenna Cope <[Lenna.Cope@pgn.com](mailto:Lenna.Cope@pgn.com)>  
**Sent:** Tuesday, August 4, 2020 9:13 AM  
**To:** MOORE Fredrick <[Fredrick.MOORE@state.or.us](mailto:Fredrick.MOORE@state.or.us)>  
**Cc:** MCVEIGH-WALKER Chase \* ODOE <[Chase.McVeigh-Walker@oregon.gov](mailto:Chase.McVeigh-Walker@oregon.gov)>; STERGER Justin <[Justin.Sterger@state.or.us](mailto:Justin.Sterger@state.or.us)>; Kling, Louise <[louise.kling@aeacom.com](mailto:louise.kling@aeacom.com)>  
**Subject:** Carty pRFA DEQ 1200-C Comment

Mr. Moore,

This email responds to a comment you provided to the Oregon Department of Energy regarding the Request for Amendment 2 (RFA2) for the Carty Generating Station (CGS) on April 13, 2020. The comment indicated the potential need for an NPDES 1200-C permit for the work proposed in RFA2, citing Carty Reservoir as a water of the state. On May 18, 2020 PGE, DEQ, and ODOE had a phone call to discuss the reasons PGE has concluded that a NPDES 1200-C permit is not required. During that call you requested that we prepare an email with the points discussed during the call and send to you for review and concurrence. Since the May 18<sup>th</sup> meeting PGE has made a couple of changes to the proposed work at CGS; however, the additional work does not change our conclusion that a NPDES 1200-C permit is not required.

First I will outline the additional work being proposed since we last spoke, and then will outline the specific reasons a permit is not required.

In the attached figure you will find the locations of the additional areas of disturbance associated with the RFA2. New since we last spoke is the Carty Substation (shown in black hatching) and new power distribution lines (shown in pink). The Carty Substation will be constructed in a gravel area already used by the Boardman Coal Plant (BCP). This is the location where a 230kV transmission line already terminates at the BCP. A new dead-end structure will be installed for the 230kV line to terminate, and new control house, and additional electrical equipment will be installed to make the Carty Substation independent from the BCP which will be demolished. The distribution line that goes from the Carty Substation to the north east will be a new above ground distribution line (wood pole). The other two distribution lines will use mostly existing conduit to pull new distribution line; with only a minor amount of new conduit (and ground disturbance). All other disturbances were previously discussed with you.

For the reasons outlined below, PGE concludes that an NPDES 1200-C permit is not required for actions included in RFA2 for CGS.

In your initial comment you made the statement the Carty Reservoir was a water of the state; however, as indicated by the WPCF permit, Carty Reservoir is not a water of the state. In addition, during past Energy Facility Siting Council actions, DEQ has concurred that Carty Reservoir is not a water of the state and is an industrial waste pond. Also, due to topography no stormwater from the additional disturbances could reach Carty Reservoir.

Although Carty Reservoir is not a water of the state; Sixmile Canyon, an ephemeral drainage that potentially contains waters of the state, is adjacent to the site and shown on the attached figure. Stormwater associated with land disturbances for the proposed additional facilities at CGS are not expected to reach Sixmile Canyon. Carty Generating Station is in an area that receives low amounts of rainfall. According to the Western Region Climate Center, precipitation averages 8.55 inches annually in Boardman, with monthly average precipitation ranging from 0.22 inches in July to 1.32 inches in December. Topography in proposed disturbance areas closest to Sixmile Canyon is sloped away from Carty Reservoir toward a low area below the Carty Reservoir dam where the Sixmile Canyon drainage is located. The closest land disturbance to Sixmile Canyon drainage is the planned septic drain field approximately 630 feet away, as shown in the attached figure. Attached photos show the area between the proposed disturbance area and Sixmile Canyon drainage is well vegetated and lacks significant rilling or other features that would suggest concentrated water flow, thereby indicating that soils are amenable to infiltration. These conditions and observations indicate that water primarily infiltrates locally and is not expected to reach areas that may contain potential waters of the state.

Please let me know if you have any further questions.

Thank you.



**Lenna Cope**

Environmental Compliance and Permitting

Senior Environmental Specialist

p:503-464-2634 • c:503-313-5022

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**From:** [Teara Farrow Ferman](#)

**Sent:** Thursday, November 12, 2020 2:42 PM

**To:** [ESTERSON Sarah \\* ODOE](#)

**Cc:** [MCVEIGH-WALKER Chase \\* ODOE](#); [Shawn Steinmetz](#)

**Subject:**

RE: Questions on CTUIR Comments on Carty  
Generating Station

---

We agree that the survey of project area should be fully completed and in addition to the survey work we believe that the project's ground disturbing activities should be monitored during construction activities. If the project proponent can demonstrate that an area has been disturbed by past activities and that new construction will not exceed the previous disturbance we would consider those areas possibly exempt from the need for monitoring.

### TEARA FARROW FERMAN

The information in this e-mail may be confidential and intended only for the use and protection of the Confederated Tribes of the Umatilla Indian Reservation. If you have received this email in error, please immediately notify me by return e-mail and delete this from your system. If you are not an authorized recipient for this information, then you are prohibited from any review, dissemination, forwarding or copying of this e-mail and its attachments. Thank you.

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**From:** ESTERSON Sarah \* ODOE [mailto:[Sarah.Esterson@oregon.gov](mailto:Sarah.Esterson@oregon.gov)]

**Sent:** Thursday, November 12, 2020 10:55 AM

**To:** Teara Farrow Ferman <[TearaFarrowFerman@ctuir.org](mailto:TearaFarrowFerman@ctuir.org)>

**Cc:** MCVEIGH-WALKER Chase \* ODOE <[Chase.McVeigh-Walker@oregon.gov](mailto:Chase.McVeigh-Walker@oregon.gov)>

**Subject:** Questions on CTUIR Comments on Carty Generating Station

**EXTERNAL EMAIL: Please use caution when clicking links or opening attachments.**

Hi Teara,

Per my voice message, we have a few questions on your request for cultural monitoring during ground disturbing activities associated with the changes proposed in Request for Amendment 2 of the Carty Generating Station site certificate. See below:

- SHPO recommended that all disturbance areas, if not previously disturbed or only minimally disturbed, should be surveyed prior to construction. We are recommending that this be imposed as a requirement.
- In your comments, you requested cultural monitoring during ground disturbing activities. Do you think it appropriate to use the results of the preconstruction survey to determine whether cultural monitoring is necessary? If so, we could impose a requirement that PGE consult with CTUIR on survey results to determine whether monitoring is needed. Also, would you agree that monitoring would not be necessary in disturbance areas that would be within previously disturbed areas (i.e. graveled areas, etc)?

Please feel free to call if you would like to discuss.

Thanks,  
Sarah

**Sarah T. Esterson**  
Senior Policy Advisor  
550 Capitol St. NE | Salem, OR



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**Attachment C: Draft Amended Wildlife and Habitat Monitoring and Mitigation Plan**

# Carty Generating Station: Draft Amended Wildlife and Habitat Monitoring and Mitigation Plan<sup>1</sup> December 14, 2018<sup>2</sup>, August 17, 2020<sup>3</sup>

## 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 substation and associated distribution lines, septic system, backup water pipeline, wastewater 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*).

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

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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 substation and associated distribution lines, septic system, new back up water pipeline, wastewater pipeline, new security guard station and associated plumbing and communication lines, and new office/warehouse building. Only the new septic system, new wastewater pipeline, and new security guard station and associated plumbing and communication lines would be constructed in vegetated areas with a total temporary disturbance of approximately 2.15 acres and permanent disturbance of 1.45 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 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, discing 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).

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- 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 five year 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 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.

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**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 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



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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. 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

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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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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,

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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 carcass 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 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 be 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

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- 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.

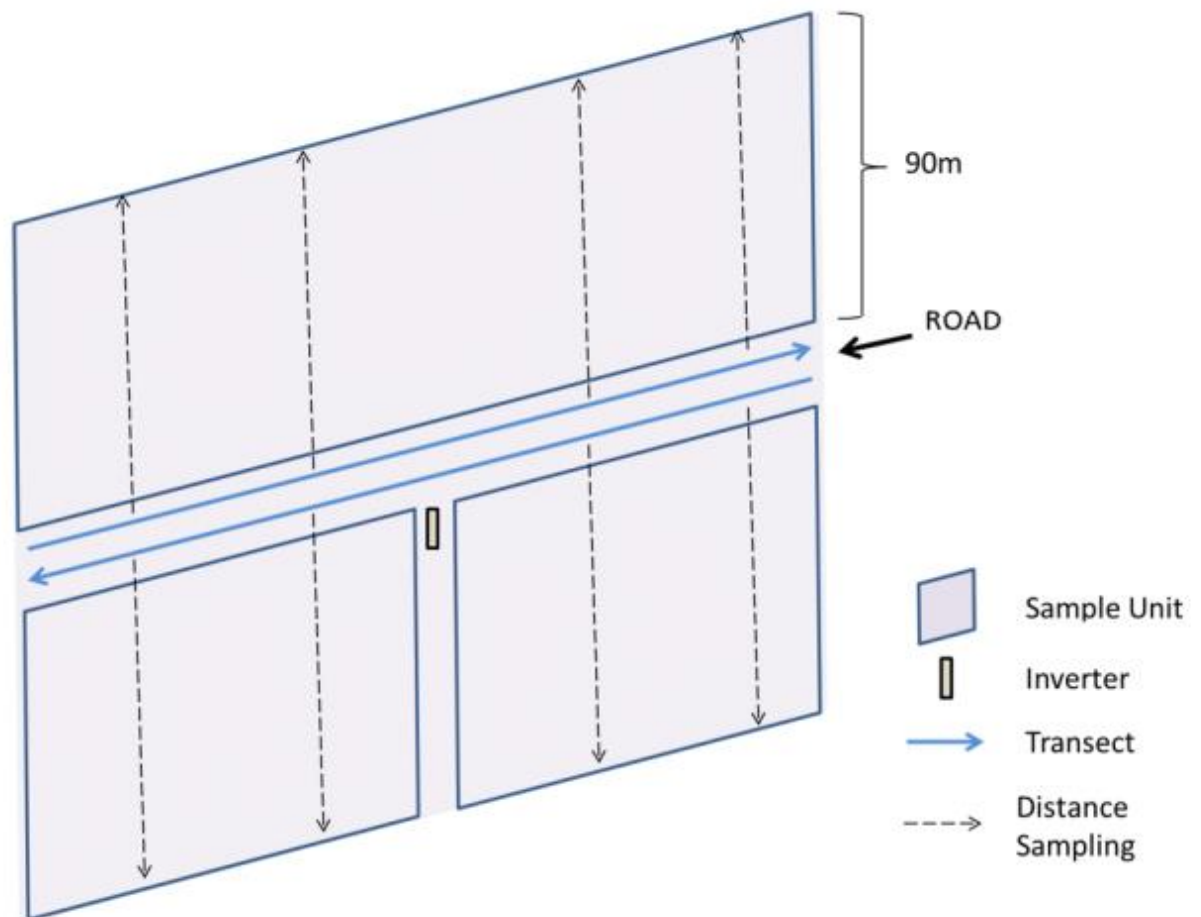


**Figure 1. Example illustration of generic PV sampling unit with travel routes and searches using distance sampling ('observation perspectives').**

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*(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 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.

**Table 2. Approximate Searcher efficiency trial sample sizes per season.**

| Facility component | Size   | Sample size |
|--------------------|--------|-------------|
| solar arrays       | 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-

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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 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.

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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 345-026-0080 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



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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.

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

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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.

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



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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.

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                                     | <u>100.4</u>                                      |
| Total Unit 1 Mitigation <sup>1,2</sup>                                                | 27.75                                  | 45                                     | 72.75                                             |
| <b><i>Proposed new Facility components of Request for Amendment 2<sup>4</sup></i></b> |                                        |                                        |                                                   |
| <u>Category 4</u>                                                                     | <u>1.0</u>                             | <u>0.6</u>                             | <u>1.10</u>                                       |
| <u>Category 6</u>                                                                     | <u>1.15</u>                            | <u>0.85</u>                            | <u>0.0</u>                                        |
| <u>Total Area</u>                                                                     | <u>2.15</u>                            | <u>1.45</u>                            | <u>3.6</u>                                        |
| <u>Total New RFA2 Facilities Mitigation</u>                                           | <u>0.50</u>                            | <u>0.6</u>                             | <u>1.10</u>                                       |
| <b>Carty Solar Farm and <u>Related or</u> Supporting Facilities<sup>4</sup></b>       |                                        |                                        |                                                   |
| Category 2                                                                            | <u>6.39</u>                            | <u>259.32</u>                          | <u>525.03</u>                                     |
| Category 3                                                                            | <u>7.66</u>                            | <u>42.84</u>                           | <u>46.67</u>                                      |
| Category 4                                                                            | 90.57                                  | 18.79                                  | 64.08                                             |
| Category 6                                                                            | 2.81                                   | 0.19                                   | <u>0.00</u>                                       |
| Total Area                                                                            | 107.43                                 | 321.14                                 | <u>428.57</u>                                     |
| Total Solar Farm Mitigation <sup>1,2</sup>                                            | <u>55.51</u>                           | <u>580.27</u>                          | <u>635.78</u>                                     |
| Total Mitigation for Amended Project                                                  |                                        |                                        | <u>708.53</u>                                     |
| Mitigation Required to date (Unit 1)                                                  |                                        |                                        | 72.75                                             |
| Additional Mitigation Required under RFA1 (Carty Solar Farm)                          |                                        |                                        | <u>373.27635.78</u>                               |

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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> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|----------------------------------------|---------------------------------------------------|
| <u>Additional Mitigation Required under RFA2 (proposed new Facility components )</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                        |                                        | <u>1.10</u>                                       |
| <b>Notes:</b><br>In all cases, impacts in a given project area will only be mitigated once.<br><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.<br><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.<br><sup>3</sup> Unit 1 includes Unit 1 and all related or supporting facilities constructed as part of Unit 1.<br><sup>4</sup> <u>New facility components as proposed in RFA2 include the new security guard station, wastewater pipeline, septic system, water pipeline, and the Carty substation and associated distribution lines.</u><br><sup>5</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

<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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1 and supporting facilities. Therefore; the additional 1.10 acres of mitigation required for the septic system and security guard station included in the Second Amended Site Certificate are covered by this HMA.

The proposed HMA for the Carty Solar Farm and supporting facilities (the HMA for the Carty Solar Farm), estimated at approximately ~~373-636~~ 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.

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**C. Access Control and Wildlife-Compatible Fencing**

The certificate holder will monitor and control access to the HMA and will post informative signs 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 Lone 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, ~~and~~ 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

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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 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.

Carty Generating Station  
Wildlife and Habitat Monitoring and Mitigation Plan  
(~~August 2020~~2018)

**Table 5. Schedule of Wildlife Mitigation and Monitoring Programs**

| Task                                                                        | Schedule                                                                                                                                                                                                                                                                                        |
|-----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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.<br>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.<br>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.<br>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.



Carty Generating Station  
Wildlife and Habitat Monitoring and Mitigation Plan  
(~~August 2020~~18)

**X. LITERATURE CITED**

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**Attachment D: Draft Amended Revegetation and Noxious Weed Control Plan**

## 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~~July 13, 2020<sup>4</sup>

### 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. The Council issued the Second Amended site certificate on **DATE** authorizing a boundary change; construction and operation of a new substation and associated distribution lines, septic system, backup water pipeline, wastewater 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

<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; wastewater pipeline area, sewer line area; and, areas temporarily disturbed during construction of additional components approved under the First and Second Amended Site Certificate. The new substation and associated distribution lines are not included because they will be constructed in developed graveled areas and therefore re-vegetation and weed management is not required.

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 ~~163~~ 164.3 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>Proposed new facility components in RFA2.<sup>5</sup></u> | <u>1.4215</u>                                    |

<sup>5</sup> New septic system, water pipeline, wastewater pipeline, office/warehouse building, security guard station, and associated plumbing and communication lines.

## 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>6</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 -

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<sup>6</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.

threadgrass, Sandberg's bluegrass, redstem filaree (*Erodium cicutarium*), and mouse-ear chickweed (*Cerastium* sp.).

#### *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 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:

- 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.

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**Attachment E: Oregon Department of Environmental Quality Technical Analysis and Proposed Findings for Water Pollution Control Facilities Permit Modification (Addendum 2)**



**MODIFICATION  
WATER POLLUTION CONTROL FACILITIES PERMIT**

Department of Environmental Quality  
Eastern Region  
800 S.E. Emigrant Avenue, Suite 330, Pendleton, OR 97801  
Telephone: (541) 276-4063

Issued pursuant to ORS 468B.050

**FACILITY:**

Portland General Electric Co.  
121 SW Salmon St.  
Portland, OR 97204

**SOURCES COVERED BY THIS PERMIT:**

| <u>Type of Waste</u>  | <u>Method of Disposal</u> |
|-----------------------|---------------------------|
| Industrial Wastewater | Seepage and Evaporation   |
| Domestic Wastewater   | Seepage and Evaporation   |
| Coal Ash              | Land Disposal             |

**PLANT TYPE AND LOCATION:**

Boardman Power Plant  
(Coal-fired electricity generation)  
Carty Generating Station  
(Gas-powered electricity generation)

**RIVER BASIN INFORMATION:**

Basin: Umatilla  
Sub-Basin: Middle Columbia / Lake Wallula  
LLID: 1198031456823 RM 10  
County: Morrow

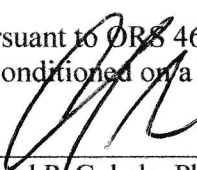
Tower Road  
Boardman, Oregon

Nearest surface stream which would receive  
wastewater if it were to discharge: Sixmile Canyon

**Treatment System Class: Level I**

This second permit modification is attached to and made part of WPCF Permit No. 100189 and in addition to Addendum No. 1 that became effective on January 24, 2019.

Pursuant to ORS 469.378, a land use compatibility determination is not required for this permit and the permit is conditioned on a land use determination by the Energy Facility Siting Council.

  
Chad P. Gubala, Ph. D.  
Eastern Region Water Quality Permit Manager

November 5, 2020  
Issuance Date

December 1, 2020  
Effective Date

**ADDENDUM NO. 2**

The following conditions are added or modified in Schedule A:

2. The Permittee must manage all wastewater in a manner that will prevent:
  - c. A violation of any permit-specific groundwater concentration limits, established pursuant to OAR 340-040-0030, which will be incorporated into the facility groundwater monitoring plan and subject to approval by DEQ.



6. Unless otherwise approved in writing by the Department, the Permittee is permitted to manage and dispose only the following wastes from operation of the Carty Generating Station in Carty Reservoir:

h. Turbine Rinse Water

7. The following limitations<sup>2</sup> must not be exceeded in Carty Reservoir at the intake structure to the Boardman Power Plant and Carty Generating Station:

| Parameter                    | Limitations (Sample Maximum) |
|------------------------------|------------------------------|
| Chloride                     | 100 mg/L                     |
| Sulfate                      | 200 mg/L                     |
| Sodium                       | 150 mg/L                     |
| Arsenic                      | 0.01 mg/L                    |
| Boron                        | 0.5 mg/L                     |
| Copper                       | 0.1 mg/L                     |
| Cadmium                      | 0.005 mg/L                   |
| Calcium                      | 500 mg/L                     |
| Chromium                     | 0.05 mg/L                    |
| Magnesium                    | 250 mg/L                     |
| Bicarbonate Alkalinity       | 500 mg/L                     |
| Fluoride                     | 1 mg/L                       |
| Nitrate                      | 10 mg/L                      |
| Total Dissolved Solids (TDS) | 500 mg/L                     |
| Mercury                      | 0.002 mg/L                   |
| Zinc                         | 0.1 mg/L                     |
| pH                           | 9.4 s.u.                     |
| Oil sheen                    | No visible                   |

10. Unless otherwise approved in writing by the Department, the Permittee is permitted to manage and dispose only the following wastes from operation of the Carty Generating Station in the lined evaporation ponds originally built to serve Boardman Coal Plant or in new lined evaporation ponds constructed in accordance with plans that are approved by the Department (See Schedule C, Condition 2):

g. Turbine rinse water

15. Boardman Power Plant and Carty Generating Station domestic wastewater (sewage) may be disposed of in the Boardman Power Plant sewage lagoons or to a septic system constructed in accordance with a construction permit from Umatilla County Public Health. At the time of this writing, the approved average dry weather design flow for the domestic sewage lagoons is 10,500 gallons per day.

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<sup>2</sup> Limitations are based on protection of wildlife and groundwater and may be modified after exceedance of a groundwater concentration limit (see Schedule A, Condition 2.c) and/or submittal of an updated hydrogeologic characterization report.

19. Storm water from the coal yard and uncovered ash disposal landfill must not be discharged to Carty Reservoir. Pending DEQ approval, storm water run-off from the final landfill cover system may be routed off the ash disposal landfill area and discharge to surrounding natural terrain, which ultimately discharges toward Carty Reservoir.
20. Management and disposal of Boardman Power Plant ash must be conducted in accordance with this permit and the Boardman Power Plant Ash Disposal Plan. Except as provided for in the Boardman Power Plant Ash Disposal Plan, disposal of wastes other than coal ash is prohibited in the ash disposal landfill. If management and disposal of coal ash becomes subject to requirements established by the Environmental Protection Agency or the Department during the term of this permit, or any administrative extension of the term of the permit, the new regulatory requirements control over any inconsistent provisions in the Boardman Power Plant Ash Disposal Plan and this permit.
22. The limitations established in the Groundwater Monitoring Plan must not be exceeded at the compliance points established in the Groundwater Monitoring Plan.

The following conditions are added or modified in Schedule B:

1. **Facilities Monitoring**

The Permittee must monitor the facilities in accordance with the following Department approved plans: OM&M Plan, Groundwater Monitoring Plan, Ash Disposal Plan and the Wastewater Quality Management Program, and any amendments to the plans and program approved in writing by the Department. Monitoring must include the following items and parameters:

a. Sanitary Lagoons

| Items and Parameters                  | Minimum Frequency | Sample Type/Action     |
|---------------------------------------|-------------------|------------------------|
| Influent <sup>5</sup>                 |                   |                        |
| Total flow (MGD)                      | Daily             | Record                 |
| Flow meter calibration                | Annually          | Written verification   |
| pH                                    | 2/week            | Grab/field measurement |
| BOD <sub>5</sub>                      | Quarterly         | Composite <sup>6</sup> |
| TSS                                   | Quarterly         | Composite <sup>6</sup> |
| Overflow to seepage cell <sup>7</sup> |                   |                        |
| Total flow (MGD)                      | Daily             | Record                 |
| Flow meter calibration                | Annually          | Written verification   |
| Quantity chlorine used                | Daily             | Measurement            |
| Chlorine residual                     | Daily             | Grab                   |
| pH                                    | 2/week            | Grab/field measurement |
| <i>E. coli</i> bacteria               | Monthly           | Grab                   |
| BOD <sub>5</sub>                      | Quarterly         | Composite <sup>6</sup> |
| TSS                                   | Quarterly         | Composite <sup>6</sup> |
| TKN                                   | Quarterly         | Grab                   |
| NO <sub>3</sub> -N                    | Quarterly         | Grab                   |
| Lagoon Site                           |                   |                        |
| Freeboard <sup>8</sup>                | Weekly            | Measure and record     |
| Perimeter inspection <sup>9</sup>     | Weekly            | Observation            |

<sup>5</sup> Sample point is in discharge to lagoons, except that flow from Boardman Power Plant coal yard sewage collection system may be measured by monitoring domestic water usage of facilities that discharge wastes to the coal yard sewage collection system. And, except that BOD<sub>5</sub>, TSS and pH monitoring results of domestic sewage from Boardman Power Plant power block may be deemed representative of BOD<sub>5</sub>, TSS and pH from Boardman Power Plant coal yard sewage collection system.

<sup>6</sup> Composite samples must consist of no less than 6 samples collected over a 24-hour period and apportioned according to the volume of flow at the time of sampling.

<sup>7</sup> Required only when overflow occurs. Sample point is at overflow to seepage cell.

<sup>8</sup> Freeboard is measured from lowest point on containment structure.

<sup>9</sup> A perimeter inspection is a sight surveillance of the lagoon dikes looking for the presence of badgers, muskrats, ground hogs or other rodents whose burrowing activities could threaten the structural integrity of a dike.

b. Lined Evaporation Ponds (Boardman Power Plant and Carty Generating Station)

| Items and Parameters                                        | Minimum Frequency | Sample Type/Action   |
|-------------------------------------------------------------|-------------------|----------------------|
| Each Pond <sup>10</sup>                                     |                   |                      |
| Total Flow to pond (MG)                                     | Quarterly         | Record               |
| Flow meter calibration                                      | Annually          | Written verification |
| As, Cd, Cr, Hg, TDS, Oil & Grease, TTHMs <sup>11</sup> , pH | Quarterly         | Grab                 |
| Freeboard                                                   | Weekly            | Measure and record   |
| Perimeter inspection                                        | Weekly            | Observation          |

c. Carty Reservoir

| Items and Parameters                                                                                                                                                                                    | Minimum Frequency                                            | Sample Type/Action   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|----------------------|
| Effluent <sup>12</sup>                                                                                                                                                                                  |                                                              |                      |
| As, B, Cd, Ca, Cr, Cu, Fe, Mg, Hg, K, Na, V, Se, Zn, Bicarb Alk, Total Alk, Cl <sup>-</sup> , F <sup>-</sup> , NO <sub>3</sub> <sup>-</sup> , SiO <sub>2</sub> , SO <sub>4</sub> , TDS, Cond, pH, TTHMs | Monthly                                                      | Grab                 |
| Make-up water                                                                                                                                                                                           |                                                              |                      |
| Total flow (MG)                                                                                                                                                                                         | Monthly                                                      | Record               |
| Flow meter calibration                                                                                                                                                                                  | Annually                                                     | Written verification |
| Irrigation withdrawal <sup>13</sup>                                                                                                                                                                     |                                                              |                      |
| Total flow (MG)                                                                                                                                                                                         | Monthly                                                      | Record               |
| Flow meter calibration                                                                                                                                                                                  | Annually                                                     | Written verification |
| TDS, As, Cr, pH, SAR                                                                                                                                                                                    | Twice Monthly, except as required by Schedule B, Condition 2 | Grab                 |
| Carty Reservoir                                                                                                                                                                                         |                                                              |                      |
| Water elevation                                                                                                                                                                                         | Monthly                                                      | Measure and record   |

<sup>10</sup> The permittee must designate and maintain a sampling station at each pond from which representative samples may be collected, except that flow to Boardman Power Plant's two lined evaporation ponds may be measured at a single location downstream of all possible flow additions.

<sup>11</sup> Total trihalomethanes

<sup>12</sup> Sample point is at the intake structure from Carty Reservoir to the Boardman Power Plant and Carty Generating Station.

<sup>13</sup> Sample point is at intake to irrigation withdrawal pump

**4. Groundwater Monitoring Resampling Requirements<sup>14</sup>**

- a. If monitoring indicates that a concentration limit has been exceeded at a compliance point, the Permittee must immediately resample the monitoring well, unless otherwise approved in writing by the Department. The results of both sampling events must be reported to the Department within 10 calendar days of receipt of the laboratory data.

**5. Monthly Reporting Procedures – Sanitary Lagoons**

Monitoring results must be reported on approved forms or as otherwise directed by DEQ. The reporting period is the calendar month. Reports must be submitted to the Department's Eastern Region Pendleton Office by the 15th day of the following month or via alternative electronic method as required.

Monitoring reports must identify the name, certificate classification and grade level of each principal operator designated by the Permittee as responsible for supervising the wastewater treatment system during the reporting period. Monitoring reports must also identify the treatment system classification as found on page one of this permit.

Monitoring reports must include a record of all applicable equipment breakdowns and bypassing.

**6. Annual Reporting Requirements**

On or before March 1 of each calendar year, the Permittee must submit an annual facility monitoring report to the Department that summarizes all wastewater and ash facilities operations and monitoring results for the preceding year. Following approval, annual reporting and data analyses must be in accordance with the approved OM&M Plan, Groundwater Monitoring Plan, Ash Disposal Plan and Wastewater Water Quality Management Program, and any amendments to the plans and program approved in writing by the Department.

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<sup>14</sup> OAR 340-040-0030(5) requires resampling after a significant increase (increase or decrease for pH). In addition, resampling is appropriate after a concentration limit exceedance and prior to a remedial investigation and feasibility study, which is required by OAR 340-040-0030(6).

**The following condition is added to Schedule C:**

10. Closure for Sanitary Lagoons and Evaporation Ponds

- a. The Permittee must submit closure plans to DEQ to document proper closure planning for the sanitary lagoons and evaporation ponds. For the sanitary lagoons, the closure plan must be submitted by June 31, 2022. For evaporation ponds, the plan must be submitted at least 6 months before planned closure. The plans must include at a minimum:
  - i. Characterization describing the size and contents (liquids and solids) of the lagoons/ponds to be decommissioned.
  - ii. How residual wastewater in the lagoons/ponds will be managed, stored, and disposed.
  - iii. Detail on how lagoon solids will be disposed (landfill or land application under an approved plan).
    - 1. If land application of solids will be utilized, see Schedule C. Condition 4.
    - 2. Odor control mitigation plan if biosolids will be dried in place prior to removal.
  - iv. Detail on long term stabilization of lagoons/ponds.
  - v. How pipes and liners will be abandoned or removed.
  - vi. Final stabilization/revegetation
- b. Closure of the lagoons must be completed by the schedule outlined in the closure plan unless otherwise approved in writing by DEQ.

**The following condition is edited in Schedule D:**

- 3. For the sanitary lagoons, the Permittee must comply with Oregon Administrative Rules (OAR) Chapter 340, Division 49, "Regulations Pertaining To Certification of Wastewater System Operator Personnel" and accordingly:

All other permit conditions remain unchanged by this permit modification.



## Water Pollution Control Facilities Permit Modification Evaluation Report and Fact Sheet

**Oregon Department of Environmental Quality**

**Eastern Region - Pendleton Office**

**800 SE Emigrant, Suite 330**

**Pendleton, OR 97801**

Contact: Justin Sterger, (541) 633-2016

|                                     |                                                                                                                  |
|-------------------------------------|------------------------------------------------------------------------------------------------------------------|
| <b>Permittee:</b>                   | Portland General Electric Co.<br>121 SW Salmon St.<br>Portland, OR 97204                                         |
| <b>Existing Permit Information:</b> | File Number: 70795<br>Permit Number: WPCF 100189<br>Expiration Date: April 30, 2023<br>EPA Reference Number: N/A |
| <b>Source Contact:</b>              | Lenna Cope, (503) 464-2634                                                                                       |
| <b>Facility Location:</b>           | 73334 Tower Road<br>Boardman, OR 97818-9804<br>Morrow County                                                     |
| <b>LLID:</b>                        | 1198031456823 RM 10                                                                                              |
| <b>Nearest surface stream:</b>      | Sixmile Canyon                                                                                                   |
| <b>Basin:</b>                       | Umatilla                                                                                                         |
| <b>Sub-Basin</b>                    | Middle Columbia / Lake Wallula                                                                                   |
| <b>Proposed Action:</b>             | WPCF Major Permit Modification – Addendum #2                                                                     |
| <b>Source Category:</b>             | WPCF Minor – Industrial Type B10                                                                                 |
| <b>Sources Covered:</b>             | Industrial and domestic wastewater, coal ash                                                                     |
| <b>Permit Type:</b>                 | WPCF-IW-B10                                                                                                      |
| <b>Permit Writer:</b>               | Justin Sterger (541) 633-2016<br>Eastern Region/Water Quality Program - Bend Office<br>September 9, 2020         |

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## **SUMMARY**

Portland General Electric Co. (PGE) operates two electric power generating plants, the Boardman Power Plant and Carty Generating Station, under the terms and conditions of Water Pollution Control Facilities (WPCF) Permit 100189 and a Site Certificate Agreement, which is administered by the Energy Facility Siting Council (EFSC) for the State of Oregon. The facilities are located adjacent to Carty Reservoir in Morrow County. The fuel for Carty Generating Station is natural gas and the Boardman Power Plant burns coal.

The WPCF permit was issued on May 2, 2013 with an April 30, 2023 expiration date. On November 4, 2015, DEQ amended the permit via permit action letter to remove a requirement that would have required PGE to apply for a separate permit for its coal ash landfill. The coal ash landfill has been and continues to be operated under the WPCF permit.

On May 23, 2018, PGE submitted a written request to modify the WPCF permit to allow construction and operation of a photovoltaic solar generating unit at the site. DEQ approved this request and the permit was modified via Addendum #1 with effective date of January 24, 2019.

On August 17<sup>th</sup>, 2020, DEQ received a written request from the facility to modify the permit to allow the addition of turbine rinse water as an allowed discharge to Carty Reservoir, which had been approved for discrete events previously based on submitted analytical results. The request for modification also included several requested language changes related to ongoing management of the facility as the coal fired plant (the Boardman Power Plant) is slated to cease burning coal by end of 2020. The modified language, as discussed with DEQ, will allow the facility to continue operation with oversight of the permit for management of industrial wastewater, domestic wastewater, and for the closure of the coal ash landfill. The modification also includes required language for proper closure of the sanitary lagoons once taken out of service during the permit term. These proposed changes will be included for public notice in a combined public notice with the Oregon Department of Energy (ODOE) who has received a preliminary Request for Amendment (pRFA2) for a modification to the Carty Generating Station site certificate triggered by the closure of the coal plant and incorporating some Boardman Coal Plant site components into the Carty Generating Station.

## **FACILITY DESCRIPTION**

The Boardman Power Plant and Carty Generating Station are located approximately 13 miles south-southwest of Boardman, Oregon (Sec. 34, T3N, R24E, W.M.). See [Figure 1: Carty Reservoir Area Map](#). The Boardman Power Plant was constructed in the late 1970's and was placed into operation in 1980. Construction was started on Carty Generating Station in January 2014 and operation began in July 2016.

Carty Reservoir is a wastewater impoundment that was created during construction of the Boardman Power Plant by placing an earth-fill dam across Sixmile Canyon and transferring water from the Columbia River. At high pool, Carty Reservoir impounds 38,300 acre-feet of water. PGE recirculates cooling water from the power plants to the reservoir. Recirculation and evaporative cooling in the reservoir cause dissolved solids that are naturally occurring in the water to become concentrated. In order to control build-up of dissolved solids, PGE provides water to local irrigators. Other wastewater ponds are used to treat and dispose of wastewater that cannot be discharged to Carty Reservoir. Domestic wastewater (sewage) is treated and disposed in a three-cell lagoon system.

## **COMPLIANCE HISTORY**

Since the permit was renewed in 2013, DEQ conducted limited inspections on October 23 and 27, 2014 to observe the drilling and construction of new groundwater monitoring wells. No violations were documented at the time of the inspections. DEQ has not received any complaints since the permit was last renewed.

DEQ has documented one violation since the permit was last renewed, and the facility was issued a Warning Letter (2019-WL-4413) for failure to monitor pH in two of the lined evaporation ponds and failure to monitor one pH sample during irrigation withdrawal in 2018. There are no documented ongoing violations at the facility for the WPCF permit based on required reporting to DEQ.



Figure 1: Carty Reservoir Area Map

## **PERMIT MODIFICATION DISCUSSION**

Per the request to DEQ, PGE is requesting that Schedule A, Condition 6 of the WPCF be modified to add turbine rinse water as an allowed discharge to Carty Reservoir. Approximately twice per year, PGE washes the combustion turbine generator compressor blades to remove fouling. A detergent is used to aid in the cleaning, which is a non-phosphate biodegradable detergent. Up to 1,000 mL is used during cleaning activity. An SDS for the product was provided with the permit modification request (Product Name: ZOK 27, manufactured by ZOK International Group).

Approximately 800 gallons of wastewater results from each cleaning. The combustion turbine is a steam turbine and thus the wash water is not expected to contain any oil and grease particles. In February 2020 and August 2020 PGE requested written approval from DEQ to dispose of the turbine wash water into Carty Reservoir via the Carty Generation Station holding ponds. Based on the information submitted, which included analytical testing results, DEQ approved both of those requests. PGE has tested four batches of turbine rinse water for the parameters listed in Schedule A, Condition 7 of the WPCF permit with reported results within the sample maximum limits specified in the WPCF permit. Upon issuance of the permit modification, turbine wash water would be pumped to the holding ponds located at Carty Generating Station which then directly discharges to Carty Reservoir.

In addition to adding turbine rinse water to the WPCF permit for discharge to Carty Reservoir, PGE requested several other permit modifications. These changes are identified in the draft permit modification and include:

- A change to language regarding the recirculation line for the Carty Generating Station and Boardman Power Plant. This was corrected to state “intake structure” rather than “recirculation line” to better address intake for the Boardman and Carty facilities.
- Removal of language for submittal of a hydrogeologic characterization report (already submitted during permit term).
- Clarification regarding the facility lined evaporation ponds and to reflect that the previous clay lined sewage lagoons were relined in 2014. The facility also has stated that while the sanitary sewage lagoons will remain operational for a period of time, there is possibility that sewage flows will be routed to a newly constructed septic system with flows <2500 gpd. This system would be separately permitted through Umatilla County Public Health. The permit modification has included added language to Schedule C for required steps to properly decommission the sewage lagoons and evaporative ponds.
- The facility is working on a final cover system for the ash disposal landfill, which will be reviewed by DEQ solid waste and water quality staff as part of the ash landfill closure plan. Schedule A, Condition 20 requires an Ash Disposal Plan. Per PGE description, storm water from the final cover system will be collected and dissipated to sheet flow in the direction of Carty Reservoir following natural terrain. It is unlikely that stormwater flow from the cover system will reach the reservoir.
- Condition 22 of Schedule A was added regarding groundwater limitations at the compliance points established in the groundwater monitoring plan. This language was added because any change to the compliance limitations in the plan would not require an EFSC site certificate amendment but still ensures limitations are enforceable under the WPCF permit.
- PGE proposed to replace composite sampling requirements for influent into the sanitary lagoons due to mixing in the lift station. This change was not included in the permit modification draft as requested. This is because while the lift station will allow mixing, the purpose of composite sampling is to collect a representative 24 hour period sample each quarter which may not be achieved by a discrete grab sample from the lift station.
- PGE requested to reduce perimeter inspection of the sanitary lagoon and lined evaporation ponds from daily to weekly due to the presence of staff at the site during business hours. This change was incorporated into Schedule B, Condition 1a and 1b of the permit modification based on history of inspections and presence of staff at the site as opposed to a remote un-staffed location.
- Schedule B, Condition 1c was updated to accurately describe flow meter configuration at the facility. Flow metering exists at the irrigation withdrawal without flow metering for cycling of Carty Reservoir water withdrawal that is used for industrial uses.
- The language “unless otherwise approved in writing by the Department” was added to Schedule B, Condition 4 to allow flexibility in resampling schedule upon DEQ approval. This is warranted due to the remote nature of the location and during poor weather months.

- The permittee requested to change language in reference to the formerly named “Boardman Power Plant Water Quality Management Program” to the “Wastewater Water Quality Management Program” and this language was updated.
- Schedule C, Condition 10 was added to require a closure plan to document a closure plan for DEQ review for the sanitary lagoons and Boardman evaporation ponds. For the sanitary lagoons, the closure plan must be submitted by June 31, 2022. For evaporation ponds, the plan must be submitted at least 6 months before planned closure.

### **CONCLUSION**

DEQ supports PGE’s request to modify the WPCF permit to allow disposal of turbine rinse water. DEQ also approves of the requested language changes for clarity due to the closure of the Boardman Coal Plant.

Hence, DEQ proposes to modify the permit accordingly. As proposed, the permit modification includes a condition that allows disposal of turbine rinse water into Carty Reservoir based on the monitoring results submitted. DEQ has incorporated the changes requested by the facility to the extent necessary, while incorporating additional language to require documented closure of the sanitary and evaporative lagoons. All other permit conditions not referenced here in Addendum #2, or previously in Addendum #1 remain in effect.