

**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

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

November 19, 2020

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1 **I. INTRODUCTION**
2

3 The Oregon Energy Facility Siting Council (EFSC or Council) issues this final order, in accordance
4 with Oregon Revised Statute (ORS) 469.405(1) and Oregon Administrative Rule (OAR) 345-027-
5 0372, based on its review of Request for Amendment 2 (RFA2) to the Carty Generating Station
6 (CGS or Carty) site certificate, as well as comments and recommendations received by specific
7 state agencies, Tribal Governments and local governments during review of the preliminary
8 amendment request. The certificate holder for the facility is Portland General Electric Company
9 (certificate holder or PGE).

10
11 The certificate holder requests approval from Council to amend the site certificate to authorize
12 the following modifications¹:
13

- 14 • Amend the site boundary to both remove approximately 378 acres of agricultural land
15 from the existing site boundary, and also increase the site boundary by approximately
16 3,414 acres to incorporate existing facilities currently authorized under the Boardman
17 Coal Plant site certificate, based on the planned decommissioning of the Boardman Coal
18 Plant;
- 19 • Amend the site certificate to incorporate shared infrastructure and existing facilities
20 (shared by the Boardman Coal Plant and Carty Generating Station);
- 21 • Construct new infrastructure at the Carty Generating Station, including a new sewer
22 line, septic tank, septic drain field, a backup water pipeline, potable water line, a
23 wastewater pipeline, a substation and associated distribution lines, an office and
24 warehouse, and a new security guard station.
- 25 • Modify Schedule A, Condition 6 of the existing Oregon Department of Environmental
26 Quality (ODEQ) Water Pollution Control Facility (WPCF) permit to add turbine rinse
27 water as an allowed discharge to Carty Reservoir.
28

29 Based upon review of RFA2 and in conjunction with comments received from the general public
30 and recommendations received by specific state agencies, Tribal Governments and local
31 governments, the Council approves the amendment request and grants an amended site
32 certificate subject to the existing, new and amended conditions set forth in this order.
33

¹ 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-0403
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
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. Related and supporting facilities include the Grassland Switchyard, onsite 500 kV
24 interconnection transmission line (Unit 1 to Grassland Switchyard), interconnecting water
25 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 potable
29 water and sanitary waste infrastructure, and the Carty Reservoir for water withdrawal and
30 water discharge purposes. While these facilities are shared, they are not currently included in
31 the Carty Generating Station site certificate.
32

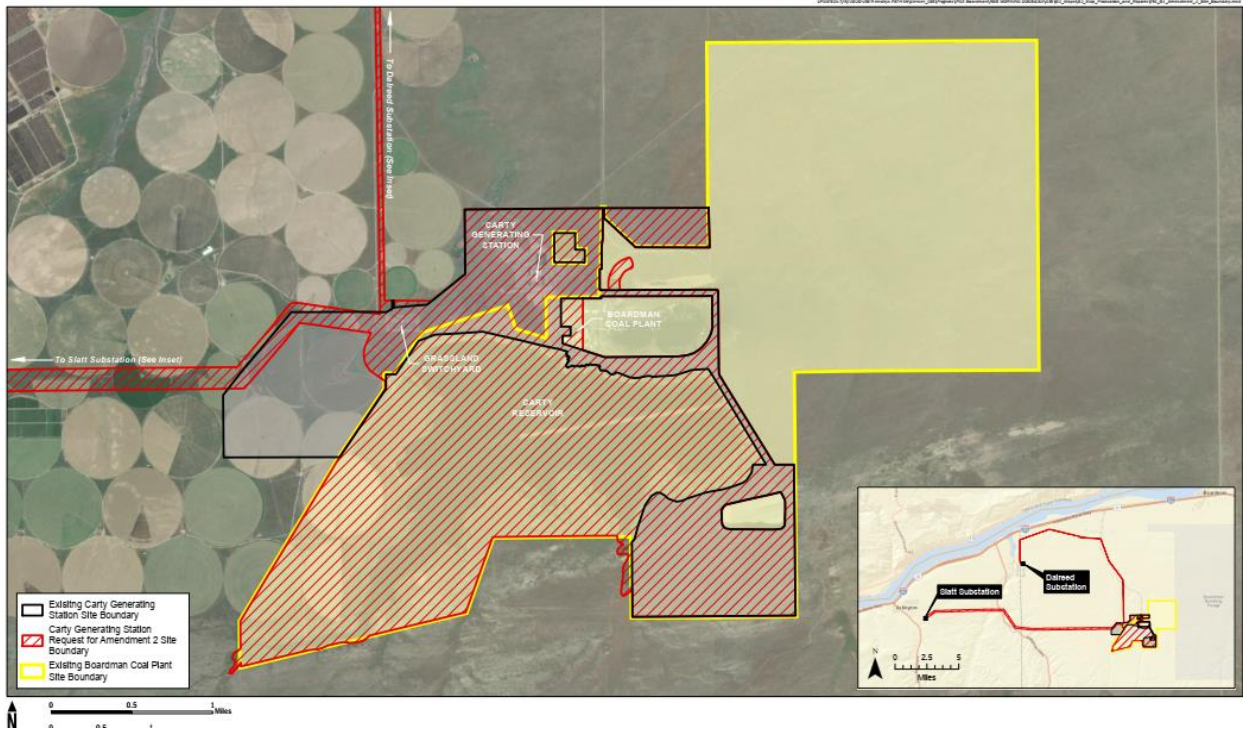
33 In the *Final Order on Amendment 1* for the Carty Generating Station, Council approved the
34 construction and operation of a 50 MW photovoltaic solar generating unit (Carty Solar Farm).
35 *Final Order on Amendment 1* was approved by Council on December 14, 2018 and the site
36 certificate was fully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

1 As presented in Figure 1, *Site Boundary*, the approved site boundary (outlined in “black”)
 2 encompasses approximately 1,581 acres and includes the perimeter of the area of the
 3 approved energy facility and its related or supporting facilities, temporary laydown and staging
 4 areas, and all corridors.
 5

Figure 1: Site Boundary



6
 7 **I.D. Site Certificate Procedural History**
 8

9 The Council issued its *Final Order on the Application for Site Certificate for the Carty Generating*
 10 *Station (Final Order on ASC)* on June 29, 2012. The site certificate became effective on July 2,
 11 2012. The final order authorized the construction and operation of a natural gas fuel combined-
 12 cycle generating plant producing up to 900 MW of electrical power, and related or supporting
 13 facilities.
 14

15 On December 14, 2018, Council issued its *Final Order on Amendment 1* and granted an
 16 amended site certificate on December 14, 2018, which approved the construction and
 17 operation of a 50 MW photovoltaic solar unit; construction and operation of a 34.5 kV
 18 interconnection transmission line with five interconnection transmission line routing options
 19 and three interconnection options; use of temporary construction laydown and parking areas;
 20 removal of reference to the previously approved but not yet constructed second 450 MW
 21 natural gas combined cycle turbine generator (Unit 2) and its associated components and
 22 related or supporting facilities; site boundary modification (reduction from 3,800 to 1,581
 23 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 Council acknowledges approval of facility components through the
20 first and second site certificate amendments, and continue to rely on the findings contained
21 herein and in Council’s previous Final Orders to determine that the facility, with proposed
22 changes approved in *Final Order on RFA1* and *Final Order on RFA2* would result in impacts that,
23 with mitigation, would not likely be significant or adverse.

24

25 **II.A. Requested Amendment**

26

27 Request for Amendment 2 seeks Council approval for the following:

28

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

41

42 The proposed components are described in further detail below.

1 *Amended Site Boundary*

2

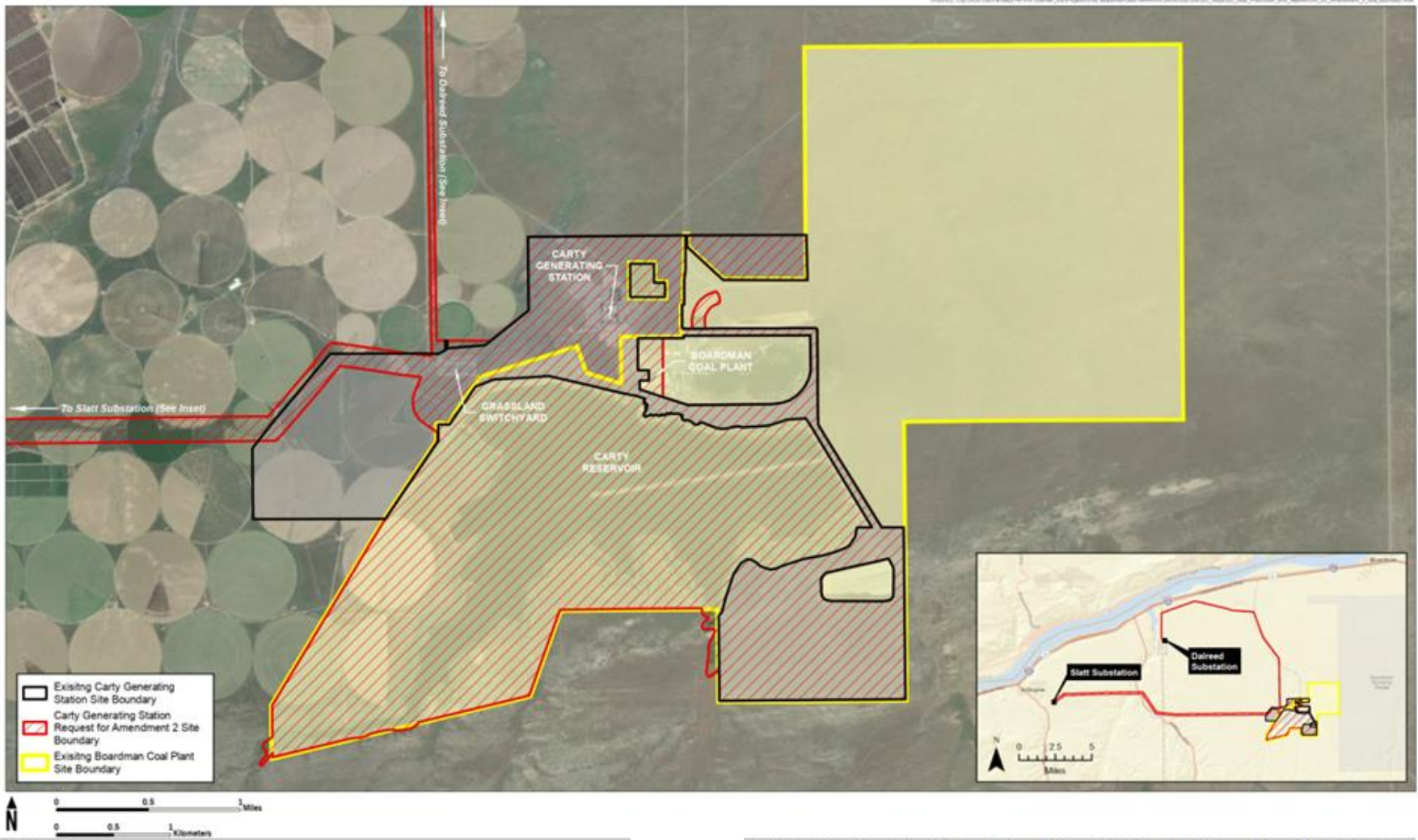
3 The certificate holder proposes to amend the site boundary including removal of 378 acres of
4 agricultural land and adding approximately 3,414 acres. As proposed, the amended site
5 boundary would encompass approximately 4,997 acres. The areas within the proposed site
6 boundary expansion are currently authorized under the Boardman Coal Plant site certificate,
7 and include related or supporting facility components. Specifically, the site boundary expansion
8 would incorporate the following existing facility components to be used for Carty Generating
9 Station operation: 500 kV Grassland to Slatt transmission line (approximately 17 miles-long),
10 230 kV BCP to Dalreed transmission line (approximately 16 miles-long), 34.5 kV BCP to the
11 railroad crossing at Tower Road transmission line, Carty Reservoir (and associated pumping
12 facilities and seepage collection systems), portions of the Water Discharge Channel and raw
13 water intake structure not already included in the CGS Site Boundary, and sewage lagoons.

14

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

Figure 2: Amended Site Boundary

1



2

3

AECOM
Portland General Electric Company
Project No. 4904963 Date February 2020

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

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 of operations at the BCP. After the December 31, 2020 deadline to cease
8 operations of BCP, the shared facilities and other identified BCP facilities would exist only to
9 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)²:

- 13
- 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 • 12.5 kV underground distribution line connecting the construction substation to Boeing
- 24 Well pump
- 25 • 480-volt underground distribution line connecting the 34.5 kV transmission line to the
- 26 Carty Reservoir seepage pumps
- 27 • Construction Substation
- 28 • Two existing evaporation ponds
- 29

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

31
32 As presented in RFA2, the certificate holder seeks Council approval to construct and operate
33 the following related or supporting facilities, described in detail below:

- 34
- 35 • Water and wastewater pipelines; and new septic system
- 36 • Carty substation
- 37 • Office and warehouse space, and
- 38 • Security guard station
- 39

40 *Septic System, Water Pipeline and Wastewater Pipeline*

41
42 In RFA2, the certificate holder proposes to construct and operate new water and wastewater
43 pipelines and a new septic system, as described below.

1 *Wastewater*

2
3 The facility process waste and plant drainage waste flows are discharged into holding ponds,
4 which can provide 7 days of holding capacity (if needed for discharge line maintenance or some
5 other event preventing direct discharge). From the holding ponds, wastewater is discharged via
6 an 8-inch diameter wastewater pipeline from the facility into the Water Discharge Channel. The
7 certificate holder requests two existing evaporation ponds currently permitted under the Site
8 Certificate for BCP be added to CGS site certificate; wastewater from the holding ponds would
9 be conveyed to the evaporation ponds via a new approximately 1,000-foot-long underground
10 wastewater pipeline. The duration of construction is anticipated at 3 months and would require
11 excavators, a backhoe, dump truck, compactor, possible an asphalt paver, and several pickup
12 trucks.

13
14 *Potable Water/Fire Water*

15
16 Potable water for drinking fountains, showers (emergency and lavatory), sinks, and flushing of
17 lavatory fixtures comes from the Boeing Well. The Boeing Well is a groundwater extraction well
18 located just south of the facility. The well is 600 feet deep with a 30-horsepower pump hung at
19 around 440 feet below ground surface. The well fills a holding tank within the facility prior to
20 direct distribution to the plant services building. The Boeing Well pump drive motor is powered
21 from a 150-kilovolt-ampere 12470-480/277 V distribution transformer. This transformer is
22 connected via a 12.5 kV underground distribution line to the Construction substation. The
23 construction substation, in turn, derives power from a 12.5 kV distribution line originating at
24 the 1X33 transformer at BCP.

25
26 The certificate holder also requests a potable/firewater storage in a 300,000-gallon, welded-
27 steel water storage tank with adjacent pump house currently permitted under the Site
28 Certificate for the BCP be added to CGS. The certificate holder proposes to construct and
29 operate a 4-inch-in-diameter pipeline to connect the facility to the 300,000-gallon tank. The
30 duration of construction is anticipated at 3 months and would require excavators, a backhoe,
31 dump truck, compactor, possibly an asphalt paver, and several pickup trucks.

32
33 *Sanitary Sewer*

34
35 Sanitary sewer flows at the facility are solely from plant lavatories, sinks, and bathroom
36 showers used by plant personnel. These flows are currently directly discharged to the sewage
37 lagoons via a sewer lift station. There are three existing sewage lagoons: the South Lagoon and
38 Middle Lagoon (both lined) and the North Lagoon (unlined). The certificate holder requests that
39 sewer flows be permitted to be discharged to either the existing lagoons or to a new septic
40 system, which requires a permit from the Umatilla County Public Health Department. The

² CGSAMD2 Complete RFA with Attachments Introduction, 2020-10-02.

1 proposed septic system would be sized per state and county standards and the Umatilla County
2 Public Health Department requirements and is in an area deemed acceptable for a standard,
3 non-residential septic system. Because the design flow of the system is less than 2,501 gallons
4 per day, the facility will not be governed under the WPCF Permit 100189. The duration of
5 construction is anticipated at 2 to 3 months and would require excavators, a wheeled crane,
6 backhoe, dump trucks, a compactor, and several pickup trucks.

7
8 *Carty Substation*
9

10 The certificate holder proposes to construct and operate a new 7.2 kV open box structure
11 substation, control house for relay, supervisory control and data acquisition system,
12 communications and direct current system, a 73-foot dead-end structure for the existing 230 kV
13 transmission line, and 8-foot perimeter security fence southeast of the construction substation
14 (as further described below), as shown in RFA2 Figure 2a, Figure 2b, and Figure 4. The existing
15 230 kV Boardman to Dalreed transmission line would be relocated to interconnect to the
16 proposed Carty Substation, which would provide backup power to the Carty Generation
17 Station, replacing the backup power previously provided by the BCP power block.

18
19 The new Carty Substation infrastructure would relocate the existing 230 kV from the BCP power
20 block at BCP and would support the future abandonment of the existing 500 kV line connecting
21 BCP to Grassland Substation, while maintaining optical ground wire for communication needs.
22 New distribution lines would be constructed to (1) connect to the existing pump house and
23 construction substation via an existing underground conduit, (2) connect to the existing intake
24 structure via an existing underground conduit from CGS to the intake structure, and (3) connect
25 to the existing H-frame to connect to CGS for backup power supply via a new overhead line. As
26 explained in RFA2, the construction duration of the Carty Substation is anticipated at 9 to 10
27 months, and would require excavators, a backhoe, dump truck, compactor, and several pickup
28 trucks.

29
30 New equipment within the Carty Substation would include the following³:

- 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 transformer are a tall cylinder shape, similar
37 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.

³ CGSAMD2 Complete RFA with Attachments, Section 5.1.5. 2020-10-02.

- 1 • Dead End Structure: The dead-end structure would be one of the tallest features,
2 measuring approximately 53 feet. Shield wires for lightning protection would add an
3 additional 20 feet, resulting in an overall height of about 75 feet.
- 4 • Lightning Mast: Approximately two to four 75-foot-tall lightning masts would be
5 mounted on the dead-end structure.
- 6 • Circuit Switcher: The circuit switcher would be 15.5 feet tall and would be mounted on
7 a base measuring approximately 8 to 12 feet tall. The overall height would be 23.5 feet
8 to 27.5 feet.
- 9 • Circuit Breakers: The circuit breakers would be located underneath the box structure;
10 therefore, these components are considered part of the dimensions of the box
11 structure.
- 12 • Light poles: Lights would be installed and would be approximately 35 feet tall.
- 13 • Control House: The control house would be approximately 15 feet by 35 feet and 12
14 feet tall.
- 15 • Distribution line: The distribution line from Carty Substation to the existing
16 aboveground CGS backup power line would be mounted on single wood poles
17 approximately 50 feet tall. PGE anticipates needing four to five poles, two of which will
18 have down guys and anchors.

19
20 The substation would be contained within a fence line with dimensions of approximately 170
21 feet by 180 feet. The fence would be 8 feet tall with an additional 1 foot of barbed wire. Within
22 the fence line PGE would use the existing 27.5 megavolt-ampere power transformer and oil
23 containment. The transformer contains a total of 13,995 gallons of mineral oil and the CGS Spill
24 Prevention, Control, and Countermeasure Plan would be updated as required by condition 5.9
25 of the site certificate. The transformer is an existing noise source and is currently in operation
26 at the location of the new substation (i.e., the new substation is being built around the existing
27 transformer so that it can be reused). Because the transformer is the only noise-emitting
28 component, the substation is not considered a new noise source.

29
30 The temporary disturbance footprint is estimated to be 0.6 acre, which assumes a 10-foot
31 buffer around the fence line. New transmission infrastructure would relocate the existing 230
32 kV from the power block at BCP to a new dead-end structure.

33 *Office and Warehouse Space*

34
35
36 The certificate holder proposes to construct a new building within the existing CGS fence line to
37 provide additional office and warehouse space (RFA2 Figure 2b, Figure 4). The building would
38 be approximately 60 feet by 100 feet and approximately 20 feet tall. It would provide both
39 office and warehouse space and be similar in appearance to the existing site buildings.
40 Temporary disturbance is estimated at 0.2 acres and assumes a 10-foot disturbance buffer
41 around the building. As explained in RFA2, the construction duration of the office and
42 warehouse space is anticipated at 10 to 12 months, and would require use of a small wheeled

1 crane, excavator, front-end loader, compactor, aerial lifts, telehandler, triaxle dump truck, a
2 skid steer loader, and pickup trucks.

3
4 *Security Guard Station*
5

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

20 *Modifications to the Water Pollution Control Facility Permit*
21

22 In RFA2, the certificate holder requests modifications to Water Pollution Control Facilities
23 (WPCF) Permit 100189, a permit issued by Oregon Department of Environmental Quality (DEQ)
24 but governed by the site certificate. The requested modification applies to Schedule A,
25 Condition 6 and would authorize discharge of turbine rinse water to Carty Reservoir. The
26 technical analysis and proposed findings for the WPCF Permit Modification (Addendum 2) is
27 included at Attachment E to this order. The WPCF permit modification also included several
28 requested language changes related to ongoing management of the facility as the coal fired plant
29 (the Boardman Coal Plant) is slated to cease burning coal by end of 2020. The modified language
30 would allow the Carty Generating Station to continue operation with oversight of the WPCF
31 Permit for management of industrial and domestic wastewater.⁴ The modification also includes
32 required language for proper closure of the sanitary lagoons once taken out of service during the
33 permit term.
34

⁴ 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. CGSAM2 DPO Comments (PGE) Letter 2020-11-02

1 **II.B. Amended Site Certificate and Condition Format**

2
3 The amended site certificate includes existing and new and amended conditions. Some of the
4 conditions apply to the facility, with proposed changes, some conditions apply only to existing
5 operational facility components, and some conditions apply only to the proposed facility
6 components.

7
8 Previously imposed conditions that are not amended through new or deleted language would
9 apply to both existing and proposed facility components. Previously imposed conditions that
10 are amended, but that include differing requirements for existing operational components and
11 proposed components include a delineation format, where a roman numeral “i” indicates the
12 requirements of the condition apply to operating components, or Unit 1 and its related or
13 supporting facilities; roman numeral “ii” indicates that requirements of the amended condition
14 apply to components from Amendment 1, including the Carty Solar Farm and its related or
15 supporting facilities; and, roman numeral “iii” indicates that the requirements of the amended
16 condition apply to proposed components of Request for Amendment 2, including existing
17 infrastructure from the Boardman Coal Plant.

18
19 **II.C. Amendment Review Process**

20
21 Council rules describe the processes for transfers, Type A, Type B, and Type C review of a
22 request for amendment at OAR 345-027-0351. The Type A review is the standard or “default”
23 site certificate amendment process for changes that require an amendment. Type C review
24 process is associated with construction-related changes. The key procedural difference
25 between the Type A and Type B review is that the Type A review includes a public hearing on
26 the draft proposed order and an opportunity for a contested case proceeding. The primary
27 timing differences between Type A and Type B review are the maximum allowed timelines for
28 the Department’s determination of completeness of the preliminary request for amendment,
29 as well as the issuance of the draft proposed order and proposed order. It is important to note
30 that Council rules authorize the Department to adjust the timelines for these specific
31 procedural requirements, if necessary.

32
33 A certificate holder may submit an amendment determination request to the Department for a
34 written determination of whether a request for amendment justifies review under the Type B
35 review process. The certificate holder has the burden of justifying the appropriateness of the
36 Type B review process as described in OAR 345-027-0351(3). The Department may consider,
37 but is not limited to, the factors identified in OAR 345-027-0357(8) when determining whether
38 to process an amendment request under Type B review.

39
40 On February 28, 2020, the certificate holder submitted preliminary Request for Amendment 2,
41 inclusive of a Type B Review amendment determination request (Type B Review ADR). The Type
42 B Review ADR requested the Department’s review and determination of whether, based on
43 evaluation of the OAR 345-027-0357(8) factors, the amendment request could be reviewed
44 under the Type B review process. On May 29, 2020, the Department determined that Request

1 for Amendment 2 of the Carty Generating Station site certificate justified Type B review, based
2 on the low level of complexity, the limited level of anticipated public and reviewing agency
3 interest in the proposed changes, and the low likelihood of significant adverse impacts or
4 additional mitigation from the proposed changes.

5
6 On August 17, 2020, the certificate holder submitted a revised *preliminary Request for*
7 *Amendment 2* which included modification of the list (and description) of existing BCP
8 infrastructure to be incorporated into the site certificate to also include the Construction
9 Substation, Irrigation Pump Station and Evaporation Ponds; and, modification of the list (and
10 description) of proposed related or supporting facilities to be constructed to also include the
11 Carty Substation. On September 16, 2020, the certificate holder submitted a revised Type B
12 Review ADR to reflect the changes presented in the revised pRFA2. Based on review, the
13 Department determined that the revisions would not change its May 29, 2020 determination
14 that the certificate holder had justified Type B review for the proposed changes, as
15 demonstrated in the recommendations presented in this order.

16
17 Pursuant to OAR 345-027-0363(2), on March 20, 2020, the Department determined pRFA2 to
18 be incomplete and issued requests for additional information.⁵ The Department also issued a
19 second batch of RAI's on May 13, 2020, and a third batch of RAI's on August 21, 2020. The
20 certificate holder provided responses to the information request #1 on April 4, 2020, June 5,
21 2020⁶, and responses to RAI #2 and #3 on September 15, 2020. Additionally, the certificate
22 holder provided the Department with responses to additional clarification questions asked by
23 the Department during a phone call on September 18, 2020.⁷

24
25 After reviewing the responses to its information request, on October 2, 2020, the Department
26 determined the RFA to be complete. Under OAR 345-027-0363(5), an RFA is complete when the
27 Department finds that a certificate holder has submitted information adequate for the Council
28 to make findings or impose conditions for all applicable laws and Council standards. The
29 certificate holder submitted a complete RFA2 on October 2, 2020, which was then posted on
30 October 2, 2020 to the Department's project website with an announcement notifying the
31 public that the complete RFA had been received and is available for viewing.

32
33 Under OAR 345-027-0360(3), the analysis area for any Council standard that requires evaluation
34 of impacts within an analysis area is the larger of either the study area as defined in OAR 345-
35 001-0000(59) or the analysis areas described in the project order for the facility, unless
36 otherwise approved in writing by the Department following a pre-amendment conference. On
37 September 29, 2020, the Department approved, in writing, use of analysis area based on the

⁵ CGSAMD2 Completeness Determination and RAI 2020-03-20.

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

⁷ CGSAMD2 PGE Responses to Questions 2020-09-18.

1 sites of potential project impact, as opposed to the entire amended Carty Generating Station
2 facility site boundary.

3
4 Reviewing Agency Comments on Request for Amendment 2

5
6 The Department consulted with or received comments on RFA2 from the following reviewing
7 agencies:

- 8
9
- 10 • Confederated Tribes of the Umatilla Indian Reservation (CTUIR)
 - 11 • Morrow County Planning Department
 - 12 • Oregon Department of Environmental Quality (DEQ)⁸
 - 13 • Oregon Department of Fish and Wildlife (ODFW)
 - 14 • Oregon Department of Geologic and Mineral Industries (DOGAMI)
 - 15 • Oregon Department of Aviation (ODA)

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

20
21 **II.D. Council Review Process**

22
23 On October 2, 2020, the Department issued the draft proposed order, and a notice of comment
24 period on RFA2 and the draft proposed order (notice) extending 30-days from October 2
25 through November 2, 2020. The notice was distributed to all persons on the Council’s general
26 mailing list, to the special mailing list established for the facility, to an updated list of property
27 owners supplied by the certificate holder, and to a list of reviewing agencies as defined in OAR
28 345-001-0010(52).

29
30 The Department received six comments on the record of the draft proposed order, including
31 comments from members of the public, reviewing agencies, and the certificate holder. All
32 comments were transmitted to Council for its review and consideration.⁹ Additionally, as
33 provided in Attachment B of this proposed order, the Department received comments on the
34 complete RFA and the DPO from the general public, the certificate holder, and specific state,
35 local, and Tribal governments:

⁸ 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).

⁹ 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.

- 1 • Portland General Electric Company (certificate holder)
- 2 • Friends of the Columbia River Gorge, Columbia Riverkeeper, and the Green Institute at
- 3 the Lewis & Clark Law School [FRIENDS] (general public)¹⁰
- 4 • Oregon Department of Aviation¹¹
- 5 • Morrow County Board of Commissioners
- 6 • Oregon State Historic Preservation Office
- 7 • Confederated Tribes of the Umatilla Indian Reservation

8
9 On November 12, 2020, the Department issued the proposed order, addressing comments
10 received on the record of the draft proposed order (see Attachment B-2 of this order for all
11 DPO comments), along with a notice of proposed order issuance. The proposed order notice
12 was distributed to all persons on the Council’s general mailing list, to the special mailing list
13 established for the facility and a current list of property owners supplied by the certificate
14 holder. The proposed order recommended approval of the second amended site certificate.

15
16 At its November 19-20, 2020 meeting, in accordance with OAR 345-027-0372, Council reviewed
17 and adopted, with modifications, the proposed order as the final order and granted a second
18 amended site certificate. Judicial review of the Council’s final order granting an amended site
19 certificate shall be as provided in ORS 469.403.

20
21 **II.E. Applicable Division 27 Rule Requirements**

22
23 A site certificate amendment is necessary under OAR 345-027-0350(4) because the certificate
24 holder requests to design, construct, and operate the facility in a manner different from the
25 description in the site certificate, and the proposed change would impair the certificate holder’s
26 ability to comply with a site certificate condition, and would require new conditions or
27 modification to existing conditions in the site certificate.

¹⁰ 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 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.

¹¹ 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.”¹² 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 **III.A. Standards Potentially Impacted by Request for Amendment 2**
18

19 **III.A.1. General Standard of Review: OAR 345-022-0000**
20

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

24
25 *(a) The facility complies with the requirements of the Oregon Energy Facility Siting*
26 *statutes, ORS 469.300 to ORS 469.570 and 469.590 to 469.619, and the standards*
27 *adopted by the Council pursuant to ORS 469.501 or the overall public benefits of the*
28 *facility outweigh the damage to the resources protected by the standards the facility*
29 *does not meet as described in section (2);*
30

31 *(b) Except as provided in OAR 345-022-0030 for land use compliance and except for*
32 *those statutes and rules for which the decision on compliance has been delegated by*
33 *the federal government to a state agency other than the Council, the facility*
34 *complies with all other Oregon statutes and administrative rules identified in the*
35 *project order, as amended, as applicable to the issuance of a site certificate for the*
36 *proposed facility. If the Council finds that applicable Oregon statutes and rules, other*
37 *than those involving federally delegated programs, would impose conflicting*
38 *requirements, the Council shall resolve the conflict consistent with the public interest.*
39 *In resolving the conflict, the Council cannot waive any applicable state statute.*
40

¹² ORS 469.401(2).

1 *****13

2
3 (4) *In making determinations regarding compliance with statutes, rules and ordinances*
4 *normally administered by other agencies or compliance with requirements of the Council*
5 *statutes if other agencies have special expertise, the Department of Energy shall consult*
6 *with such other agencies during the notice of intent, site certificate application, and site*
7 *certificate amendment processes. Nothing in these rules is intended to interfere with the*
8 *state’s implementation of programs delegated to it by the federal government.*

9
10 **Findings of Fact**

11
12 OAR 345-022-0000 provides the Council’s General Standard of Review and requires the Council
13 to make findings based on the preponderance of evidence on the record. These findings must
14 support the conclusion that the facility, with proposed changes, complies with the
15 requirements of Council statutes, the siting standards adopted by the Council, and all other
16 Oregon Statutes and administrative rules identified in the project order and as applicable to the
17 issuance of an amended site certificate for proposed facility modifications.

18
19 As discussed in Section II.C., *Amendment Review Process*, the Department consulted with other
20 state and local government, including Gilliam and Morrow counties during review of pRFA2 to
21 aid in the evaluation of the proposal against the relevant statutes, rules, and ordinances
22 administered by these agencies. Additionally, the Department relied upon reviewing agencies’
23 special expertise in evaluating the facility’s compliance with the requirements of the Council’s
24 standards. As presented in this order, the Council finds that the existing, new and amended site
25 certificate conditions would ensure that the facility, with proposed changes, would maintain
26 compliance with all applicable statutes, administrative rules, and ordinances under Council
27 jurisdiction.

28
29 *Certificate Expiration [OAR 345-027-0013]*

30
31 A site certificate, or amended site certificate, becomes effective upon execution by the Council
32 Chair and the certificate holder. A site certificate, or amended site certificate, expires if
33 construction has not commenced on or before the construction commencement deadline, as
34 established in the site certificate and statutorily required under ORS 469.401(2).
35

¹³ 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 Included as Attachment 1 of RFA2, the certificate holder provided an amended site certificate
2 with proposed updates to both the Introduction section and Facility descriptions section.
3 Additionally, the certificate holder included requested amendments made to existing
4 conditions¹⁴. One such amendment was made to existing Condition 4.1, which specifies the
5 construction commencement dates for Unit 1 and construction commencement dates of the
6 Carty Solar Farm. The certificate holder requests that Council amend Condition 4.1 to include
7 specific construction commencement dates for the construction related to RFA2. Specifically,
8 and as represented in Attachment 1, the certificate holder requests that Council grant a
9 construction commencement deadline that is within three years after the effective date of the
10 amended site certificate. To remain consistent with the existing format of the First Amended
11 Site Certificate, the certificate holder amended Condition 4.1 to include a third delineation from
12 the condition as roman numeral “iii”. This delineation specifies the requested commencement
13 dates for the construction of proposed RFA2 facility components. The Council amends
14 Condition 4.1 to specify the construction commencement deadline based upon three years
15 following the amended site certificate execution date.

16
17 Existing Condition 4.2, which specifies construction completion dates for Unit 1 and the Carty
18 Solar Facility, was also requested to include specific dates tailored to RFA2 construction
19 completion. As represented in the proposed amended Condition 4.2, the certificate holder
20 requests that the construction completion deadline be within six years of the effective date of
21 the amended site certificate. The Department agrees with the requested timeframe to reach
22 completion, and suggests that the three years for construction commencement and additional
23 three years for completion would be consistent with past Council requirements. As such, the
24 Council amends Conditions 4.1 and 4.2 as follows:¹⁵

- 25
26 **Amended Condition 4.1:**
27 The certificate holder shall:
28 i. Begin construction of Unit 1 within three years after the effective date of the site
29 certificate. Under OAR 345-015-0085(9), a site certificate is effective upon execution by
30 the Council Chair and the applicant. The Council may grant an extension of the deadline
31 to begin construction in accordance with OAR 345-027-0030 or any successor rule in
32 effect at the time the request for extension is submitted.
33 [Final Order III.D.3; Mandatory Condition OAR 345-027-0020(4)]
34 ii. Begin construction of the Carty Solar Farm within three years after the effective date of
35 the amended site certificate, or February 4, 2022. Under OAR 345-015-0085(8), the site
36 certificate is effective upon execution by the Council Chair and the certificate holder.
37 [AMD1]

¹⁴ CGSAMD2 Complete RFA with Attachments 2020-10-02, Section 4.

¹⁵ At the time of the Chair’s signature on this order, November 19, 2020, the site certificate execution date was not finalized. Thus, amended Conditions 4.1 and 4.2 included a date placeholder to be updated upon execution of the second amended site certificate. The Site Certificate was executed on December 9, 2020, which is now reflected in both amended Conditions 4.1 and 4.2.

- 1 iii. Begin construction of facility components authorized by the Final Order on Amendment
2 2 within three years after the effective date of the amended site certificate [December
3 9, 2020]. Under OAR 345-015-0085(8), the site certificate is effective upon execution by
4 the Council Chair and the certificate holder.
5 [AMD2]
6

7 **Amended Condition 4.2:**

8 The certificate holder shall:

- 9 i. Complete construction of Unit 1 of the facility within three years of beginning
10 construction of Unit 1. Construction is complete when: 1) the facility is substantially
11 complete as defined by the certificate holder’s construction contract documents; 2)
12 acceptance testing has been satisfactorily completed; and 3) the energy facility is ready
13 to begin continuous operation consistent with the site certificate. The certificate holder
14 shall promptly notify the Department of the date of completion of construction of Unit
15 1. The Council may grant an extension of the deadline for completing construction in
16 accordance with OAR 345-027-0030 or any successor rule in effect at the time the
17 request for extension is submitted.

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

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

23 [AMD1]

- 24 iii. Complete construction of facility components authorized by the Final Order on
25 Amendment 2 within six years of the effective date of the amended site certificate
26 [December 9, 2020]. The certificate holder shall promptly notify the Department of the
27 date of completion of construction of these supporting facilities.

28 [AMD2]
29

30 *Mandatory and Site-Specific Conditions in Site Certificates [OAR 345-025-0006 and OAR 345-*
31 *025-0010]*
32

33 OAR 345-025-0006 lists certain mandatory conditions that the Council must adopt in every site
34 certificate. The Council’s October 2017 rule changes moved the mandatory conditions from
35 Division 27 to Division 25. As such, the Council imposes new mandatory conditions for the
36 proposed RFA2 facility modifications, using the language and citations consistent with the
37 October 2017 rule change, as presented in draft amended site certificate and provided in
38 Attachment A of this order.

39
40 The Council administratively amends Conditions 2.10, 2.13, 4.4 and 4.6, as presented in
41 Attachment A of this order, to be consistent with the updated mandatory condition OAR
42 chapter and numbering: Based on the administrative nature of the condition amendments, the
43 proposed changes are not presented in this section. The Council finds that the requested

1 condition amendments would not substantively change the intent of the previously imposed
2 conditions and amend the conditions as requested.

3
4 In Attachment A of the RFA2, the certificate holder proposes Condition 4.7. As proposed,
5 Condition 4.7 would mirror the requirements of existing condition 4.4.¹⁶ The only variation
6 between existing Condition 4.4 and proposed Condition 4.7 is when the 90 day timeframe to
7 provide the Department with a legal description of the site begins. Existing Condition 4.4
8 requires the certificate holder to provide a legal description of the site 90 days after beginning
9 operation of the facility, whereas Condition 4.7 would require the legal description be provided
10 90 days after the execution of the second amended site certificate. As described in Section II.A.
11 *Requested Amendment*, RFA2 proposes to both incorporate shared infrastructure and existing
12 facilities (shared by the Boardman Coal Plant and Carty Generating Station); and construct new
13 infrastructure. The Council does not impose Condition 4.7, as the requirements of existing
14 Condition 4.4 would already apply to both the existing infrastructure proposed to be
15 incorporated, and the new infrastructure to be built associated with RFA2. The Department
16 interprets the requirements of Condition 4.4, as they relate to the incorporation of existing
17 infrastructure to begin once the second amended site certificate was executed. Alternatively,
18 the requirements of Condition 4.4, as they relate to the proposed new facility infrastructure,
19 would not start until beginning operation.

20
21 *Construction and Operation Rules for Facilities [OAR Chapter 345, Division 26]*

22
23 The Council has also adopted rules at OAR Chapter 345, Division 26 to ensure that construction,
24 operation, and retirement of facilities are accomplished in a manner consistent with the
25 protection of public health, safety, and welfare and protection of the environment. These rules
26 include requirements for compliance plans, inspections, reporting and notification of incidents.
27 The certificate holder must construct the facility substantially as described in the site certificate
28 and the certificate holder must construct, operate, and retire the facility in accordance with all
29 applicable rules adopted by the Council in OAR Chapter 345, Division 26.

30
31 **Conclusions of Law**

32
33 Based on the foregoing findings of fact and conclusions of law, and subject to compliance with
34 the amended conditions, the Council finds that the facility, with proposed changes, would
35 satisfy the requirements of OAR 345-022-0000.

36
37 **III.A.2. Organizational Expertise: OAR 345-022-0010**

38
39 *(1) To issue a site certificate, the Council must find that the applicant has the*
40 *organizational expertise to construct, operate and retire the proposed facility in*

¹⁶ Condition 4.4 itself mirrors the OAR 345-025-0006(7) Mandatory Condition.

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

10
11 (2) The Council may base its findings under section (1) on a rebuttable presumption that
12 an applicant has organizational, managerial and technical expertise, if the applicant
13 has an ISO 9000 or ISO 14000 certified program and proposes to design, construct
14 and operate the facility according to that program.

15
16 (3) If the applicant does not itself obtain a state or local government permit or approval
17 for which the Council would ordinarily determine compliance but instead relies on a
18 permit or approval issued to a third party, the Council, to issue a site certificate, must
19 find that the third party has, or has a reasonable likelihood of obtaining, the
20 necessary permit or approval, and that the applicant has, or has a reasonable
21 likelihood of entering into, a contractual or other arrangement with the third party
22 for access to the resource or service secured by that permit or approval.

23
24 (4) If the applicant relies on a permit or approval issued to a third party and the third
25 party does not have the necessary permit or approval at the time the Council issues
26 the site certificate, the Council may issue the site certificate subject to the condition
27 that the certificate holder shall not commence construction or operation as
28 appropriate until the third party has obtained the necessary permit or approval and
29 the applicant has a contract or other arrangement for access to the resource or
30 service secured by that permit or approval.

31
32 **Findings of Fact**

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

41
42 *Compliance with Council Standards and Site Certificate Conditions*
43

1 The Council may consider a certificate holder’s past performance, including but not limited to
2 the quantity or severity of any regulatory citations in the construction or operation a facility,
3 type of equipment, or process similar to the facility, in evaluating whether a proposed change
4 may impact the certificate holder’s ability to design, construct and operate a facility in
5 compliance with Council standards and site certificate conditions.¹⁷ To evaluate whether
6 construction and operation of the proposed RFA2 facility modifications would impact the
7 certificate holder’s ability to comply with Council standards and site certificate conditions, the
8 Department evaluates the certificate holder’s relevant experience constructing and operating
9 similar systems and considers whether any regulatory citations have been received for its
10 facilities.

11
12 The certificate holder is an investor owned utility that has been operating in Oregon for 132
13 years. The certificate holder owns and operates multiple generating and non-generating
14 facilities in Oregon, including several energy facilities subject to Council jurisdiction. As
15 mentioned above in Section II.A., *Requested Amendment*, Portland General Electric is also the
16 certificate holder of the Boardman Coal Plant (BCP) which is a 550 MW coal-fueled electric
17 generating power plant that was issued a site certificate in 1975, became operational in 1980,
18 and will cease operations by December 31, 2020.

19
20 In RFA2, the certificate holder explains that they have extensive experience in construction and
21 operation of natural gas and transmission facilities and will provide financial security to ensure
22 appropriate retirement.¹⁸ Furthermore, the existing facility components shared between the
23 Carty facility and BCP are currently operational, and compliant with their respective site
24 certificate conditions.

25
26 The certificate holder’s compliance history at the Carty facility includes two regulatory citations
27 received in the last 8 years, from the Department (Electric ROW outside of the site boundary in
28 2017; and, construction of a new work space without a written evaluation in October 2020).
29 The most recent potential violation was self-reported by the certificate holder within the 72-
30 hour notification period required by existing condition 2.12, and has committed to providing a
31 written report to the Department within 30 days of potential violation.¹⁹²⁰ Based on the resolve
32 of the 2017 citation, compliance with existing site certificate conditions, and the continued
33 operation of five EFSC certified facilities, the Council finds that the most recent regulatory
34 citation (October 2020) should not interfere with Council’s previous findings.

35
36 In the *Final Order on the Application for the Carty Generating Station*, Council found that
37 sufficient evidence had been provided to find that the certificate holder demonstrated
38 sufficient organizational expertise to construct, operate and retire the facility in compliance

¹⁷ OAR 345-021-0010(1)(d)(D).

¹⁸ CGSAMD2 Complete RFA with Attachments 2020-10-02, Section 8.1.

¹⁹ CGSOPS Notification of Potential Violation at Carty 2020-10-16

²⁰ OAR 345-029-0010(3)

1 with the Council standards and the conditions of the site certificate. In the *Final Order on the*
2 *Application*, the Council adopted conditions in Section IV.B.2. (IV.B.2.1 through 2.8) of the site
3 certificate to ensure compliance with the Organizational Expertise standard. The existing
4 Retirement and Financial Assurance conditions (15.1 through 15.7) would also apply to the
5 incorporated infrastructure. The Department’s evaluation of the Retirement and Financial
6 Assurance standard and RFA2 can be found in section *III.G, Retirement and Financial Assurance*
7 of this order.

8
9 The certificate holder requests to administratively amend Condition 2.1 to include Gilliam
10 County, Oregon, as presented in Attachment A of this order. Based on the administrative
11 nature of the condition amendment, the proposed changes are not presented in this section.
12 The Council finds that the requested condition amendments would not substantively change
13 the 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 to be included in the site boundary produce Electric fields (EMF).
19 These two transmissions would operate not exceeding 9-kV per meter at one meter above
20 ground levels. The evaluation of EMF and induced current is presented in Section III.A.12.1,
21 *Siting Standards for Transmission Lines* of this order. Based on the reasoning and analysis
22 provided in the section described, the Council finds that the proposed RFA2 modifications,
23 including the incorporation of the 500 and 230 kV transmission lines would not impact the
24 certificate holder’s ability to design, construct, and operate the facility in a manner that
25 protects public health and safety.

26
27 *Ability to Restore the Site to a Useful, Non-Hazardous Condition*

28
29 The certificate holder’s ability to restore the facility site to a useful, non-hazardous condition is
30 evaluated in *Section III.A.6., Retirement and Financial Assurance* of this order, in which the
31 Council finds that the certificate holder would continue to be able to comply with the
32 Retirement and Financial Assurance standard.

33
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; for third
43 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

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
8 **Conclusions of Law**
9

10 Based on the evidence presented in the RFA, the Council finds that based on compliance with
11 existing site certificate conditions, the certificate holder has the ability to design, construct, and
12 operate the facility, with proposed changes, in compliance with all Council standards and
13 conditions, as required by the Organizational Expertise standard.

14
15 **III.A.3. Structural Standard: OAR 345-022-0020**
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.*

1
2 **Findings of Fact**
3

4 As provided in section (1) above, the Structural Standard generally requires the Council to
5 evaluate whether the applicant (certificate holder) has adequately characterized the potential
6 seismic, geological and soil hazards of the site, and whether the applicant (certificate holder)
7 can design, engineer and construct the facility to avoid dangers to human safety and the
8 environment from these hazards.²¹
9

10 As described in Section II.C. *Amendment Review Process* of this order, consistent with OAR 345-
11 027-0360(3), the Department provided written authorization for the evaluation of impacts from
12 RFA2 to be based on an analysis area of the areas to be disturbed from construction related
13 activities rather than the entirety of area within the amended site boundary.
14

15 In the *Final Order*, the Council found that the design, construction, and operation of the facility
16 would meet the Council’s Structural Standard, subject to the conditions adopted in Section
17 IV.C.2.²² In the *Final Order on Amendment 1*, the Council found that with both the existing and
18 amended site certificate conditions, the certificate holder continued to have the ability to
19 design, construct, and operate the facility, including the proposed Carty Solar Farm, in a
20 manner that would avoid dangers to human safety from non-seismic and seismic hazards
21 identified at the site.
22

23 In addition, while the last Council decision on the Carty Generating Station site certificate
24 amended the rule citations of previously imposed mandatory and site-specific conditions due to
25 the Council’s October 2017 rule change, changes to the language of applicable conditions were
26 not amended. Based on the October 2017 rule changes, the Council administratively amends
27 Conditions 6.7, 6.10, and 6.11 as follows to be consistent with the mandatory condition
28 language:
29

30 **Amended Condition 6.7:** The certificate holder ~~shall~~must design, engineer and construct
31 the facility to avoid dangers to human safety and the environment presented by seismic
32 hazards affecting the site that are expected to result from all maximum probable seismic
33 events. As used in this rule “Seismic seismic hazard” includes ground shaking, ground failure,
34 landslide, liquefaction, triggering and consequences (including flow failure, settlement
35 buoyancy, and lateral spreading), cyclic softening of clays and silts, fault rupture, directivity
36 effects and soil-structure interaction. For coastal sites, this also includes tsunami
37 inundation hazards, and seismically-induced coastal fault displacement and subsidence.

²¹ 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.

²² 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 [Final Order IV.C.2.5] [Mandatory Condition OAR 345-~~027025-0020~~0006(12)][AMD2]

2
3 **Amended Condition 6.10:** The certificate holder must notify the Department, the State
4 Building Codes Division and the Department of Geology and Mineral Industries promptly if
5 site investigations or trenching reveal that conditions in the foundation rocks differ
6 significantly from those described in the application for a site certificate or requests for
7 amendment. After the Department receives the notice, the Council may require the
8 certificate holder to consult with the DOGAMI and the Building Codes Division ~~and~~ to
9 propose and implement corrective or mitigation actions.

10 [Final Order IV.C.2.2] [Mandatory Condition OAR 345-~~027025-0020~~0006(13)] [AMD1]
11 [AMD2]

12
13 **Amended Condition 6.11:**

14 The certificate holder must notify the Department, the State Building Codes Division and
15 the Department of Geology and Mineral Industries promptly if shear zones, artesian
16 aquifers, deformations or clastic dikes are found at or in the vicinity of the site. After the
17 Department receives notice, the Council may require the certificate holder to consult with
18 the Department of Geology and Mineral Industries and the Building Codes Division to
19 propose and implement corrective or mitigation actions.

20 [Final Order IV.C.2.3] [Mandatory Condition OAR 345-~~027025-0020~~0006(14)][AMD2]

21
22 *Potential Seismic, Geological and Soil Hazards*

23
24 In RFA2, in response to comments received from the Department of Geology and Mineral
25 Industries (DOGAMI) requesting that the certificate holder utilize the latest building codes, and
26 also conduct site specific Geotechnical work that involves borings, the certificate holder clarifies
27 that as proposed, the new related or supporting facility components of RFA2 are sited in areas
28 that were previously characterized for potential geological and soil hazards.²³ Additionally, the
29 certificate holder explains that the geotechnical investigations conducted as part of the 2011
30 ASC and also those provided in RFA1, along with the pre-construction geotechnical evaluation
31 performed at Carty in 2013 (Terracon Consultants, Inc. 2013) per Condition 5.4, will be used
32 and therefore no additional geotechnical investigations will be needed. As such, the certificate
33 holder requests that Council amend Condition 5.4(a) to specify that the exploratory borings
34 would not be required for the new construction of facility components associated with RFA2,
35 presented below:

36
37 **Amended Condition 5.4:** Before beginning construction of Unit 1 and Carty Solar Farm, the
38 certificate holder must:

- 39 i. Complete an investigation of subsurface soil and geologic conditions to identify
40 geological or geotechnical hazards per Condition 5.4.a and obtain Department

²³ CGSAMD2 Reviewing Agency Comment DOGAMI_Wang 2020-04-15.

1 approval of the investigation report per Condition 5.4.b. The investigation must
2 include at least the following activities...

3 [Final Order IV.C.2.1]

4 ii. Complete an investigation...

5 [AMD1] [AMD2]

6

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

16

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

19

20 In RFA2, the certificate holder confirmed that the new facility components proposed to be
21 constructed would occur in areas that were previously characterized in both the ASC and RFA1
22 for potential geologic and soil hazards.²⁴ Furthermore, the certificate holder cites site certificate
23 conditions 5.4, 6.6, 6.7, 6.8, 6.10, and 6.11 and continued compliance with each condition
24 respectively as a means to ensure that RFA2 would continue to comply with the standard.
25 However, as represented in Attachment 1 of RFA2, the certificate holder proposes a
26 modification to Condition 5.4, to clarify when exploratory borings would be required. During
27 the completeness review of RFA2, the Department of Geology and Mineral industries (DOGAMI)
28 provided comments indicating that “the applicant needs to utilize the latest building codes [for
29 the construction of the new proposed components, and that]... the applicant needs to conduct
30 site specific [Geotechnical] work that involves borings”.²⁵ The certificate holder explains in RFA2
31 that the geotechnical investigations associated with potential geological and soil hazard
32 assessments characterized in the 2011 ASC and RFA1, along with the pre-construction
33 geotechnical evaluation performed at Carty in 2013 (Terracon Consultants, Inc. 2013), will be
34 used and therefore no additional geotechnical investigations will be needed.

35

36 Additionally, the new security guard station, and office/warehouse building are considered
37 “light structures,” and therefore would not require a geotechnical investigation. Lastly, the new
38 septic system, water pipeline, and wastewater pipeline would not require a geotechnical

²⁴ CGSAMD2 Complete RFA with Attachments 2020-10-02, Section 8.2.

²⁵ CGSAMD2 Reviewing Agency Comment DOGAMI_Wang 2020-04-15.

1 investigation, and percolation test have already been performed satisfactorily for the septic
2 system.

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 would also be located over 200 miles from the Cascadia Subduction Zone, within the
8 light damage zone as defined in the Oregon Resiliency Plan (2013). As such, the certificate
9 holder concludes that the new related or supporting facilities would inherently be resilient to
10 region-wide seismic disaster, per their proposed location. Furthermore, the RFA indicates that
11 local seismic resiliency will be addressed by adhering to current seismic building codes, when
12 building codes are applicable to the new construction. Lastly, the certificate holder explains
13 that the construction of the Carty substation will ensure CGS continues to have a backup power
14 supply, which directly helps maintain the resiliency of CGS as a whole.²⁶

15
16 **Conclusions of Law**

17
18 Based on the foregoing analysis, subject to compliance with existing and amended conditions,
19 and in compliance with OAR 345-022-0020(2), the Council finds that the certificate holder
20 would satisfy the requirements of the Council’s Structural Standard.

21
22 **III.A.4. Soil Protection: OAR 345-022-0022**

23
24 *To issue a site certificate, the Council must find that the design, construction and*
25 *operation of the facility, taking into account mitigation, are not likely to result in a*
26 *significant adverse impact to soils including, but not limited to, erosion and chemical*
27 *factors such as salt deposition from cooling towers, land application of liquid effluent,*
28 *and chemical spills.*

29
30 **Findings of Fact**

31
32 The Soil Protection standard requires the Council to find that taking into account mitigation, the
33 design, construction, and operation of the facility, with proposed changes, are not likely to
34 result in significant adverse impacts to soil.

35
36 As described in Section II.C. *Amendment Review Process* of this order, consistent with OAR 345-
37 027-0360(3), the Department provided written authorization for the evaluation of impacts from
38 RFA2 to be based on an analysis area extending from the areas to be disturbed from
39 construction related activities rather than the entirety of area within the amended site
40 boundary.

41

²⁶ CGSAMD2 Complete RFA with Attachments 2020-10-02, Section 8.2.

1 In the *Final Order*, the Council found that the design, construction, and operation of the facility
2 would not result in a significant adverse impact to soils. The Council adopted conditions in
3 Section IV.D.2. of the site certificate to ensure compliance with the Soil Protection standard.²⁷
4 These conditions would continue to apply to the construction and operation of the proposed
5 RFA2 facility components, including the 1200-C National Pollutant Discharge Elimination
6 System (NPDES) permit based on DEQ’s evaluation of potential discharge from the facility site
7 to jurisdictional waters.²⁸

8
9 *Potential Significant Adverse Impacts to Soils*

10
11 In RFA2, the certificate holder explains that potential adverse impacts to soils from construction
12 of RFA2 facility components would be similar to those evaluated in the 2011 ASC and RFA1 such
13 as impacts caused by wind or water erosion; potential oil or other spills from stationary or
14 power-driven equipment; soil compaction; and, possibly, construction debris and other
15 construction pollutants. Existing conditions 5.9 and 9.1 through 9.7 impose measures to control
16 soil erosion and sediment runoff during construction, and the revegetation and monitoring of
17 disturbed sites post-construction.

18
19 In Request for Amendment 1, Council deleted Condition 9.8 from the site certificate. Condition
20 9.8 requires the certificate holder to remove and then dispose of all accumulated evaporation
21 pond solids, at a landfill approved for such waste material. All residual solids deposited in the
22 evaporation ponds must be removed to an appropriate disposal facility upon closure of the
23 facility. This condition was removed from the site certificate because the certificate holder no
24 longer maintained the ability to construct and operate Unit 2, Unit 2 associated components, or
25 the previously approved but not yet constructed related and supporting facilities. In request for
26 Amendment 2, the two existing BCP evaporation ponds are proposed to be incorporated into
27 the CGS Site Certificate. The certificate holder proposes that the evaporation ponds would be
28 operated in compliance with Condition 9.8, as previously imposed in the Final Order, but
29 removed in the Final Order on Amendment 1. The Council reapplies Condition 9.8 to the Site
30 Certificate, as originally imposed.

31
32 **Conclusions of Law**

33
34 Based on the foregoing findings of fact and conclusions of law, and subject to compliance with
35 existing and amended site certificate conditions, the Council finds that the certificate holder
36 would continue to comply with the Councils Soil Protection standard.

37

²⁷ 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.

²⁸ CGSAMD2 DPO Comments (ODEQ) Clarification 2020-11-05.

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

2
3 *(1) To issue a site certificate, the Council must find that the proposed facility complies with*
4 *the statewide planning goals adopted by the Land Conservation and Development*
5 *Commission.*

6
7 *(2) The Council shall find that a proposed facility complies with section (1) if:*

8 *****

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

11
12 *(A) The proposed facility complies with applicable substantive criteria as described in*
13 *section (3) and the facility complies with any Land Conservation and Development*
14 *Commission administrative rules and goals and any land use statutes directly*
15 *applicable to the facility under ORS 197.646(3);*

16
17 *(B) For a proposed facility that does not comply with one or more of the applicable*
18 *substantive criteria as described in section (3), the facility otherwise complies with*
19 *the statewide planning goals or an exception to any applicable statewide planning*
20 *goal is justified under section (4); or*

21
22 *(C) For a proposed facility that the Council decides, under sections (3) or (6), to*
23 *evaluate against the statewide planning goals, the proposed facility complies with*
24 *the applicable statewide planning goals or that an exception to any applicable*
25 *statewide planning goal is justified under section (4).*

26
27 *(3) As used in this rule, the “applicable substantive criteria” are criteria from the affected*
28 *local government’s acknowledged comprehensive plan and land use ordinances that are*
29 *required by the statewide planning goals and that are in effect on the date the applicant*
30 *submits the application. If the special advisory group recommends applicable*
31 *substantive criteria, as described under OAR 345-021-0050, the Council shall apply them.*
32 *If the special advisory group does not recommend applicable substantive criteria, the*
33 *Council shall decide either to make its own determination of the applicable substantive*
34 *criteria and apply them or to evaluate the proposed facility against the statewide*
35 *planning goals.*

36
37 *(4) The Council may find goal compliance for a proposed facility that does not otherwise*
38 *comply with one or more statewide planning goals by taking an exception to the*
39 *applicable goal. Notwithstanding the requirements of ORS 197.732, the statewide*
40 *planning goal pertaining to the exception process or any rules of the Land Conservation*
41 *and Development Commission pertaining to the exception process, the Council may take*
42 *an exception to a goal if the Council finds:*

- 1 (a) *The land subject to the exception is physically developed to the extent that the land is*
2 *no longer available for uses allowed by the applicable goal;*
3 (b) *The land subject to the exception is irrevocably committed as described by the rules*
4 *of the Land Conservation and Development Commission to uses not allowed by the*
5 *applicable goal because existing adjacent uses and other relevant factors make uses*
6 *allowed by the applicable goal impracticable; or*
7 (c) *The following standards are met:*
8
9 (A) *Reasons justify why the state policy embodied in the applicable goal should not*
10 *apply;*
11 (B) *The significant environmental, economic, social and energy consequences*
12 *anticipated as a result of the proposed facility have been identified and adverse*
13 *impacts will be mitigated in accordance with rules of the Council applicable to*
14 *the siting of the proposed facility; and*
15 (C) *The proposed facility is compatible with other adjacent uses or will be made*
16 *compatible through measures designed to reduce adverse impacts.*

17 ***

18 **Findings of Fact**

19 The Council must apply the Land Use standard in conformance with the requirements of ORS
20 469.504. Under ORS 469.504(1)(b)(A), the Council may find compliance with statewide planning
21 goals if the Council finds that the amendment request “complies with applicable substantive
22 criteria from the affected local government’s acknowledged comprehensive plan and land use
23 regulations that are required by the statewide planning goals and in effect on the date the
24 application is submitted” (the initial amendment request was received on August 29, 2016).

25
26 As described in Section II.C. *Amendment Review Process* of this order, consistent with OAR 345-
27 027-0360(3), the Department provided written authorization for the evaluation of impacts from
28 RFA2 to be based on an analysis area extending from the areas to be disturbed from
29 construction related activities rather than the entirety of area within the amended site
30 boundary.

31
32 Previously approved and existing facility components of the Boardman Coal Plant, proposed to
33 be incorporated into the Carty Generating Station site certificate have already been approved
34 and constructed in accordance with the BCP Site Certificate; an evaluation of applicable
35 substantive criteria has therefore not been included in this order.

36
37 **Local Applicable Substantive Criteria**

38
39 Under OAR 345-022-0030(2), the Council must apply the applicable substantive criteria
40 recommended by the Special Advisory Group (SAG). On November 19, 2009, the Council
41 appointed the Gilliam County Board of Commissioners and Morrow County Board of
42 Commissioners as the Special Advisory Group (SAG) for the facility. In its consideration of a site
43 certificate amendment request, the Council applies the “applicable substantive criteria,” as

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

7
 8 The applicable substantive criteria for proposed RFA2 facility components are presented in
 9 Table 1, Morrow County Applicable Substantive Criteria below. As described above, while the
 10 facility, as approved, would be located within Gilliam and Morrow County, proposed RFA2
 11 facility components would be located entirely within Morrow County. Therefore, for this
 12 amendment request, substantive criteria from Gilliam County Development Code and
 13 Comprehensive Plan do not apply.

Table 1: Morrow County Applicable Substantive Criteria

Morrow County Zoning Ordinance (MCZO)	
<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
Morrow County Comprehensive Plan	
Agricultural Policy 1 and 4	
Energy Policies 3 and 9	
Economic Element Policy 2A, 3A, 5A and 6C	

15
 16 As presented in the following section, the Council finds that the certificate holder demonstrates
 17 that the components of the amendment request would comply with all of the applicable
 18 substantive criteria in Morrow County.

19
 20 III.A.5.1 Morrow County Zoning Ordinance (MCZO)

²⁹ CGSAMD2 Special Advisory Group Comment Morrow County_Wrecsics 2020-04-10.

1
2 Facility modifications proposed in RFA2 include the Carty Substation and associated distribution
3 lines, septic system, water pipeline, wastewater pipeline, security guard station, and
4 office/warehouse building. These facilities would be constructed as part of the existing facility
5 and therefore are considered an “accessory use or accessory structure” to a “commercial utility
6 facilities for the purpose of generating power for public use by sale..”. The septic system and a
7 portion of the wastewater pipeline are within Morrow County’s Exclusive Farm Use (EFU) zone.
8 The Carty Substation and associated distribution lines, security guard station, and portion of the
9 wastewater pipeline connecting CGS to the evaporation ponds are within the General Industrial
10 (MG) zone. The office/warehouse building will likely be within the EFU zone, although
11 depending on final design it could partially be within the MG zone; therefore, applicable
12 ordinances for both the EFU and MG zone are evaluated for the office/warehouse building.³⁰
13

14 The following analysis addresses the applicable substantive criteria identified in the MCZO.
15

16 MCZO Section 1.050 Introductory Provisions, Zoning Permit
17

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

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

33 The construction and operation of the components proposed in the amendment request
34 would alter or change the existing land use by more than 100 square feet. Therefore, the
35 certificate holder would be required to obtain a zoning permit, which would be subject to
36 administrative review under the provisions of MCZO Article 4.165. As described below,
37 existing Condition 4.6 requires that the certificate holder obtain all necessary local permits,
38 including the zoning permit; this condition would apply to the proposed facility components of
39 RFA2. Moreover, the Department presents its evaluation of the certificate holder’s MCZO
40 Section 4.165 compliance assessment below. Based upon compliance with existing Condition

³⁰ CGSAMD2 Complete RFA with Attachments 2020-10-02, Section 8.4.

1 4.6 and consistency with MCZO Section 4.165 provisions, the Council finds that the
2 components proposed in the amendment request would satisfy the MCZO Section 1.050
3 provision.

4
5 MCZO Section 3.010 Exclusive Farm Use, EFU Zone

6
7 *MCZO 3.010(B) Uses Permitted Outright*

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

10
11 *22. Commercial utility facilities for the purpose of generating power for public*
12 *use by sale, not including wind power generation facilities or photovoltaic solar*
13 *power generation facilities subject to Subsection K.*

14
15 The Carty Generating Station is a commercial utility facility for the purpose of generating power
16 for public use by sale. Therefore, the requirement under MCZO Section 3.010(M) and (N) apply.

17
18 *MCZO Section 3.010(M) Yards. In an EFU Zone, the minimum yard setback requirements*
19 *shall be as follows:*

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

34
35 The EFU Yard Setback Requirements under MCZO Section 3.010(M)(1-3) apply to “open spaces
36 on a lot” (i.e., “yards”) and establish minimum setback distances from the front, side and rear
37 yards to road rights-of-way and intensive agricultural use. The EFU Yard Setback Requirements
38 under MCZO Section 3.010(M)(4) apply to sewage disposal installation and establish minimum
39 setback distances from streams and lakes. Council previously imposed Condition 6.22(b), which
40 mirrors the requirements of MCZO Section 3.010(M)(1-4). The certificate holder affirms that
41 the proposed RFA2 facility modifications would be designed to satisfy the setback requirements
42 established in Condition 6.22(b). Based upon compliance with Condition 6.22(b), the Council
43 finds that the facility, with proposed changes, would satisfy the provisions of MCZO Section
44 3.010(M).

1
2 *MCZO Section 3.010(N) Transportation Impacts*

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

11
12 The EFU Transportation Impact Analysis (TIA) under MCZO Section 3.010(N) applies to projects
13 that would generate more than 400 passenger equivalent trips per day. Based on the estimated
14 peak daily vehicle and truck trip generation during construction, less than 400 passenger car
15 equivalents per day are expected and therefore a TIA is not required to satisfy the
16 requirements of Section 3.010(N).

17
18 Potential traffic-related impacts on surrounding roadways would be limited to Tower Road.
19 Council previously imposed Condition 6.17 under the Public Services standard requiring
20 implementation of traffic control measures during construction. The Council finds that
21 compliance with existing Condition 6.17 would minimize construction traffic related impacts.

22
23 Long-term operational traffic would generate approximately less than 10 passenger car or
24 pickup truck trips per day, with infrequent heavy vehicle trips and would not trigger the
25 requirements of Section 3.010(N). Based on estimated operational traffic, the Council concludes
26 that the certificate holder is not required to satisfy the requirements of Section 3.010(N).

27
28 MCZO Section 3.070 General Industrial, MG

29
30 Facility components to be located within General Industrial (MG) zoned land include the Carty
31 Substation and associated distribution lines, water pipelines, portion of the wastewater
32 pipeline, security guard station, and office/warehouse building (if constructed within the MG
33 zone). Therefore, the applicable code provisions within MG-zoned land are evaluated below.

34
35 *The General Industrial Zone is intended to provide, protect and recognize areas well*
36 *suited for medium and heavy industrial development and uses free from conflict with*
37 *commercial, residential and other incompatible land uses. This district is intended to*
38 *be applied generally only to those areas which have available excellent highway, rail*
39 *or other transportation.*

40
41 MCZO Section 3.070 does not include a commercial utility facility for purpose of generating
42 power for public use by sale as a use permitted outright or a conditional use. Pursuant to OAR
43 345-022-0030(1), if the proposed RFA2 facility components do not comply with local land use
44 regulations, the Council must determine whether the establishment of proposed facility

1 components in the MG zone complies with statewide planning goals. This evaluation is
2 addressed below.

3
4 MCZO Section 3.070(D) Dimension Requirements

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

- 7
- 8 1. *Lot size and frontage: A minimum lot size has not been determined for this zone*
9 *although the lot must be of a size necessary to accommodate the proposed use,*
10 *however, it is anticipated that most, if not all uses will be sited on lots of at least*
11 *two acres. The determination of lot size will be driven by the carrying capacity of*
12 *the land given the proposed use. Minimum lot frontage shall be 300 feet on an*
13 *arterial or collector; 200 feet on a local street.*
 - 14
 - 15 2. *Setbacks: No specific side or rear yard setbacks are identified within this zone,*
16 *but may be dictated by provisions of the Building Code or other siting*
17 *requirements. The minimum setback between a structure and the right-of-way of*
18 *an arterial shall be 50 feet. The minimum setback of a structure from the right-of-*
19 *way of a collector shall be 30 feet, and from all lower class streets the minimum*
20 *setback shall be 20 feet. There shall be no setback requirement where a property*
21 *abuts a railroad siding or spur if the siding or spur will be utilized by the*
22 *permitted use.*
 - 23
 - 24 3. *Stream Setback: All sewage disposal installations such as outhouses, septic tank*
25 *and drainfield systems shall be set back from the high-water line or mark along*
26 *all streams and lakes a minimum of 100 feet, measured at right angles to the*
27 *high-water line or mark. All structures, buildings, or similar permanent fixtures*
28 *shall be set back from the high-water line or mark along all streams or lakes a*
29 *minimum of 10 feet measured at right angles to the high-water line or mark.*
 - 30
 - 31 4. *Uses adjacent to residential uses. A sight-obscuring fence shall be installed to*
32 *buffer uses permitted in the General Commercial Zone from residential uses.*
33 *Additional landscaping or buffering such as diking, screening, landscaping or an*
34 *evergreen hedge may be required as deemed necessary to preserve the values of*
35 *nearby properties or to protect the aesthetic character of the neighborhood or*
36 *vicinity.*
 - 37

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

41
42 MCZO Section 3.070(D)(1) requires the lot used by facility components within MG-zoned land
43 to be adequate to accommodate the proposed use and include minimum lot frontage of 300
44 feet from arterial or collector roads and 200 feet from local streets. The certificate holder

1 asserts that the area within MG-zoned land to be utilized for siting of proposed facility
2 components are adequate in size for the proposed use. The certificate holder also confirms
3 that the frontage distance from the nearest road is 5,000 feet, which satisfies the minimum
4 frontage requirements. Therefore, the Council finds that the proposed components within
5 MG-zoned land would satisfy the MCZO Section 3.070(D)(1) provision.

6
7 MCZO Section 3.070(D)(2) and (3) require proposed uses within MG-zoned land to comply
8 with setback distances from proposed structures to arterial road rights-of-way; and, to
9 streams and lakes when the proposed use includes a sewage disposal installation. The
10 certificate holder describes that, in MG-zoned land, Tower Road terminates at BCP and is
11 classified as a private roadway for approximately 2.27 miles; because the proposed structures
12 would be located along a private road, the provisions do not apply. The certificate holder
13 confirms that proposed structures would be located greater than 10 feet from the high-water
14 line or mark along all streams and lakes. Therefore, the Council finds that the proposed
15 components within MG-zoned land would satisfy the provisions of MCZO Section 3.070(D)(2)
16 and MCZO Section 3.070(D)(3).

17
18 MCZO Section 3.070(D)(4) requires installation of a sight-obscuring fence when a proposed
19 use would be adjacent to residences. The certificate holder affirms that there are no
20 residential uses within proximity of the site. Therefore, the Council finds MCZO Section
21 3.070(D)(4) does not apply.

22
23 *MCZO Section 3.070(E) Transportation Impacts*

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

33
34 The MG Transportation Impact Analysis (TIA) under MCZO Section 3.070(E) applies to projects
35 that would generate more than 400 passenger equivalent trips per day, mirroring the
36 requirements of MCZO Section 3.010(N). Based on the estimated peak daily vehicle and truck
37 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).³¹
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 Council concludes that the
9 certificate holder is not required to satisfy the requirements of Section 3.070(E).

10
11 MCZO Section 4.165 Site Plan Review

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

16
17 *A. Purpose. The purpose of Site Plan Review (ministerial review) is based on clear*
18 *and objective standards and ensures compliance with the basic development*
19 *standards of the land use district, such as building setbacks, lot coverage,*
20 *maximum building height, and similar provisions. Site Plan review also addresses*
21 *conformity to floodplain regulations, consistency with the Transportation System*
22 *Plan, and other standards identified below.*

23
24 *C. Applicability. Site Plan Review shall be required for all land use actions requiring*
25 *a Zoning Permit as defined in Section 1.050 of this Ordinance. The approval shall*
26 *lapse, and a new application shall be required, if a building permit has not been*
27 *issued within one year of Site Review approval, or if development of the site is in*
28 *violation of the approved plan or other applicable codes.*

29
30 The Site Plan Review is the county’s ministerial review conducted prior to issuance of a zoning
31 permit, defined under MCZO Section 1.050 as "an authorization issued prior to a building
32 permit, or commencement of a use subject to administrative review, stating that the proposed
33 use is in accordance with the requirements of the corresponding land use zone." As required
34 by Condition 4.6, previously imposed by Council, the certificate holder is required to secure

³¹ 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.^{32,33}

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

³² 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.

³³ 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 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 *Agricultural Lands Element*

37
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 Council finds that the proposed
15 RFA2 facility modifications would be consistent with Agricultural Policy 4 by meeting the criteria
16 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 Council finds that the proposed
35 RFA2 facility components would satisfy the requirements under ORS 215.296(1).

36
37 **OAR 660-033-130(5)**

38
39 The criteria of OAR 660-033-130(5) are identical to ORS 215.296(1) and are addressed above.

40
41 ***Statewide Planning Goal 3—Agricultural Lands***

42
43 As discussed in the sections above, the proposed isolation and separation of infrastructure
44 currently shared by CGS and BCP and the construction and operation of the Carty Substation

1 and associated distribution lines, septic system, water pipeline, and office/warehouse building
2 described in this RFA2 will not alter the Council’s basis for its previous findings that an
3 exception to the statewide planning goal for construction of the Carty Solar Farm is justified.
4 These proposed changes do not require an exception to the goal; therefore, the Facility will
5 continue to comply with the standard if the Council approves the proposed RFA2.
6

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

8
9 *Air Quality*

10
11 The proposed isolation and separation of infrastructure currently shared by CGS and BCP and
12 the construction and operation of the Carty Substation and distribution lines, septic system,
13 water pipeline, wastewater pipeline, security guard station, and office/warehouse building
14 described in this RFA2 will not alter the Council’s basis for its previous findings that the Facility
15 complies with this standard, and the Facility will continue to comply with the standard if the
16 Council approves the proposed RFA2.
17

18 *Water Quality*

19
20 The proposed isolation and separation of infrastructure currently shared by CGS and BCP and
21 the construction and operation of the Carty Substation and associated distribution lines, septic
22 system, water pipeline, wastewater pipeline, security guard station, and office/warehouse
23 building described in this RFA2 will not alter the quantity of water usage for CGS. Discharges to
24 Carty Reservoir will also remain the same. Sanitary sewer waste from CGS will be managed by
25 the existing BCP sewage lagoons until the new septic system is constructed, at which time
26 sanitary waste from both CGS and the remaining administrative buildings after BCP ceases
27 operations will be managed by the septic system. The existing sewage lagoons are covered
28 under WPCF permit number 100189 issued by DEQ. PGE would continue to satisfy the
29 conditions of the permit to ensure that waste and process discharges do not exceed the
30 carrying capacity, degrade, or threaten the availability of water resources. Umatilla County
31 Public Health will issue a Construction Permit for On-site Sewage Treatment System for
32 construction and operation of the new septic system. On January 10, 2020, the Umatilla County
33 Public Health Department performed a site evaluation and determined the site to be
34 acceptable for a standard, non-residential septic system. The system will be sited with enough
35 distance from groundwater and surface waters to prevent pollution to water resources and will
36 be consistent with Goal 6.
37

38 *Land Resources*

39
40 Potential impacts to land resources are addressed above under the discussion of Statewide
41 Planning Goal 3.
42

43 The Site Certificate for CGS issued in 2012 included seven site certificate conditions for land
44 use to ensure consistency with the land use standard. The Site Certificate on Amendment 1 for

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

12
13 **Conclusions of Law**

14 Based on the foregoing findings and the evidence in the record, and subject to the existing
15 conditions, the Council finds that the facility, with proposed modifications, complies with the
16 Council’s Land Use standard.

17
18 **III.A.6. Retirement and Financial Assurance: OAR 345-022-0050**

19
20 *To issue a site certificate, the Council must find that:*

21
22 *(1) The site, taking into account mitigation, can be restored adequately to a useful, non-*
23 *hazardous condition following permanent cessation of construction or operation of*
24 *the facility.*

25 *(2) The applicant has a reasonable likelihood of obtaining a bond or letter of credit in a*
26 *form and amount satisfactory to the Council to restore the site to a useful, non-*
27 *hazardous condition.*

28
29 **Findings of Fact**

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

36
37 *Restoration of the Site Following Cessation of Construction or Operation*
38

³⁴ OAR 345-022-0050(1).

1 OAR 345-022-0050(1) requires the Council to find that the site of the facility, with proposed
2 changes, can be restored to a useful non-hazardous condition at the end of the facility's useful
3 life, or if construction of the facility were to be halted prior to completion.
4

5 In RFA2, the certificate holder describes the methods and assumptions necessary to restore the
6 site of proposed RFA2 facility components to a useful, nonhazardous condition. Summarized
7 below are the methods and assumptions associated with decommissioning specific RFA2 facility
8 components:
9

10 Carty Reservoir and intake structure³⁵

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

25
26 Discharge Structure and Channel

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

33
34 Sanitary Sewer Lagoons

- 35 • Stabilization of lagoon solids (6-inch layer of will require stabilization with fly ash or lime
36 prior to disposal)
- 37 • Excavation of solids, liner, and underlying soils (1-foot thick layer will require excavation
38 and disposal)
- 39 • Disposal of soils, liner and underlying soils (1.2 tons/CY for transport/disposal at
40 Columbia Ridge Landfill (35 miles one way))

³⁵ CGSAMD2 Complete RFA with Attachments 2020-10-02, Attachment 4.

- 1 • Fine grading of entire area of berms and lagoon area
- 2 • Fill (10 foot thickness) and grade 10 acre percolation pond
- 3 • Seed and mulch disturbed area

4

5 Evaporation Ponds and Wastewater Line

- 6 • 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
- 7 • Fine regrading evaporation ponds and berms
- 8 • Decommissioning (including grouting) of wastewater line

9

10

11 Other structures

- 12 • Removal of office and warehouse building, including excavation and disposal
- 13 • Removal of Carty substation, including distributor lines to raw water intake building
- 14 • 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
- 15 • Removal of existing (and buried) 34.5 kV transmission line leading from the irrigation pump
- 16 • Remove 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
- 17 • Removal of 300,000-gallon carbon steel potable/fire water tank
- 18 • 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
- 19 • Pump out and dispose sewer system (includes 3,000 gallon septic tank and 2,374 Linear feet of sewer lines)
- 20 • Removal and disposal of 3,000 gallon septic tank, backfilling and compacting with clean soil
- 21 • Backfilling and compacting large manholes and medium distribution drop boxes with clean soil
- 22 • Excavation of sewer lines and disposal of PVC
- 23 • Separate and dispose of filter fabric
- 24 • Load and dispose of trench fill drain media/gravel, and replace with gravel and clean fill
- 25 • Seed and mulch disturbed area
- 26 • Remove and dispose electrical equipment (including transformer, conduit and cable, sensor, and controller)

27

28

29

30

31

32

33

34

35

36

37

38

39 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.

40

41 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

42 Assurance standard as summarized below:

43

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

30

31 *Estimated cost of Site Restoration*

32

33 OAR 345-022-0050(2) requires the Council to find that the certificate holder continues to have a

34 reasonable likelihood of obtaining a bond or letter of credit in a form and amount necessary to

35 restore the site of the facility, with proposed RFA2 facility components, to a useful non-

36 hazardous condition.

Table 2: 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
Draining of reservoir	308	\$5,000	Days	\$1,540,000

Table 2: RFA2 Decommissioning and Site Restoration Cost Estimate

Restoration Task or Activity	Quantity	Unit Cost	Unit	Estimate
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>				<i>\$5,310,944</i>
Discharge Structure and Channel				
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>
Sanitary Sewer Lagoons				
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

Table 2: RFA2 Decommissioning and Site Restoration Cost Estimate

Restoration Task or Activity	Quantity	Unit Cost	Unit	Estimate
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>				<i>\$2,543,617</i>
Evaporation Ponds and Wastewater Line				
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>
Other Structures				
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

Table 2: RFA2 Decommissioning and Site Restoration Cost Estimate

Restoration Task or Activity	Quantity	Unit Cost	Unit	Estimate
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
<i>Subtotal =</i>				\$583,902
General Costs				

Table 2: RFA2 Decommissioning and Site Restoration Cost Estimate

Restoration Task or Activity	Quantity	Unit Cost	Unit	Estimate
Overhead, Profit, Insurance	1	\$1,902,134.56		\$1,902,134.56
<i>Subtotal =</i>				\$1,902,134.56
<i>RFA2 Decommissioning Subtotal =</i>				\$11,387,198
Applied Contingencies				
Performance Bond ¹		1	Percent	\$113,871.98
Administrative and Project Management ²		10 ³⁶	Percent	\$1,138,719.80
Future Development Contingency ³		10	Percent	\$1,138,719.80
ODOE Contingency Subtotal =				\$2,391,311.58
Total RFA2 Decommissioning Cost Estimate, Adjusted with ODOE Contingencies (4 th Qtr 2020 Dollars) =				\$13,778,509.58
<p>*Notes: The Council applied additional contingencies, consistent with those applied to the approved facility, as follows:</p> <ol style="list-style-type: none"> 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. 10% for the Department's administrative and management expenses. 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. 				

1
2 As presented in Table 4, *Proposed RFA2 Decommissioning and Site Restoration Cost Estimate*,
3 the Council added contingency costs for future development, administration and project
4 management cost, and cost for maintaining a performance bond. The 10 percent future
5 development contingency accounts for uncertainty in the decommissioning estimate. If site
6 restoration becomes necessary, it might be many years in the future where there is uncertainty
7 of continued adequacy of the retirement cost estimate. Uncertainty factors include different
8 environmental standards or other legal requirements; and, changes in cost of labor and
9 equipment that increase at a rate exceeding the standard inflation adjustment. The 10 percent
10 contingency for administrative and management expenses are the anticipated direct costs
11 borne by the State in the course of managing site restoration and would include the
12 preparation and approval of a final retirement plan, obtaining legal permission to proceed with
13 demolition of the facility, legal expenses for protecting the State's interest, preparing
14 specification bid documents and contracts for demolition work, managing the bidding process,
15 negotiations of contracts, and other tasks. Based on the adjustments from contingencies, the
16 Council finds that \$13.779 million (Q4 2020 dollars) is a reasonable estimate of an amount

³⁶ 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 recommended that Council maintain a 10 percent Administrative and Project Management contingency for RFA2.

1 satisfactory to restore the site to a useful, nonhazardous condition. The Council amends
2 Condition 15.1 as follows:

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

- 17
18 a. The certificate holder may adjust the amount of the bond or letter of credit based on
19 the final design configuration of the facility and turbine types selected by applying the
20 unit costs and general costs presented in Site Restoration Cost Estimate of the Final
21 Order on ASC for Unit 1; Table 4 of the Final Order on RFA1 for Carty Solar Farm; and
22 Table 2 of the Final Order on RFA2 for the approved related or supporting facilities. Any
23 revision to the restoration costs should be adjusted to the date of issuance as described
24 in (b), and is subject to review and approval by the Department.
- 25 b. The certificate holder shall adjust the amount of the bond or letter of credit, using the
26 following calculation and subject to approval by the Department.
- 27 i. Adjust the amount of the bond or letter of credit amount for Unit 1 (expressed in 3rd
28 Quarter 2011 dollars); ~~and~~ Carty Solar Farm (expressed in 3rd Quarter 2015 dollars)
29 and related or supporting facilities approved in RFA2 (expressed in 4th Quarter 2020
30 dollars) to present value, using the U.S. Gross Domestic Product Implicit Price
31 Deflator, Chain-Weight, as published in the Oregon Department of Administrative
32 Services' "Oregon Economic and Revenue Forecast" or by any successor agency (the
33 "Index") and using the index value and the quarterly index value applicable to Unit 1,
34 ~~and~~ Carty Solar Farm, and RFA2 facility components for the date of issuance of the
35 new bond or letter of credit. If at any time the Index is no longer published, the
36 Council shall select a comparable calculation to adjust to present value. [AMD1]
- 37 ii. Round the resulting total to the nearest \$1,000 to determine the financial assurance
38 amount.
- 39 c. The certificate holder shall use a form of bond or letter of credit approved by the
40 Council.
- 41 d. The certificate holder shall use an issuer of the bond or letter of credit approved by the
42 Council.
- 43 e. The certificate holder shall describe the status of the bond or letter of credit in the
44 annual report submitted to the Council under Condition VI.4.

1 f. The bond or letter of credit shall not be subject to revocation or reduction before
2 retirement of the facility site.

3 [Final Order IV.G.2.9] [Mandatory Condition OAR 345-025-0020(8)] [AMD1][AMD2]
4

5 Based on compliance with amended Condition 15.1, the Council finds that the retirement cost
6 estimate, with applied contingencies, is a reasonable estimate of an amount satisfactory to
7 restore the site of the Carty Generating Station, including the Carty Solar Farm and its
8 supporting facilities to a useful, non-hazardous condition.
9

10 *Ability of the Certificate Holder to Obtain a Bond or Letter of Credit*
11

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

21 In accordance with site certificate Condition 15.1, a letter of credit for the existing facility is
22 currently maintained and updated annually. In the most recent update, the letter of credit
23 stood at \$9,114,000 in 1st Qtr. 2020 dollars.
24

25 Based on the estimate shown in Table 2, *Proposed RFA2 Decommissioning and Site Restoration*
26 *Cost Estimate*, the value of the financial assurance bond or letter of credit for restoring the site
27 of the proposed RFA2 facility components would be approximately \$13.779 million (Q4 2020
28 dollars), adjusted annually as described in the amended condition above. To demonstrate its
29 ability to receive an adequate bond or letter of credit, the certificate holder provided a
30 September 14th, 2020 letter from Bank of the West, stating that it would be willing to furnish or
31 arrange a letter of credit to the certificate holder in an amount up to \$25 million, which would
32 exceed the sum of the existing letter of credit and the \$13.779 million retirement cost estimate
33 for RFA2 facility components. The bank letter is intended solely to demonstrate, for Council's
34 review of the amendment request and the certificate holder's ability to satisfy the
35 requirements of the Retirement and Financial Assurance standard, that the certificate holder
36 has a reasonable likelihood of obtaining a bond or letter of credit, prior to construction, in the
37 amount necessary for site restoration. The Council considers the bank letter sufficient for
38 representing a reasonable likelihood of obtaining a bond or letter of credit in the amount
39 necessary for site restoration. Additionally, as described above and in accordance with
40 amended Condition 15.1, construction cannot begin until the Department receives a
41 satisfactory bond or letter of credit.
42

43 In the Final Order on Amendment 1, the Council found that the certificate holder had a
44 reasonable likelihood of obtaining a bond or letter of credit in a form and amount satisfactory

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

10
11 Subject to compliance with existing and amended conditions, the Council finds that the
12 proposed RFA2 facility components can be restored adequately to a useful, non-hazardous
13 condition following permanent cessation of construction or operation. Additionally, the Council
14 finds that the certificate holder has a reasonable likelihood of obtaining a bond or letter of
15 credit in a form and amount satisfactory to the Council to restore the site to a useful, non-
16 hazardous condition.

17
18 **Conclusions of Law**

19 For the reasons describe above, and subject to the existing and amended site certificate
20 conditions, the Council finds that the facility, with proposed changes, would comply with the
21 Council’s Retirement and Financial Assurance standard.

22
23 **III.A.7. Fish and Wildlife Habitat: OAR 345-022-0060**

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
32 **Findings of Fact**

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.³⁷ 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 Council finds that the requested
15 administrative condition amendments would not substantively change the intent of the
16 previously imposed conditions and amend the conditions as requested.

17
18 The proposed RFA2 facility modifications would result in permanent and temporary impacts to
19 Category 4 habitat, including approximately 0.6 acres of permanent impacts and 1 acre of
20 temporary impacts, as presented in Table 3 below. The mitigation goal for impacts to Category
21 4 habitat is “no net loss in either existing habitat quantity or quality.” Consistent with the
22 methodology for meeting the Category 4 habitat mitigation goal of “no net loss in existing
23 habitat quantity” and as previously approved in the Wildlife and Habitat Mitigation and
24 Monitoring Plan (Attachment C of this order), the certificate holder proposes an acreage ratio
25 for the size of the habitat mitigation area (HMA) of 1 acre for every 1 acre permanently
26 impacted, and 0.5 acres for every 1 acre temporarily impacted. Using the previously approved
27 acreage ratio methodology, the HMA for permanent and temporary impacts to Category 4
28 habitat from proposed RFA2 facility modifications is approximately 1.1 acres. As presented in
29 Attachment C of this order, the certificate holder identifies that its existing 78-acre HMA
30 secured to mitigate temporary and permanent impacts from construction of Unit 1 (operational
31 450 MW natural gas combustion turbine generator and associated facilities) contained
32 approximately 5 additional acres. The certificate holder proposes to use the 1.1 acres within the
33 5 extra acres of their existing HMA, for which ODFW concurs.³⁸

34
35 The Category 4 habitat mitigation goal of “no net loss in quality” is typically met by identifying
36 site specific enhancement actions. Because the existing HMA has varied habitat quality, and in
37 order to ensure that the enhancement actions selected meet the “no net loss in habitat quality”

³⁷ CGSAMD2 Analysis Area adjustment Department EMAIL 2020-09-29.

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

1 component of the Category 4 habitat mitigation goal, Council amends Condition 10.2 as
2 follows.³⁹

3
4 **Amended Condition 10.2:**

5 The certificate holder shall:

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

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

19
20 The Certificate Holder also proposes to eliminate the reference to the implementation of a fire
21 control plan for wildfire suppression within the HMA, in accordance with the existing Boardman
22 Wildfire Control Plan in Condition 10.5. This proposed modification corresponds to the
23 December 2020 cease of operations at the BCP, and wouldn't change the intent of the
24 condition. As such, the Council amends Condition 10.5 as follows:

25
26 **Amended Condition 10.5:**

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

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

34
35 *Potential Impacts to Fish and Wildlife Habitat*

36
37 Construction and operation of the proposed new Facility components of RFA2 would result in
38 both temporary and permanent habitat impacts to Category 4 (shrub-steppe); and Category 6
39 (developed areas). With the exception of the Carty Substation and associated distribution lines,

³⁹ 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.

1 disturbance areas associated with the new facility components would occur in areas of
 2 Category 4, shrub-steppe habitat. The Carty Substation and associated distribution lines would
 3 be sited in developed areas designated as Category 6 habitat.⁴⁰ As presented in Table 3,
 4 *Estimated Temporary and Permanent Habitat Impacts, by Category, for Facility, with Proposed*
 5 *Changes*, the proposed new Facility components of RFA2 would temporarily disturb 1, and 1.15
 6 acres of Category 4 and 6 habitat, respectively Proposed new Facility components of RFA2
 7 would permanently disturb .6, and .85 acres of Category 4, and 6 habitat respectively.
 8

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

Habitat Category	Temporary Impacts ¹	Permanent Impact ²	Calculated Mitigation Area (Temporal and
	Acres		
Facility, as Approved/Operating: Unit 1 and Supporting Facilities³			
Category 4			
Total Area =	55.40	45.00	72.75
Proposed Changes: Proposed new Facility components of Request for Amendment 2⁴			
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 Facilities⁵			
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

⁴⁰ 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 ¹	Permanent Impact ²	Calculated Mitigation Area (Temporal and
	Acres		
Notes:			
In all cases impacts in a given area would only be mitigated once.			
<ol style="list-style-type: none"> 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 			

1
2 In an April 10, 2020 comment letter provided to the Department during the completeness
3 review of the pRFA, ODFW, in response to the certificate holder’s proposal to modify the site
4 boundary to include the Carty Reservoir, requested that the wildlife values of the Carty
5 Reservoir and surrounding riparian vegetation be maintained into the future.⁴¹ In response, the
6 certificate holder proposed that a new Site Certificate Condition be imposed (Condition 10.40),
7 which would commit PGE to operate the Carty Reservoir at an elevation no lower than an
8 annual average of 665 feet mean sea level (MSL). After additional consultation with ODFW, the
9 certificate holder explains that the Carty Reservoir is a wastewater facility constructed for the
10 BCP. Furthermore, the elevation of the reservoir has been maintained at a consistent elevation
11 between 667 and 668 feet MSL due to operational needs of the BCP. With BCP ceasing
12 operations, the Carty reservoir does not need to be maintained at the same elevation, and
13 certificate holder agrees to maintain the reservoir at a minimum annual average of 665 foot
14 MSL. On August 31, 2020, in an email sent to both the Department and the certificate holder,
15 ODFW agreed that the proposed condition language of Condition 10.40 was acceptable.⁴² The
16 Council imposes Condition 10.40, to require the certificate holder to maintain the Carty
17 reservoir at an annual average of 665 feet mean sea level (MSL).

18
19 **Condition 10.40 (New Condition):** The certificate holder shall maintain the reservoir at an
20 elevation no lower than an annual average of 665 feet mean sea level (MSL). The certificate
21 holder may operate the reservoir at a lower elevation without a site certificate amendment
22 if the certificate holder consults with the Department and ODFW to determine that the
23 lower elevation would not result in a net loss of habitat and, therefore, does not warrant

⁴¹ CGSAMD2 Reviewing Agency Comment ODFW_Cherry 2020-04-10.

⁴² CGSAMD2 ODFW Carty Reservoir Condition 2020-08-31.

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

5 [AMD2]

6
7 *Proposed Habitat Mitigation*

8
9 The mitigation goal for Category 2 habitat is no net loss of either habitat quantity or quality and
10 provision of a net benefit of habitat quantity or quality. To achieve this goal, impacts must be
11 avoided or unavoidable impacts must be mitigated through “reliable in-kind, in-proximity”
12 habitat mitigation to achieve no net loss; and a net benefit of habitat quantity or quality must
13 be provided. The mitigation goal for Category 3 habitat is no net loss of either habitat quantity
14 or quality. The goal is achieved by avoidance of impacts or by mitigation of unavoidable impacts
15 through “reliable in-kind, in-proximity” habitat mitigation. The mitigation goal for Category 4
16 habitat, similar to the mitigation goal for Category 3 habitat impacts, is no net loss of either
17 habitat quantity or quality. The Category 4 mitigation goal differs from the Category 3
18 mitigation goal in that achievement may be reached through avoidance of impacts or by
19 mitigation of unavoidable impacts through “reliable in-kind or out-of kind,” and “in- or off-of
20 proximity” habitat mitigation.

21
22 To mitigate the permanent and temporary habitat impacts, Council previously imposed
23 Condition 10.2 requiring the certificate holder to, prior to construction, provide a habitat
24 assessment including habitat (in acres) by habitat category and subtype of the proposed HMA
25 along with the easement.

26
27 An amended draft Wildlife and Habitat Monitoring and Mitigation Plan (WHMMP) was
28 prepared by the certificate holder and evaluated by both the Department and ODFW for RFA2.
29 The amended WHMMP is included in this order as Attachment C. Proposed updates made to
30 the WHMMP were made to accurately describe the proposed amended facility. In the amended
31 draft WHMMP, the certificate holder proposes to mitigate permanent impacts to Category 4
32 habitat by including 1 acre for every 1 acre that is permanently impacted within its existing
33 HMA (a 1:1 ratio to provide no net loss) and .5 acre for every 1 acre that is temporarily
34 impacted. This approach is consistent with the ODFW Fish and Wildlife Habitat Mitigation Policy
35 and the EFSC Fish and Wildlife Habitat standard. Based on this proposed methodology, the size
36 of the Habitat Mitigation Area required to mitigate for habitat loss (both temporary and
37 permanent) associated with RFA2 would be 1.10 acres.

38
39 In RFA2, the certificate holder explains that the 78-acre parcel of land already approved by the
40 Department and ODFW for the impacts associated with Unit 1 and supporting facilities, is 5.25
41 acres larger than required. Therefore, the certificate holder proposes that the additional 1.10
42 acres of mitigation required for the temporary and permanent impacts to Category 4 Habitat
43 associated with the proposed new RFA2 facility infrastructure would be covered within this
44 HMA. The Council finds that 78-acre HMA associated with Unit 1 and supporting facilities

1 contains sufficient land to provide the required compensatory mitigation for the RFA2 facility
2 component impacts.

3
4 *State Sensitive Species within Analysis Area*

5
6 In *Request for Amendment 2*, the certificate holder relied upon previous surveys completed for
7 both the 2011 Application for Site Certificate and 2018 Request for Amendment 1 to identify
8 State Sensitive species with the potential to occur within the RFA2 analysis area. The certificate
9 holder states that construction of the new Carty Substation would occur within approximately
10 2,000 feet of an active red tailed hawk nest, identified on the north shore of the Carty Reservoir
11 during field surveys conducted in 2016.⁴³

12
13 *Potential Impacts to State Sensitive Species*

14
15 Council Previously imposed Conditions 10.1 through 10.13 under the Fish and Wildlife Habitat
16 standard that would require that the certificate holder to implement measures and practices to
17 avoid and minimize potential impacts to State Sensitive species. In *Request for Amendment 2*,
18 the certificate holder explains that based on the continued operation of related and supporting
19 facilities currently authorized under the Carty Generating Station Site Certificate and the BCP
20 Site Certificate, and compliance with the existing and modified Site Certificate Conditions 10.1
21 through 10.13, Council may conclude that the construction and operation of the new proposed
22 RFA2 facility infrastructure would continue to comply with the requirements of the Fish and
23 Wildlife Habitat Standard.

24
25 **Conclusions of Law**

26 Based on the foregoing findings of fact and conclusions, and subject to compliance with existing
27 and amended site certificate conditions, the Council finds that the facility, with proposed
28 changes, would comply with the Council’s Fish and Wildlife Habitat standard.

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

30
31 *To issue a site certificate, the Council, after consultation with appropriate state agencies,*
32 *must find that:*

33
34 *(1) For plant species that the Oregon Department of Agriculture has listed as*
35 *threatened or endangered under ORS 564.105(2), the design, construction and*
36 *operation of the proposed facility, taking into account mitigation:*

37
38 *(a) Are consistent with the protection and conservation program, if any, that the*
39 *Oregon Department of Agriculture has adopted under ORS 564.105(3); or*

⁴³ CGSAMD2 Complete RFA with Attachments 2020-10-02, Section 8.7.

1
2 (b) If the Oregon Department of Agriculture has not adopted a protection and
3 conservation program, are not likely to cause a significant reduction in the
4 likelihood of survival or recovery of the species; and

5
6 (2) For wildlife species that the Oregon Fish and Wildlife Commission has listed as
7 threatened or endangered under ORS 496.172(2), the design, construction and
8 operation of the proposed facility, taking into account mitigation, are not likely to
9 cause a significant reduction in the likelihood of survival or recovery of the species.

10
11 **Findings of Fact**

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

23
24 The analysis area for threatened or endangered plant and wildlife species used to evaluate
25 RFA2, is the area within and extending ½-mile of areas that would be disturbed during
26 construction of proposed new RFA2 facility infrastructure.⁴⁵

27
28 *Potential Impacts to Identified Threatened and Endangered Species*

29
30 In *Request for Amendment 2*, based on available data including previous surveys completed in
31 both 2011 and 2018 for the Carty Generating Station, the certificate holder determined that
32 one state listed threatened wildlife species - Washington Ground Squirrel (WGS) – was the only
33 state-listed wildlife species that could occur within the analysis area of RFA2. WGS habitat is
34 Category 1 habitat, and includes the area within a 785-foot buffer of an active colony. In RFA2,
35 the certificate holder explains that the areas of proposed ground disturbance associated with
36 the construction of the new security guard station and new water pipeline would occur within
37 approximately 0.3 to 0.5 miles of the Category 1 WGS habitat. All other areas of proposed

⁴⁴ 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.

⁴⁵ CGSAMD2 Analysis Area adjustment Department EMAIL 2020-09-29

1 ground disturbance associated with RFA2 facilities would be more than 0.5 miles from Category
2 1 Habitat.

3
4 In the Final Order on the Application, the Council imposed numerous conditions (conditions
5 10.1, 10.7, 10.14, 10.15, 10.17, 10.18, 10.20, and 10.21) to avoid and minimize potential direct
6 and indirect impacts to WGS and to Category 1 WGS habitat. In Request for Amendment 1,
7 Council administratively amended Conditions 10.18, 10.19, 10. 20, and 10.21, and found that
8 the requested condition amendments did not substantively change the intent of the previously
9 imposed conditions. Furthermore, Council found that the facility, with proposed changes would
10 not be likely to cause a significant reduction in the likelihood of any wildlife species listed as
11 threatened or endangered. In *Request for Amendment 2*, the Certificate Holder requests
12 additional administrative amendments be made to Condition 10.1, 10.4, 10.6, 10.11, 10.21.
13 Based on the administrative nature of the condition amendments, the proposed changes are
14 not presented in this section.

15
16 The Council finds that based upon compliance with previously imposed and amended
17 conditions, the facility with proposed changes, would not be likely to cause a significant
18 reduction in the likelihood of survival of any wildlife species listed as threatened or
19 endangered.

20 21 **Conclusions of Law**

22 Based on the foregoing findings of fact and conclusions, and subject to compliance with the
23 existing and amended conditions, the Council finds that the facility, with proposed changes
24 complies with the Council’s Threatened and Endangered Species standard.

25 26 III.A.9. Historic, Cultural, and Archaeological Resources: OAR 345-022-0090

27
28 *(1) Except for facilities described in sections (2) and (3), to issue a site certificate, the*
29 *Council must find that the construction and operation of the facility, taking into account*
30 *mitigation, are not likely to result in significant adverse impacts to:*

31
32 *(a) Historic, cultural or archaeological resources that have been listed on, or would*
33 *likely be listed on the National Register of Historic Places;*

34
35 *(b) For a facility on private land, archaeological objects, as defined in ORS*
36 *358.905(1)(a), or archaeological sites, as defined in ORS 358.905(1)(c); and*

37
38 *(c) For a facility on public land, archaeological sites, as defined in ORS 358.905(1)(c).*

39
40 *(2) The Council may issue a site certificate for a facility that would produce power from*
41 *wind, solar or geothermal energy without making the findings described in section*
42 *(1). However, the Council may apply the requirements of section (1) to impose*
43 *conditions on a site certificate issued for such a facility.*

1
2 **Findings of Fact**
3

4 Subsection (1) of the Historic, Cultural and Archaeological Resources standard, OAR 345-022-
5 0090, requires the Council to find that the facility is not likely to result in significant adverse
6 impacts to identified historic, cultural, or archaeological resources. Pursuant to OAR 345-022-
7 0090(2), the Council may issue a site certificate for a facility that would produce power from
8 wind energy without making findings regarding the Historic, Cultural and Archeological
9 standard; however, the Council may impose site certificate conditions based upon the
10 requirements of the standard.
11

12 The analysis area for the evaluation of potential impacts to identified historic, cultural or
13 archeological resources from the proposed RFA2 facility modifications, as authorized by the
14 Department under OAR 345-027-0360(3), is based on the sites of potential impact rather than
15 the entirety of the amended Carty Generating facility site boundary.⁴⁶
16

17 In RFA2, the certificate holder proposes to add and remove area from the existing site
18 boundary. Most of the area within the proposed site boundary has been previously surveyed
19 for cultural, historic and archeological resources; however, there are some areas that remain
20 unsurveyed. The unsurveyed areas include the ROW for the 230 kV BCP to Dalreed transmission
21 line and areas along the western and southern shores of the Carty Reservoir.⁴⁷ Council
22 previously imposed Condition 11.3 requiring that, prior to construction in areas that lie outside
23 of previously surveyed areas, cultural surveys be conducted. The requirements of this condition
24 would continue to apply to the unsurveyed areas prior to any ground disturbing activities.⁴⁸
25 On the record of the DPO, SHPO submitted comments to the Department recommending that
26 the all disturbance areas, if not previously disturbed or only minimally disturbed, be surveyed
27 prior to construction (even if previously surveyed in 2009).⁴⁹ In the CTUIR's comments on the
28 record of the DPO, cultural monitoring was recommended during ground disturbing activities.⁵⁰
29 The CTUIR further clarified that the surveying should be conducted prior to ground disturbing
30 activities, and that the project's ground disturbing activities be monitored.⁵¹ However, the
31 CTUIR indicates that if the certificate holder can demonstrate that areas associated with RFA2
32 construction have been disturbed by past activities, and that the new construction would not
33 exceed the previous disturbance, the CTUIR would consider those areas possibly exempt from

⁴⁶ CGSAMD2 Analysis Area adjustment ODOE EMAIL 2020-09-29

⁴⁷ 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

⁴⁸ 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.

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

⁵⁰ CGSAMD2 DPO Comments (CTUIR) Letter 2020-11-04

⁵¹ CGSAMD2 DPO Comments (CTUIR) Clarification 2020-11-12

1 the need for monitoring. The Council amends Condition 11.3 to require the certificate holder
2 both conduct a field investigation of all areas not previously disturbed or minimally disturbed,
3 and also to require the certificate holder to consult with the CTUIR to determine if there are
4 any areas of ground disturbance that would not require monitoring. The recommended CTUIR
5 consultation would occur after the field investigation. The Council amends Condition 11.3 as
6 follows:

7
8 **Amended Condition 11.3:**

9 The certificate holder shall:

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

28 [Final Order IV.K.2.3][AMD2]
29

30 The locations of the proposed new Carty Substation, septic system, security guard station,
31 water pipeline, wastewater pipeline, and office/warehouse building have been previously
32 surveyed. The certificate holder describes completion of cultural surveys in 2009 and 2016.
33 Through these survey efforts, more than 120 shovel probes were excavated within and in close
34 proximity to the project area, rendering a complete understanding of landforms, resource
35 types, and resource densities. Results of these various studies conducted at the facility suggest
36 that precontact site 35MW15 is outside of areas identified for new construction as part of
37 RFA2, and therefore would not be impacted by any actions proposed. Intensive survey-level
38 work was conducted to identify and assess site 35MW19 in 2016 and no evidence of the site
39 was found. SHPO concurred with this finding.

40
41 **Conclusions of Law**
42

1 Based on the foregoing analysis, and subject to compliance with existing and amended
2 conditions, the Council finds that the facility, with proposed changes, would continue to comply
3 with the Council’s Historic, Cultural, and Archaeological Resources Standard.

4
5 III.A.10. Public Services: OAR 345-022-0110
6

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

13
14 *(2)The Council may issue a site certificate for a facility that would produce power from*
15 *wind, solar or geothermal energy without making the findings described in section (1).*
16 *However, the Council may apply the requirements of section (1) to impose conditions on*
17 *a site certificate issued for such a facility.*

18 ***

19 **Findings of Fact**
20

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

26
27 For Council reference, the certificate holder must commence construction of the Carty Solar
28 Farm, approved in *Final Order on RFA1*, by February 2022; and, complete construction of the
29 Carty Solar Farm by February 2025. If not constructed by the established deadline (Conditions
30 4.1 and 4.2), approval to construct and operate these components would effectively expire,
31 unless the certificate holder receives approval from Council of an extension to the construction
32 commencement deadline. As described in amended Conditions 4.1 and 4.2 in Section III.A.1.
33 *General Standard of Review* of this order, the Council established a construction
34 commencement and completion deadline for RFA2 facility components three and six years,
35 respectively, from the effective date of the amended site certificate. Based on the potential for
36 overlapping construction timeframes of previously approved and proposed facility components,
37 the evaluation provided below is based on the maximum number of workers from construction
38 of Carty Solar Farm (100 to 130) and RFA2 facility components (44 to 51), or 180 construction
39 workers and 23 operational workers.

40
41 In accordance with OAR 345-001-0010(59)(b) and consistent with the study area boundary, the
42 analysis area for potential impacts to public services from construction and operation of the
43 proposed RFA2 facility modifications, as authorized by the Department under OAR 345-027-

1 0360(3), is based on the sites of potential impact rather than the entirety of the amended Carty
2 Generating facility site boundary.⁵²

3
4 *Sewer and Sewage Treatment; Stormwater Drainage*
5

6 The facility, with proposed RFA2 modifications, would generate sewage during construction
7 from portable toilets. Council previously imposed Condition 6.2 requiring that the certificate
8 holder, during construction, provide portable toilets and ensure a licensed contractor properly
9 cleans and pumps the toilets. The Council continues to rely upon the existing condition to find
10 that construction would not be likely to impact sewage service providers.

11
12 Facility modifications proposed in RFA2 would not generate sewage but does include a new
13 septic system, which would provide additional onsite sewage treatment of sewage generated at
14 the facility. The septic system would be sized in accordance with state and county standards
15 and the Umatilla County Public Health Department requirements and in a location deemed
16 acceptable for a standard, non-residential septic system (see amended Condition 10.29(a) in
17 Attachment A of this order).⁵³ Because sewage generated during plant operations would
18 continue to be managed onsite, in accordance with applicable state and local permit
19 requirements, the Council finds that operation of related or supporting facilities proposed in
20 RFA2 would not be likely to impact sewage service providers.

21
22 In RFA2, the certificate holder describes that stormwater would be minimized through site
23 grading and would infiltrate into the ground. The facility modifications proposed in RFA2 would
24 not require new or expanded stormwater drainage systems provided by existing systems. For
25 these reasons, the Council finds that construction and operation of related or supporting
26 facilities proposed in RFA2 would not be likely to impact stormwater service providers.

27
28 *Water*
29

30 Facility modifications proposed in RFA2 would require up to 220,000 gallons of water during
31 construction for dust suppression; and, service and fire water during operations. Construction
32 and operational water needs would be served by the Carty Reservoir, which withdraws water
33 from the Columbia River, and the onsite Boeing Well. The facility modifications proposed in
34 RFA2 would not require offsite water from any service providers and therefore the Council finds
35 that construction and operation of the proposed facility modifications would not be likely to
36 result in impacts to water service providers.

⁵² CGSAMD2 Analysis Area adjustment ODOE EMAIL 2020-09-29

⁵³ 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

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Solid Waste Management

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

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

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

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 Council finds 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

⁵⁴ CGSAMD2 Complete RFA with Attachments 2020-10-02, Section 8.2.

1 and Irrigon. Council previously imposed Conditions 8.2 and 8.3, requiring that the certificate
2 holder implement a site health and safety plan, which would continue to apply and would
3 minimize potential onsite risks resulting in the use of local health care providers.
4

5 Based on the short-term duration of construction, relatively low number of workers (an average
6 of 44 to 51 construction workers per day if all new construction occurred simultaneously), and
7 the existing availability of health care facilities, the Council finds that the facility modifications
8 proposed in RFA2 would not be likely to result in significant adverse impacts to health care
9 service providers.
10

11 *Traffic Safety*

12
13 The facility modifications proposed in RFA2 could result in up to 26 one-way trips (assumes two
14 workers per vehicle) and up to 17 one-way truck trips, or a total of 86 round trips, over a 10 to
15 12 month construction period. The primary transportation route used would be I-84.
16

17 Potential traffic-related impacts on surrounding roadways would be limited to Tower Road.
18 Council previously imposed Condition 6.17 requiring that, during construction, the certificate
19 holder implement measures expected to reduce passenger car equivalent trips per day
20 including carpooling, staggering worker start times, installation of temporary traffic controls,
21 funding for overtime to provide additional traffic patrols along Tower Road, coordination of
22 random patrols along Tower Road, and/or frequency coordination with the Morrow County
23 Sheriff's office to inform them of periods of increased traffic to the site. Based on continued
24 compliance with this existing condition, the Council finds that that the facility modifications
25 proposed in RFA2 would not be likely to result in a significant adverse impact on the ability of
26 public or private traffic safety (road) providers to provide services.
27

28 *Fire Services*

29
30 Construction and operation of facility modifications proposed in RFA2 could result in increased
31 fire risk at the site, resulting in increased demand for fire protection services. Council previously
32 imposed Condition 8.7, requiring that, during construction and operation of the facility, the
33 certificate holder develop and implement fire safety plans in consultation with the Boardman
34 Rural Fire Protection District. In developing the fire safety plans, the existing condition requires
35 that the certificate holder consider the dry nature of the region and address risks on a seasonal
36 basis. The existing condition also requires that the certificate holder meet annually with local
37 fire protection agency personnel to discuss emergency planning and invite local fire protection
38 agency personnel to observe any emergency drill conducted at the facility. Based on continued
39 compliance with this existing condition, the Council finds that that the facility modifications
40 proposed in RFA2 would not be likely to result in a significant adverse impact on the ability of
41 public or private fire service providers to provide services.
42

43 *Police Protection*

1 Construction and operation of facility modifications proposed in RFA2 could result in increased
2 activity at the site, resulting in increased demand for law enforcement. Law enforcement
3 services in the analysis area are provided by Morrow County Sherriff's Office. Council previously
4 imposed Condition 8.1 requiring that, during construction, the certificate holder provide for on-
5 site security and establish good communication with Morrow County Sheriff's Office. Based on
6 continued compliance with this existing condition, the Council finds that the facility
7 modifications proposed in RFA2 would not be likely to result in a significant adverse impact on
8 the ability of public or private police protection service providers to provide services.

9
10 **Conclusions of Law**

11 Based on the foregoing analysis, and subject to existing conditions, the Council finds that the
12 facility, with proposed changes, would continue to comply with the Council's Public Services
13 standard.

14
15 **III.A.11. Waste Minimization: OAR 345-022-0120**

16
17 *(1) Except for facilities described in sections (2) and (3), to issue a site certificate, the*
18 *Council must find that, to the extent reasonably practicable:*

19
20 *(a) The applicant's solid waste and wastewater plans are likely to minimize*
21 *generation of solid waste and wastewater in the construction and operation of the*
22 *facility, and when solid waste or wastewater is generated, to result in recycling and*
23 *reuse of such wastes;*

24
25 *(b) The applicant's plans to manage the accumulation, storage, disposal and*
26 *transportation of waste generated by the construction and operation of the facility*
27 *are likely to result in minimal adverse impact on surrounding and adjacent areas.*

28
29 *(2) The Council may issue a site certificate for a facility that would produce power from*
30 *wind, solar or geothermal energy without making the findings described in section (1).*
31 *However, the Council may apply the requirements of section (1) to impose conditions on*
32 *a site certificate issued for such a facility.*

33 ***

34
35 **Findings of Fact**

36
37 The Waste Minimization standard requires the Council to find that the certificate holder will
38 minimize the generation of solid waste and wastewater, and that the waste generated would
39 be managed to minimally impact surrounding and adjacent areas.

40
41 *Solid Waste*

1 Construction activities associated with the new Carty Substation and associated distribution
2 lines, septic system, water pipeline, wastewater pipeline, security guard station, and
3 office/warehouse building are anticipated to generate small quantities of solid waste, including
4 domestic refuse, office waste, packaging materials, and various types of common construction
5 materials, such as concrete waste, wood, plastic, glass, and used erosion control materials. This
6 waste may also include hazardous materials, such as oil rags and depleted batteries. The
7 certificate holder describes that the anticipated solid waste quantities are “well within the
8 handling capacities” of the Sanitary Disposal Inc.

9
10 During operation, the certificate holder expects to generate “negligible” solid waste, consisting
11 primarily of office and maintenance waste. Waste generated during operations would be
12 disposed through its existing CGS plant services building. The certificate holder anticipates
13 being a “Conditionally Exempt Generator,” which is a classification reserved for organizations
14 that generate less than 220 pounds of hazardous waste per month.

15
16 Council previously imposed Condition 6.3 and 10.22 requiring that the certificate holder, during
17 construction and operation, develop Waste Management Plans that would implement waste
18 reducing measures including training employees to segregate and recycle recyclable materials.
19 These conditions would continue to apply to the facility, with proposed changes. Therefore, the
20 Council finds that the facility, with proposed changes, would continue to minimize and manage
21 solid waste, resulting in minimal adverse impacts on surrounding and adjacent areas from
22 construction of the proposed RFA2 facility components.

23 24 *Wastewater*

25
26 Construction and operation of the proposed RFA2 facility components would generate
27 wastewater for disposal. During construction, wastewater would be generated from washing
28 equipment and vehicles, washing concrete trucks after delivery of concrete loads, and fire
29 suppression. The certificate holder maintains an existing Water Pollution Control Facilities
30 (WPCF) permit, issued by Oregon Department of Environmental Quality but governed and
31 incorporated into the site certificate. The existing WPCF authorizes wastewater disposal
32 through evaporation and seepage from construction-related wastewater. During operations,
33 approximately 800 gallons of wastewater would be generated per year from turbine
34 compressor blade washing. Based on analytical testing, the certificate holder seeks approval to
35 discharge the turbine rinse water (wastewater) into the Carty Reservoir, which is not currently
36 authorized by the WPCF permit. Based on DEQ’s review of the WPCF permit modification
37 request, as provided in Attachment E of this order, the Council amends Condition 10.28 to
38 authorize the requested wastewater discharge, as described in Section III.A.13.2 *Water*
39 *Pollution Control Facility Permit* of this order.

40
41 Therefore, based on compliance with the WPCF, as amended, the Council finds that the facility,
42 with proposed changes, would continue to minimize and manage wastewater, resulting in
43 minimal adverse impacts on surrounding and adjacent areas from construction of the proposed
44 RFA2 facility components.

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Conclusions of Law

Based on the foregoing analysis, and subject to existing conditions, the Council finds that that facility, with proposed changes, would continue to comply with the Council’s Waste Minimization standard.

III.A.12. Division 24 Standards

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

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

III.A.12.1. Siting Standards for Transmission Lines: OAR 345-024-0090

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

1 Electric fields around transmission lines are produced by the presence of an electric charge,
2 measured as voltage, on the energized conductor. Electric field strength is directly proportional
3 to the line’s voltage; increased voltage produces a stronger electric field. In the Final Order on
4 the ASC, the council found that the certificate holder could design, construct, and operate the
5 proposed 500 kV transmission line so that alternating current electric fields do not exceed 9kV
6 per meter at one meter above the ground surface in areas accessible to the public.
7

8 In RFA2, the certificate holder measured electric fields and magnetic fields within the boundaries
9 of the existing 230 kV BCP to Dalreed substation transmission line. The measurements showed
10 that the highest electric field measurement collected was 1.36kV per meter (kV/m) at one meter
11 above ground. With a measured maximum of 1.36 kV/m, the proposed transmission would
12 remain below the 9-kV per meter threshold set forth in OAR 345-024-0090(1). Therefore, based
13 on the certificate holder’s measurements, the Council finds that the existing 230-kV BCP to
14 Dalreed transmission line would not exceed 9-kV per meter at one meter above ground level.
15 The second existing transmission line proposed to be incorporated into the site certificate is the
16 500 kV BCP to Slatt substation transmission line. The 500 kV transmission line was previously
17 evaluated in Exhibit AA of the 2011 ASC. In the Final Order, Council imposed Condition V.D.2.1
18 as a Public Health and Safety condition. Condition V.D.2.1 was imposed to address reasonable
19 steps that the certificate holder must take to reduce or manage human exposure to electric and
20 magnetic fields. In RFA2, the certificate holder proposes to amend Condition 7.1(b) to include a
21 date (June 29, 2012), clarifying the requirements apply only to transmission lines constructed
22 after the date of the Final Order. The Council amends Condition 7.1 to incorporate the
23 proposed amendment to Condition 7.1(b) as represented in Attachment A of this Order. In the
24 Final Order of the ASC, Council found that subject to conditions adopted in Section IV.O.2,⁵⁵ the
25 certificate holder could design, construct, and operate the proposed 500 kV transmission line so
26 that alternating current electric fields do not exceed 9kV per meter at one meter above the
27 ground.
28

29 *Induced Voltage and Current*

30
31 The Siting Standards for Transmission Lines requires the Council to find that the certificate
32 holder “can design, construct and operate the proposed transmission line so that induced
33 currents resulting from the transmission line and related or supporting facilities will be as low as
34 reasonably achievable.”
35

36 In the Final Order on the ASC, Final Order on Amendment 1, the Council found that the
37 certificate holder could construct, and operate the proposed transmission lines so that induced
38 currents resulting from the transmission lines would be as low as reasonably achievable. Council

⁵⁵ 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 imposed Condition 6.5 into the site certificate, which reflected the requirements of Mandatory
2 Condition OAR 345-0027-0023(4). Condition 6.5 requires the certificate holder design, construct
3 and operate transmission lines in accordance with requirements of the National Electrical Safety
4 Code. In RFA2, the Certificate holder proposes an administrative change to Condition 6.5, as
5 represented in Attachment A, to clarify that as proposed, multiple transmission lines would be
6 operated and would be subject to Condition 6.5.

7
8 **Conclusions of Law**

9 For the reasons discussed above, and subject to compliance with the existing conditions, the
10 Council finds that the facility, with proposed changes, would comply with the Council’s Siting
11 Standards for Transmission Lines.

12
13 **III.A.13. Other Applicable Regulatory Requirements Under Council Jurisdiction**

14
15 Under ORS 469.503(3) and under the Council’s General Standard of Review (OAR 345-022-
16 0000), the Council must determine whether the components proposed in the amendment
17 request would comply with “all other Oregon statutes and administrative rules...,” as applicable
18 to the issuance of an amended site certificate. This section addresses the applicable Oregon
19 statutes and administrative rules that are not otherwise addressed in Council standards,
20 including noise control regulations, regulations for removal or fill of material affecting waters of
21 the state, water pollution control facility permits and regulations for appropriating ground
22 water.

23
24 **III.A.13.1. Noise Control Regulations: OAR 340-035-0035**

25
26 *(1) Standards and Regulations:*

27 ***

28 *(b) New Noise Sources:*

29 ***

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

38 ***

39

40 **Findings of Fact**

41 The Department of Environmental Quality (DEQ) noise control regulations at OAR 340-035-0035
42 have been adopted by Council as the compliance requirements for EFSC-jurisdiction energy

1 facilities. OAR 340-035-0035 provides the DEQ noise regulations for industry and commerce.
 2 The DEQ noise rules set noise limits for new industrial or commercial noise sources based upon
 3 whether those sources would be developed on a previously used or previously unused site.⁵⁶
 4

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

Statistical Descriptor ¹	Maximum Permissible Hourly Statistical Noise Levels (dBA)	
	Daytime (7:00 AM - 10:00 PM)	Nighttime (10:00 PM - 7:00 AM)
L50	55	50
L10	60	55
L1	75	60

Notes:
 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.
 Source: OAR 340-035-0035, Table 8

5
 6 In the Final Order on the Application, the Council found the facility met the DEQ noise standard
 7 and imposed Site Certificate Conditions V.A.2.1 through V.A.2.3 to address noise from the
 8 facility.

9
 10 *Potential Construction Noise*

11
 12 OAR 340-035-0035(5) outlines exemptions to the DEQ noise rules including exemptions for
 13 emergency equipment, warning devices not operating continuously for more than 5 minutes,
 14 and sounds created in construction or maintenance of capital equipment. OAR 340-035-
 15 0035(5)(g) specifically exempts noise that originates on construction sites. Therefore,
 16 construction related noise is not required to be evaluated to demonstrate compliance with this
 17 rule.

18
 19 In section 9.1 of RFA2, the certificate holder explains that the construction of the new proposed
 20 RFA2 facility components would not alter the Council’s basis for its previous findings that the
 21 Facility complies with the standard. The certificate holder indicates that noise from
 22 construction activities associated with RFA2 will generally be of lesser magnitude and duration
 23 than construction of Unit 1 and existing related or supporting facilities.

24
 25 *Potential Operational Noise*

26
 27 The certificate holder proposes that operation of the Carty Substation is not considered a new

⁵⁶ 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 noise source because the only noise-emitting component, the transformer, is currently in
2 operation at a location immediately adjacent to the proposed construction location and will be
3 reused as part of this action.

4
5 **Conclusions of Law**
6

7 Based on the foregoing findings, the Council finds that the facility, with proposed RFA2 facility
8 modifications, would comply with the Noise Control Regulations in OAR 340-035-0035(1)(b)(A).
9

10 **III.A.13.2. Water Pollution Control Facility Permit**
11

12 Water Pollution Control Facility (WPCF) Permits are issued by Oregon Department of
13 Environmental Quality (DEQ), but for facilities under EFSC jurisdiction, WPCF permits are
14 incorporated and governed by the site certificate. In circumstances where an EFSC-jurisdictional
15 energy facility needs another state agency permit that is governed by the site certificate, both
16 agencies retain compliance and enforcement responsibility of the applicable conditions and
17 requirements.
18

19 As authorized in the *Final Order on the Application*, the certificate holder maintains WPCF Permit
20 100189 for the management and disposal of wastewater streams generated by the facility. WPCF
21 Permit 100189 includes requirements that apply to both CGS and BCP. For the CGS site certificate,
22 Conditions 10.28 – 10.36 were imposed to incorporate the requirements of the WPCF Permit.
23

24 In RFA2, the certificate holder requests to modify WPCF Permit 100189 to allow the addition of
25 turbine rinse water as an allowed discharge to Carty Reservoir, which had been previously
26 approved for discrete discharge events based on submitted analytical results. Additionally, the
27 certificate holder requests several WPCF Permit language changes due to the scheduled BCP
28 shutdown. The modified language would allow the facility to continue operation with oversight of
29 the WPCF Permit for management of industrial and domestic wastewater. The modification also
30 includes required language for proper closure of the sanitary lagoons once taken out of service
31 during the permit term.
32

33 **Findings of Fact**
34

35 In RFA2, the certificate holder describes that routine operations and maintenance include
36 washing of combustion turbine generator compressor blades. Compressor blade washing occurs
37 approximately two times per year, to remove fouling, and includes use of up to 1,000 mL of a
38 non-phosphate, biodegradable detergent (Product Name: ZOK 27, manufactured by ZOK
39 International Group) to aid in cleaning. Compressor blade washing results in up to 800 gallons of
40 wastewater each washing, which the certificate holder requests authorization to discharge into
41 the Carty Reservoir via existing holding ponds. The certificate holder submitted analytical testing
42 results of four batches of turbine rinse water to DEQ for the parameters listed in Schedule A,
43 Condition 7 of the WPCF Permit with reported results within the sample maximum limits
44 specified in the WPCF Permit. Based on review of the analytical results, as described in DEQ's

1 technical analysis provided in Attachment E of this order, the Council approves the certificate
2 holder’s request to discharge turbine rinse water into Carty Reservoir and approve the WPCF
3 Permit modification.⁵⁷

4
5 The certificate holder requests several other permit modifications, as follows:
6

- 7 • A change to language regarding the recirculation line for the Carty Generating Station and
8 Boardman Power Plant. This was corrected to state “intake structure” rather than
9 “recirculation line” to better address intake for the Boardman and Carty facilities.
- 10 • Removal of language for submittal of a hydrogeologic characterization report (already
11 submitted during permit term).
- 12 • Clarification regarding the facility lined evaporation ponds and to reflect that the existing
13 clay lined sewage lagoons were relined in 2014. The facility also has stated that while the
14 sanitary sewage lagoons will remain operational for a period of time, there is a possibility
15 that sewage flows will be routed to a newly constructed septic system with flows <2500
16 gpd. This system would be separately permitted through Umatilla County Public Health.
17 The permit modification has included added language to Schedule C for required steps to
18 properly decommission the sewage lagoons and evaporative ponds.
- 19 • The facility is working on a final cover system for the ash disposal landfill, which will be
20 reviewed by DEQ solid waste and water quality staff as part of the ash landfill closure
21 plan. Schedule A, Condition 20 requires an Ash Disposal Plan. Per PGE description, storm
22 water from the final cover system will be collected and dissipated to sheet flow in the
23 direction of Carty Reservoir following natural terrain. It is unlikely that stormwater flow
24 from the cover system will reach the reservoir.
- 25 • Condition 22 of Schedule A was added regarding groundwater limitations at the
26 compliance points established in the groundwater monitoring plan. This language was
27 added because any change to the compliance limitations in the plan would not require an
28 EFSC site certificate amendment but still ensures limitations are enforceable under the
29 WPCF permit.
- 30 • PGE proposed to replace composite sampling requirements for influent into the sanitary
31 lagoons due to mixing in the lift station. This change was not included in the permit
32 modification draft as requested. This is because while the lift station will allow mixing, the
33 purpose of composite sampling is to collect a representative 24 hour period sample each
34 quarter which may not be achieved by a discrete grab sample from the lift station.
- 35 • PGE requested to reduce perimeter inspection of the sanitary lagoon and lined
36 evaporation ponds from daily to weekly due to the presence of staff at the site during
37 business hours. This change was incorporated into Schedule B, Condition 1a and 1b of the

⁵⁷ 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).

1 permit modification based on history of inspections and presence of staff at the site as
2 opposed to a remote un-staffed location.

- 3 • Schedule B, Condition 1c was updated to accurately describe flow meter configuration at
4 the facility. Flow metering exists at the irrigation withdrawal without flow metering for
5 cycling of Carty Reservoir water withdrawal that is used for industrial uses.
- 6 • The language “unless otherwise approved in writing by the Department” was added to
7 Schedule B, Condition 4 to allow flexibility in resampling schedule upon DEQ approval.
8 This is warranted due to the remote nature of the location and during poor weather
9 months.
- 10 • The permittee requested to change language in reference to the formerly named
11 “Boardman Power Plant Water Quality Management Program” to the “Wastewater Water
12 Quality Management Program” and this language was updated.
- 13 • Schedule C, Condition 10 was added to require a closure plan for DEQ review for the
14 sanitary lagoons and Boardman evaporation ponds. For the sanitary lagoons, the closure
15 plan must be submitted by June 31, 2022. For evaporation ponds, the plan must be
16 submitted at least 6 months before planned closure.

17
18 Based on the above-described analysis, and technical evaluation provided by DEQ and included in
19 Attachment E of this order, the Council amends Condition 10.28 as follows:
20

21 **Amended Condition 10.28:** ~~Before beginning operation of the facility, t~~The certificate
22 holder shall demonstrate that the Oregon Department of Environmental Quality has issued
23 to the certificate holder:
24

- 25 i. Prior to operation of Unit 1, a Water Pollution Control Facilities Permit substantially in
26 the form of Exhibit 4 of the *Final Order on the Application*, allowing for wastewater
27 discharge from the Carty Generating Station.
28 [Final Order V.E.2.1]
- 29 ii. Prior to operation of the Carty Solar Farm, Addendum 1 of the modified Water
30 Pollution Control Facilities Permit 100189 with the following additional condition,
31 allowing discharge of solar panel washwater:
 - 32 a. Solar panel wash water is permitted to be discharged through evaporation or
33 infiltration into the ground at the point of application. The use of chemicals, soaps,
34 detergents and heated water is prohibited. Pressure washing is allowed, so long as
35 it does not remove paint or other finishes. Soil erosion and runoff from the Carty
36 Solar Farm is prohibited. Soil erosion must be repaired within 30 days of
37 occurrence.
38 [AMD1]
- 39 iii. Prior to operation of facility components authorized by the Final Order on Request for
40 Amendment 2, Addendum 2 of the modified Water Pollution Control Facilities Permit
41 100189, substantially in the form of Attachment E of the *Final Order on Request for*
42 *Amendment 2.*
43 [AMD2]
44

1 **Conclusions of Law**

2 The Council finds, based on the analysis presented above and in Attachment E of this order,
3 subject to compliance with the site certificate conditions and conditions contained in WPCF
4 Permit 100189 Addendum 2, the facility, with proposed changes, meets the requirements of the
5 WPCF Permit for wastewater discharges. The Council authorizes DEQ to issue the certificate
6 holder Addendum 2 of the WPCF Permit substantially in the form of Attachment E of this order,
7 pursuant to ORS 469.401

8
9 **III.A.13.3. Water Rights**

10
11 Under ORS Chapters 537 and 540 and OAR Chapter 690, the Oregon Water Resources
12 Department (OWRD) administers water rights for appropriation and use of the water resources
13 of the state. Under OAR 345-022-0000(1)(b), the Council must determine whether the facility,
14 with proposed changes, would comply with the statutes and administrative rules identified in
15 the project order. The project order identifies OAR 690, Divisions 310 and 380 (Water
16 Resources Department permitting requirements) as the administrative rules governing use of
17 water resources and water rights as applicable to the facility.

18
19 **Findings of Fact**

20
21 OAR 690 establishes the procedures and standards which shall be applied by the OWRD in the
22 evaluation of applications for a permit to appropriate surface water, ground water, to construct
23 a reservoir and store water, to use reserved water, or to use water stored in a reservoir. The
24 certificate holder is not requesting a groundwater permit, a surface water permit, or a water
25 rights transfer during the construction and operation of the proposed related and supporting
26 facilities described in RFA2.

27
28 Construction and operation of the proposed related and supporting facilities described in RFA2
29 would result in water use. Approximately 222,000 gallons of water would be used during
30 construction for dust abatement, obtained from either the onsite Boeing Well or Carty
31 Reservoir. Other facility operational water would be obtained from the Carty Reservoir, which
32 withdraws water from the Columbia River.

33
34 Based on the certificate holder's assessment, the Council concurs that it can obtain adequate
35 water for construction and operation of the proposed related and supporting facilities
36 described in RFA2, and does not need a new groundwater permit, surface water permit, or
37 water right transfer. If such a permit or transfer is required at a later time, a site certificate
38 amendment would be required to review and consider such a permit application.

39

1 **Conclusions of Law**

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

5
6 **III.A.13.4. Removal-Fill**

7
8 The Oregon Removal-Fill Law (ORS 196.795 through 196.990) and Department of State Lands
9 (DSL) regulations (OAR 141-085-0500 through 141-085-0785) require a removal-fill permit if 50
10 cubic yards or more of material is removed, filled, or altered within any “waters of the state.”⁵⁸
11 The Council, in consultation with DSL, must determine whether a removal-fill permit is needed
12 and if so, whether a removal-fill permit should be issued. The analysis area for wetlands and
13 other waters of the state is the area within the site boundary.

14
15 **Findings of Fact**

16 The certificate holder states that a removal-fill permit is not required because construction and
17 operation of the proposed RFA2 facility components would not require removal of materials
18 from or placement of materials in any wetland or waterbody features. Information regarding
19 wetlands and other waters of the state was previously provided in the 2011 ASC, where based
20 on the information, Council concluded that a removal-fill permit would not be required. Council
21 previously imposed Condition 10.26 and 10.13 requiring that the certificate holder provide final
22 design maps to the Department demonstrating that proposed facility components would be
23 sited to avoid jurisdictional waters, and requiring that the certificate holder avoid disturbance
24 to delineated wetlands during construction, respectively.

25
26 Because the proposed RFA2 facility modifications resulting in construction (or new ground
27 disturbance) would be located within previously approved site boundary, Council relies on the
28 2011 ASC wetland delineation data and find that a removal-fill permit would not be required for
29 construction or operation of proposed RFA2 facility components.

30
31 **Conclusions of Law**

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

35
36 **III.B. Standards Not Likely to Be Impacted by Request for Amendment 2**

37

⁵⁸ ORS 196.800(15) defines “Waters of this state.” The term includes wetlands and certain other waterbodies.

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

7
8 Sections III.B.1 through III.B.4 present the language of the identified standards and other
9 applicable laws and regulations not likely to be impacted by RFA2, for reference purposes only.

10
11 III.B.1. Division 23 Standards

12
13 The Division 23 standards apply only to “nongenerating facilities” as defined in ORS
14 469.503(2)(e)(K), except nongenerating facilities that are related or supporting facilities. The
15 facility is not a nongenerating facility as defined in statute, and therefore Division 23 is
16 inapplicable to the requested amendment.

17
18 III.B.2. Protected Areas: OAR 345-022-0040

19
20 *(1) Except as provided in sections (2) and (3), the Council shall not issue a site certificate*
21 *for a proposed facility located in the areas listed below. To issue a site certificate for*
22 *a proposed facility located outside the areas listed below, the Council must find that,*
23 *taking into account mitigation, the design, construction and operation of the facility*
24 *are not likely to result in significant adverse impact to the areas listed below.*
25 *References in this rule to protected areas designated under federal or state statutes*
26 *or regulations are to the designations in effect as of May 11, 2007:*

27
28 *(a) National parks, including but not limited to Crater Lake National Park and Fort*
29 *Clatsop National Memorial;*

30
31 *(b) National monuments, including but not limited to John Day Fossil Bed National*
32 *Monument, Newberry National Volcanic Monument and Oregon Caves National*
33 *Monument;*

34
35 *(c) Wilderness areas established pursuant to The Wilderness Act, 16 U.S.C. 1131 et*
36 *seq. and areas recommended for designation as wilderness areas pursuant to 43*
37 *U.S.C. 1782;*

38
39 *(d) National and state wildlife refuges, including but not limited to Ankeny, Bandon*
40 *Marsh, Baskett Slough, Bear Valley, Cape Meares, Cold Springs, Deer Flat, Hart*
41 *Mountain, Julia Butler Hansen, Klamath Forest, Lewis and Clark, Lower Klamath,*
42 *Malheur, McKay Creek, Oregon Islands, Sheldon, Three Arch Rocks, Umatilla, Upper*
43 *Klamath, and William L. Finley;*
44

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

3
4 *(f) National and state fish hatcheries, including but not limited to Eagle Creek and*
5 *Warm Springs;*

6
7 *(g) National recreation and scenic areas, including but not limited to Oregon Dunes*
8 *National Recreation Area, Hell's Canyon National Recreation Area, and the Oregon*
9 *Cascades Recreation Area, and Columbia River Gorge National Scenic Area;*

10
11 *(h) State parks and waysides as listed by the Oregon Department of Parks and*
12 *Recreation and the Willamette River Greenway;*

13
14 *(i) State natural heritage areas listed in the Oregon Register of Natural Heritage*
15 *Areas pursuant to ORS 273.581;*

16
17 *(j) State estuarine sanctuaries, including but not limited to South Slough Estuarine*
18 *Sanctuary, OAR Chapter 142;*

19
20 *(k) Scenic waterways designated pursuant to ORS 390.826, wild or scenic rivers*
21 *designated pursuant to 16 U.S.C. 1271 et seq., and those waterways and rivers listed*
22 *as potentials for designation;*

23
24 *(l) Experimental areas established by the Rangeland Resources Program, College of*
25 *Agriculture, Oregon State University: the Prineville site, the Burns (Squaw Butte) site,*
26 *the Starkey site and the Union site;*

27 *(m) Agricultural experimental stations established by the College of Agriculture,*
28 *Oregon State University, including but not limited to: Coastal Oregon Marine*
29 *Experiment Station, Astoria Mid-Columbia Agriculture Research and Extension*
30 *Center, Hood River Agriculture Research and Extension Center, Hermiston Columbia*
31 *Basin Agriculture Research Center, Pendleton Columbia Basin Agriculture Research*
32 *Center, Moro North Willamette Research and Extension Center, Aurora East Oregon*
33 *Agriculture Research Center, Union Malheur Experiment Station, Ontario Eastern*
34 *Oregon Agriculture Research Center, Burns Eastern Oregon Agriculture Research*
35 *Center, Squaw Butte Central Oregon Experiment Station, Madras Central Oregon*
36 *Experiment Station, Powell Butte Central Oregon Experiment Station, Redmond*
37 *Central Station, Corvallis Coastal Oregon Marine Experiment Station, Newport*
38 *Southern Oregon Experiment Station, Medford Klamath Experiment Station, Klamath*
39 *Falls;*

40
41 *(n) Research forests established by the College of Forestry, Oregon State University,*
42 *including but not limited to McDonald Forest, Paul M. Dunn Forest, the Blodgett*
43 *Tract in Columbia County, the Spaulding Tract in the Mary's Peak area and the*
44 *Marchel Tract;*

1
2 *(o) Bureau of Land Management areas of critical environmental concern,*
3 *outstanding natural areas and research natural areas;*

4
5 *(p) State wildlife areas and management areas identified in OAR chapter 635,*
6 *Division 8.*

7
8 III.B.3. Scenic Resources: OAR 345-022-0080
9

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

16 ***

17
18 III.B.4. Recreation: OAR 345-022-0100
19

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

26
27 *(a) Any special designation or management of the location;*

28 *(b) The degree of demand;*

29 *(c) Outstanding or unusual qualities;*

30 *(d) Availability or rareness;*

31 *(e) Irreplaceability or irretrievability of the opportunity.*

32 ***⁵⁹
33
34
35
36
37
38
39

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

1 **IV. CONCLUSIONS AND ORDER**

2
3 Based on the findings and conclusions included in this order, the Council makes the following
4 findings:

- 5
6 1. The facility modifications included in Request for Amendment 2 of the Carty
7 Generating Station site certificate comply with the requirements of the Oregon
8 Energy Facility Siting Statutes, ORS 469.300 to 469.520.
9
10 2. The facility modifications included in Request for Amendment 2 of the Carty
11 Generating Station site certificate comply with the standards adopted by the Council
12 pursuant to ORS 469.501.
13
14 3. The facility modifications included in Request for Amendment 2 of the Carty
15 Generating Station site certificate comply with all other Oregon statutes and
16 administrative rules identified in the project order as applicable to the issuance of a
17 site certificate for the proposed facility.
18

19 Accordingly, the Council finds that the facility modifications included in Request for
20 Amendment 2 of the Carty Generating Station site certificate comply with the General Standard
21 of Review (OAR 345-022-0000). The Council finds, based on a preponderance of the evidence
22 on the record, that the site certificate may be amended as requested.
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1 **Final Order**

2
3 The Council approves Amendment 2 of the Carty Generating Station site certificate, subject to
4 the terms and conditions included in the amended site certificate (Attachment A of this final
5 order).

6
7 **Issued this 19th day of November, 2020**

8
9 **The OREGON ENERGY FACILITY SITING COUNCIL**

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Hanley Jenkins, II

By: [Hanley Jenkins, II \(Nov 25, 2020 09:08 PST\)](#)

Hanley Jenkins, II, Chair
Oregon Energy Facility Siting Council

Attachments:

- Attachment A: Second Amended Site Certificate
- Attachment B-1: Reviewing Agency Comments and Documents Referenced in Order
- Attachment B-2: DPO Comments and Comment Index
- Attachment C: Draft Amended Wildlife and Habitat Monitoring and Mitigation Plan
- Attachment D: Draft Amended Revegetation and Noxious Weed Control Plan
- Attachment E: Oregon Department of Environmental Quality Technical Analysis and Proposed Findings for Water Pollution Control Facilities Permit Modification (Addendum 2)

1 **Notice of the Right to Appeal**

2

3 The right to judicial review of this final order approving an amendment to the site certificate is
4 governed by ORS 469.403 and OAR 345-027-0371(12). Pursuant to ORS 469.403(3), the Oregon
5 Supreme Court has jurisdiction for review of the Council’s approval of an application for an
6 amended site certificate. To appeal you must file a petition for judicial review with the Supreme
7 Court within 60 days from the day this final order approving an amendment to the site certificate
8 was served.

9

10 If this order was e-mailed or mailed to you, the date of service is the date it was e-mailed or
11 mailed, not the date you received it. The date of service for any persons to whom this final order
12 was not e-mailed or mailed is the date it was posted to the Oregon Department of Energy Siting
13 webpage. If you do not file a petition for judicial review within the applicable time period noted
14 above, you lose your right to appeal.

15

Attachment A: Amended Site Certificate

ENERGY FACILITY SITING COUNCIL

OF THE

STATE OF OREGON

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

ISSUE DATES

1

Site Certificate July 2, 2012

First Amended Site Certificate December 14, 2018

Second Amended Site Certificate November 19, 2020

2

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**CARTY GENERATING STATION SITE CERTIFICATE
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Acronyms and Abbreviations

AC	alternating current
ACEC	Area of Critical Environmental Concern
ADA	Americans with Disabilities Act
AMD1	Final Order on Amendment No. 1
AMD2	Final Order on Amendment No. 2
Btu	British Thermal Unit
BCP	Boardman Coal Plant
Carty	Carty Generating Station
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
Council	Oregon Energy Facility Siting Council
CTG	combustion turbine generator
CTUIR	Confederated Tribes of the Umatilla Indian Reservation
DC	direct current
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
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 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 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, (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 (issued November 19, 2020, effective December 9, 2020), (2) the Final Order on Amendment No. 2, (3) the record of the proceedings that led to the Final Order on Amendment No. 2, (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 (7) the record of the proceedings that led to the Final Order on the Application.

This Site Certificate does not address, and is not binding with respect to, matters that were not addressed in the Council's Final Order on the Application, 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 345-027-0350(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 345-025-0006(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 345-025-0006(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 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 4,997 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 Carty Generating Station 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.

In addition to Unit 1, 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 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. . 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
- 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
- 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 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. . 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.

Off-Site Transmission Lines

500 kV BCP to Slatt Transmission Line

To access the grid, certificate holder utilizes the 500-kV Boardman to Slatt transmission line, a 500-kV single circuit transmission line, to connect the Grassland Switchyard to the 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. 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.

Water Sources and Discharges

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 BCP 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 chemical used for emissions control, is stored in steel horizontal sealed storage tanks with secondary containment. Other liquid chemicals such as sulfuric acid (used for pH control) and sodium hypochlorite and sodium bromide (used as biocides in cooling tower water) are stored in tanks or totes with secondary containment. Small-quantity chemicals such as cleaners and lubricants are stored within on-site accessory buildings.

Accessory Buildings

Accessory buildings at 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, administration areas, and security guard station.

Communication Lines

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 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)]

- 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 [December 9, 2020]. 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 [December 9, 2020]. The certificate holder shall promptly notify the Department of the date of completion of construction of these supporting facilities.

[AMD2]

4.3. [DELETED]

[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 345-025-0006(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, 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 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 2, 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]
- 5.6. 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]
- 5.7. Except as necessary for the initial survey or as otherwise allowed for wind energy facilities, transmission lines or pipelines under OAR 345-027-0020, the certificate holder shall not begin construction, as defined in OAR 345-001-0010, or create a clearing on any part of the site until the certificate holder has construction rights on all parts of the site. For the purpose of this rule, “construction rights” means the legal right to engage in construction activities.
[Final Order III.D.6] [Mandatory Condition OAR 345-027-0020(5)]
- 5.8. Before beginning construction, the certificate holder must notify the Department in advance of any work on the site that does not meet the definition of “construction” in ORS 469.300 (excluding surveying, exploration, or other activities to define or characterize the site) and must provide to the Department a description of the work and evidence that its value is less than \$250,000.
[Final Order IV.B.2.6]

5.9. The certificate holder shall develop and implement a Spill Prevention, Control and Countermeasure (SPCC) Plan in accordance with 40 Code of Federal Regulations (CFR) 112. A copy of this plan shall be provided to the Department prior to the commencement of operation of Carty Generating Station, and shall be updated according to the timelines provided in 40 CFR 112.

[Final Order IV.G.2.1] [AMD1] [AMD2]

5.10. Before beginning construction of the Carty Solar Farm, the certificate holder shall record in the deed records of Morrow County a document binding the certificate holder and its successors in interest, prohibiting them from pursuing a claim for relief or cause of action alleging injury from farming or forest practices as defined in ORS 30.930(2) and (4).

6.0 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)] [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 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, directivity effects and soil-structure interaction. For coastal sites, this also includes tsunami hazards and seismically-induced coastal subsidence.

[Final Order IV.C.2.5] [Mandatory Condition OAR 345-025-0006(12)][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 to propose and implement corrective or mitigation actions.

[Final Order IV.C.2.2] [Mandatory Condition OAR 345-025-0006(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.

[Final Order IV.C.2.3] [Mandatory Condition OAR 345-025-0006(14)][AMD2]

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:

- 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 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 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]

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

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

[Final Order IV.M.2.13]

- 6.22. The certificate holder shall construct all facility components in compliance with the following setback requirements. The transmission lines connecting the Carty Generating Station and the Grassland Switchyard are exempt from this condition.

- a. For portions of the facility located in the Morrow County General Industrial Zoning District:

- i. The minimum setback between a structure and the right-of-way of an arterial street shall be 50 feet. The minimum setback of a structure from the right-of-way of a collector shall be 30 feet, and from all lower class streets the minimum setback shall be 20 feet.
- ii. Any sewage disposal installations such as outhouses, septic tank and drainfield systems shall be set back from the high-water line or mark along all streams and lakes a minimum of 100 feet, measured at right angles to the high-water line or mark. All structures, buildings, or similar permanent fixtures shall be set back from the high-water line or mark along all streams or lakes a minimum of 100 feet measured at right angles to the high-water line or mark.

- b. For portions of the facility located in the Morrow County Exclusive Farm Use Zoning District:

- i. The front yard setback from the property line shall be a minimum of 100 feet if the property line is adjacent to an intensive agricultural use; otherwise, front yards shall be 20 feet for property fronting on a local minor collector or marginal access street right-of-way, 30 feet from a property line fronting on a major collector right-of-way, and 80 feet from an arterial right-of-way.
- ii. Each side yard shall be a minimum of 20 feet except that for parcels or lots with side yards adjacent to an intensive agricultural use the adjacent side yard shall be a minimum of 100 feet.
- iii. Rear yards shall be a minimum of 25 feet, except for parcels or lots with rear yards adjacent to an intensive agricultural use, where rear yards shall be a minimum of 100 feet.
- iv. Any sewage disposal installations such as outhouses, septic tank and drainfield systems shall be set back from the high-water line or mark along all streams and lakes a minimum of 100 feet, measured at right angles to the high-water line or mark. All structures, buildings, or similar permanent fixtures shall be set back from the high-water line or mark along all streams or lakes a minimum of 100 feet measured at right angles to the high-water line or mark.

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

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

[Final Order IV.E.4.5] [MCZO Sections 4.020 and 4.070]

- 6.24. The certificate holder shall comply with Section 5, Public Responsibilities, of the Morrow County Solid Waste Management Ordinance. Any hauling of solid waste from the Carty Generating Station facility during construction, operation, or retirement shall be performed by a franchised solid waste hauler or otherwise comply with the Morrow County Solid Waste Management Ordinance.

[Final Order IV.E.4.7] [Morrow County Waste Management Ordinance Section 5.000] [AMD2]

- 6.25. Recycling by the certificate holder and certificate holder's contractors during construction, operation, and retirement of the Carty Generating Station facility shall be

done in accordance with Oregon Department of Environmental Quality regulations and shall be reported as part of the Morrow County 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:

(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 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]
[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, 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, 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 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 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, 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] [AMD1]
 - b. [Deleted] [AMD1]
 - c. [Deleted] [AMD1]
 - d. [Deleted] [AMD1]
 - e. After completing construction in an area, the certificate holder must monitor the area until soils are stabilized and evaluate whether construction-related impacts to soils are being adequately addressed by the mitigation procedures described in the Erosion and Sediment Control Plan and the approved Revegetation and Noxious Weed Control Plan. As necessary, the certificate holder must implement follow-up restoration measures such as scarification and reseeded to address those remaining impacts.
[Final Order IV.D.2.4] [AMD1]
- 9.5 During 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, 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:
- i. Consult with the Oregon Department of Fish and Wildlife and prepare a final Wildlife and Habitat Monitoring Mitigation Plan and submit the plan to the Department for review and approval. The certificate holder must conduct all wildlife and habitat monitoring as described in the approved Wildlife and Habitat Monitoring and Mitigation Plan, as amended from time to time.
[Final Order IV.H.2.1] [Mandatory Condition OAR 345-027-0020(6)]
 - ii. Submit for review and approval by the Department, in consultation with the Oregon Department of Fish and Wildlife, a final Wildlife and Habitat Monitoring

Mitigation Plan based upon the mitigation methodology and enhancement actions in the draft amended plan provided in the Final Order on Amendment 2. The certificate holder must conduct all wildlife and habitat monitoring as described in the approved Wildlife and Habitat Monitoring and Mitigation Plan, as amended from time to time.

[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. 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 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.1.2.1] [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.1.2.2]

- 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.1.2.3]

- 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.1.2.4]

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.1.2.5] [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.1.2.6] [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.1.2.8] [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.1.2.9] [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 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. 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]

- 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 (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]
[Final Order V.E.2. [AMD1]
- 10.35. [Deleted]
[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 remedying 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]

[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 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]
[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 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 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 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]

[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.

[AMD1]

- 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 (b) 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 (b) 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 4th 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 3rd Quarter 2011 dollars), Carty Solar Farm (expressed in 3rd Quarter 2016 dollars) and related or supporting facilities approved in Final Order on RFA2 (expressed in 4th 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, 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: *Hanley Jenkins, II*
Hanley Jenkins, II (Nov 25, 2020 09:18 PST)

By: *Arya Behbehani*
Arya Behbehani (Dec 9, 2020 09:25 PST)

Hanley Jenkins III, Chair
Oregon Energy Facility Siting Council

Print: Arya Behbehani

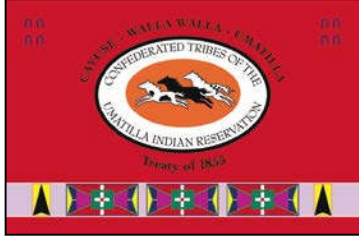
Date: Nov 25, 2020

Date: Dec 9, 2020

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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

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

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 pRFA2 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

3040 25TH STREET SE, SALEM, OR 97302

WWW.OREGON.GOV/AVIATION

From: MCVEIGH-WALKER Chase * ODOE <Chase.McVeigh-Walker@oregon.gov>

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

To: BLEAKNEY Leann <bleakney@nwcouncil.org>; SHEERAN Kristen * GOV <Kristen.SHEERAN@oregon.gov>; MINER Jason * GOV <Jason.MINER@oregon.gov>; CANE Jason <jason.cane@state.or.us>; MILLS David <david.mills@state.or.us>; JOHNSON Jim * ODA <jjohnson@oda.state.or.us>; BAILEY Mark <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>; jeff.caines@aviation.state.or.us; PECK Heather <heather.peck@aviation.state.or.us>; svelund.greg@deq.state.or.us; HAYES-GORMAN Linda <Linda.HAYES-GORMAN@state.or.us>; WANG Yumei * DGMI <Yumei.WANG@oregon.gov>; HALLYBURTON Rob <IMCEAEX-

_o=ETS+20Exchange_ou=Exchange+20Administrative+20Group+20+28FYDIBOHF23SPDLT+29_cn=Recipients_cn=Rob+20 Hallyburtona81@Oregon.gov>; EDELMAN Scott <scott.edelman@state.or.us>; JININGS Jon <jon.jinings@state.or.us>; HOWARD Gordon <gordon.howard@state.or.us>; MCALLISTER Lynne <lynne.mcallister@state.or.us>; HARTMAN Heidi <heidi.m.hartman@state.or.us>; RYAN Peter <peter.ryan@state.or.us>; PETERS Scott <Scott.PETERS@odot.state.or.us>; sterger.justin@deq.state.or.us; REIF Sarah J <Sarah.J.Reif@state.or.us>; CHERRY Steve P <Steve.P.Cherry@state.or.us>; TOKARCZYK John A * ODF <John.A.TOKARCZYK@oregon.gov>; WANG Yumei * DGMI <Yumei.WANG@oregon.gov>; dgmi_accounts.payable@agency.gov; BEALS Alice * OPRD <Alice.Beals@oregon.gov>; TAYLOR Trevor * OPRD <Trevor.Taylor@oregon.gov>; MULDOON Matt <matt.muldoon@state.or.us>; LGKOH@puc.state.or.us; CLEARANCE ORSHPO * OPRD <ORSHPO.Clearance@oregon.gov>; BJORK Mary F * WRD <Mary.F.Bjork@oregon.gov>; kpettigrew@cityofboardman.com; cityofa@gorge.net; michelle.colby@co.gilliam.or.us; leslie.wetherell@co.gilliam.or.us; Elizabeth.farrar@co.gilliam.or.us; sherrie.wilkins@co.gilliam.or.us; scase@co.morrow.or.us; jdoherly@co.morrow.or.us; mlindsay@co.morrow.or.us; RUSSELL Don <drussell@co.morrow.or.us>; swrecsics@co.morrow.or.us

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



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.

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 Cary 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, 1st 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/ft² 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".

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

Morrow County Comment Letter
Carty Generating Facility RFA2

www.co.morrow.or.us/planning

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>

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

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

Cc: Andrew Bidwell <Andrew.Bidwell@pgn.com>; Kling, Louise <louise.kling@aecom.com>; Newell, Emily <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>

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

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

Cc: Andrew Bidwell <Andrew.Bidwell@pgn.com>; Kling, Louise <louise.kling@aecom.com>; Newell, Emily <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.*****

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>
Sent: Monday, June 15, 2020 11:51 AM
To: Sarah J Reif <Sarah.J.Reif@state.or.us>; Steve Cherry (steve.p.cherry@state.or.us) <steve.p.cherry@state.or.us>; MCVEIGH-WALKER Chase * ODOE <Chase.McVeigh-Walker@oregon.gov>; WOODS Maxwell * ODOE <Maxwell.Woods@oregon.gov>
Cc: Andrew Bidwell <Andrew.Bidwell@pgn.com>; Kling, Louise <louise.kling@aecom.com>; Newell, Emily <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 14th 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 14th 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 14th 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
p:503-464-2634 • c:503-313-5022

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Oregon

Kate Brown, Governor



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www.Oregon.gov/ENERGY

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 RAIs 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
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 4th call (note, since this was a phone call I've summarized the questions).

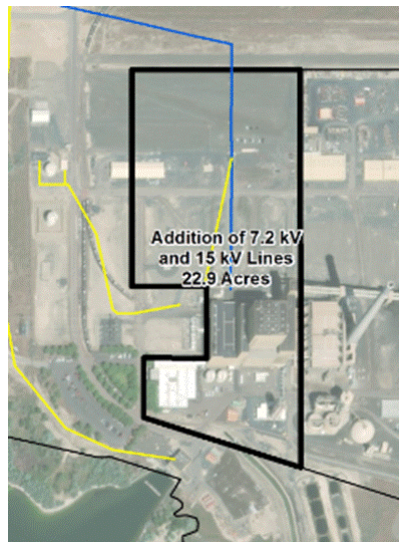
1. Question regarding bullet #3 in the Introduction section about including “Carty substation and associated distribution lines” under this bullet, or if it should only be listed under bullet #4?

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
 p:503-464-2634 • c:503-313-5022

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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,

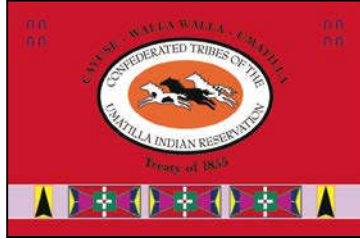
Please find attached the CTUIR's comments on Carty Generating Station's Request for Comments on the Complete Request for Amendment 2 and Draft Proposed Order.

TEARA FARROW FERMAN

Manager | Cultural Resources Protection Program
Confederated Tribes of the Umatilla Indian Reservation
46411 Timine Way | Pendleton | Oregon 97801
541.276.3447 Office | 541.429.7230 Fax
TearaFarrowFerman@ctuir.org

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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]

Sent: Wednesday, October 28, 2020 2:27 PM

To: Teara Farrow Ferman <TearaFarrowFerman@ctuir.org>

Cc: Shawn Steinmetz <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>
Sent: Tuesday, October 27, 2020 4:01 PM
To: MCVEIGH-WALKER Chase * ODOE <Chase.McVeigh-Walker@oregon.gov>
Cc: Shawn Steinmetz <ShawnSteinmetz@ctuir.org>
Subject: CTUIR comments on Carty Generating Station's Request for Amendment 2 and Draft Proposed Order

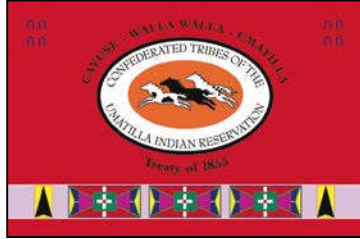
Chase,
Please find attached the CTUIR's comments on Carty Generating Station's Request for Comments on the Complete Request for Amendment 2 and Draft Proposed Order.

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](#)

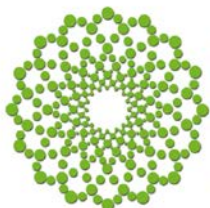
Subject: Comments on Carty Generating Station Site Certificate – Request for Amendment 2

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
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,



Nathan Baker
Senior Staff Attorney
Friends of the Columbia Gorge
nathan@gorgefriends.org



Erin Saylor
Staff Attorney
Columbia Riverkeeper
erin@columbiariverkeeper.org



Amelia Reiver Schlusser
Staff Attorney
Green Energy Institute
ars@lclark.edu

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

Search for "PGE, Portland General Electric, Boardman, Standard, ACDP, Title V)"

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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.

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 (tons/yr)	Proposed Limit (tons/yr)
Particulate matter	1101	1101
Small particulate matter (PM ₁₀)	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 (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
Total HAPs	60.70

For more information about hazardous air pollutants, go to:
[Health Effects Notebook for Hazardous Air Pollutants](#)



DRAFT
1/4/2018

State of Oregon
Department of
Environmental
Quality

Permit Number: 25-0016-ST-02

Expiration Date: 08/01/2021

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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:
- a. 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);
 - b. Emissions unit ABEU2, auxiliary natural gas-fired boiler (91 million Btu/hr heat input, nominal capacity);
 - c. Emissions unit FWP1, diesel-fired water pump emergency engine (265 horsepower, nominal capacity); and
 - d. 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% CO₂ 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_x BACT Limit** Nitrogen oxide emissions from CTEU1 must not exceed the following limits:
- a. 2.0 ppmvd @ 15% O₂ 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_x NSPS Limit** The permittee must not cause to be discharged into the atmosphere from CTEU1 any gases that contain nitrogen oxides (expressed as NO₂) 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 - SO₂ 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% O₂ 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% O₂ 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 – PM₁₀ and H₂SO₄ BACT** The permittee must burn only pipeline quality natural gas in the CTEU1 and ABEU2.
- 3.8. ABEU2 – NO_x BACT** The permittee must install and operate low-NO_x burners and burn only pipeline quality natural gas in ABEU2. NO_x 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_x 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 ₁₀	1,028	1,028
PM _{2.5}	789	789
SO ₂	8,502	7,613
NO _x	5,836	5,836
CO	8,881	8,881
VOC	92	92
GHG (CO ₂ e)	5,478,100	5,478,100

Compliance with the annual limits is determined on the first day of each month by summing the emissions for the previous 12-consecutive months.
* This date is 1 year after the compliance date of the regional haze rules.

4.0 PLANT SITE EMISSION LIMITS

4.1. Plant Site Emission Limits (PSEL)

Pollutant	Limit (tons/yr)
PM	1,101
PM ₁₀	1,086
PM _{2.5}	847
SO ₂	8,525
NO _x	5,961
CO	9,202
VOC	286
H ₂ SO ₄	16
Pb	0.17
GHGs (CO ₂ 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_x Monitoring Requirements

The permittee must certify, operate, maintain and record the output of a NO_x CEMS (consisting of a NO_x pollutant concentration monitor and an O₂ diluent monitor) with automated DAHS for measuring and recording NO_x 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_x 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 O₂ concentration exceeds 19.0 percent O₂ (or the hourly CO₂ concentration is less than 1.0 percent CO₂), a diluents cap value of 19.0 percent O₂ or 1.0 percent CO₂ (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:

$$M_{NO_x} = ER_{NO_x} \times HI_g$$

Where,

M_{NO_x} = Hourly mass of NO_x emissions from the combustion of pipeline natural gas, lb/hr.

ER_{NO_x} = NO_x 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 3.413×10^6 = 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_x concentration and NO_x 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_x - 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_x 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_x 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_x concentration is the arithmetic average of the average NO_x concentration measured by the CEMS for a given minute (corrected to 15% O₂) 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_x emission rate is the arithmetic average of the average NO_x

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_x emission rate is the arithmetic average of the average NO_x 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_x emissions is the arithmetic average of all hourly NO_x 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_x emissions rates for the preceding 30 unit operating days if a valid NO_x 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_x 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_x 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 CO₂ 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 CO₂ 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 CO₂/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 O₂ concentration exceeds 19.0 percent O₂ (or the hourly CO₂ concentration is less than 1.0 percent CO₂), a diluents cap value of 19.0 percent O₂ or 1.0 percent CO₂ (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% O₂) 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_x 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_x 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 H₂SO₄ and PM_{2.5}).

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

11.0 GENERAL CONDITIONS AND DISCLAIMERS

- 11.1. Permitted Activities** 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.
- 11.2. Other Regulations** In addition to the specific requirements listed in this permit, the permittee must comply with all other legal requirements enforceable by DEQ.
- 11.3. Conflicting Conditions** In any instance in which there is an apparent conflict relative to conditions in this permit, the most stringent conditions apply.
- 11.4. Masking of Emissions** 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.
- 11.5. DEQ Access** 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.
- 11.6. Permit Availability** The permittee must have a copy of the permit available at the facility at all times.
- 11.7. Open Burning** The permittee may not conduct any open burning except as allowed by OAR 340, division 264.
- 11.8. Asbestos** 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.
- 11.9. Property Rights** 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.
- 11.10. Permit Expiration**
- 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 ₁₀ , PM _{2.5}	5.03E-03	lb/MMBtu	Manufacturer Estimate
	SO ₂	3.0	lb/MMft ³	Fuel sulfur content
	NO _x	CEMS	--	--
	CO	CEMS	--	--
	VOC Normal ops	2.10E-03	lb/MMBtu	AP-42 Table 3.1-2a
	Cold start	1,003.84	lb/hr	Manufacturer Estimate
	Hot start	412.15	lb/hr	Manufacturer Estimate
	Shutdown	315.2	lb/hr	Manufacturer Estimate
	H ₂ SO ₄	1.46	lb/MMft ³	31.6% of SO ₂ conversion
	GHG	117.1	lb/MMBtu	40 CFR 98
ABEU2	PM, PM ₁₀ , PM _{2.5}	2.5	lb/MMft ³	DEQ form AQ-EF05
	SO ₂	3.0	lb/MMft ³	Fuel sulfur content
	NO _x	50	lb/MMft ³	AP-42, Chapter 1.4
	CO	84	lb/MMft ³	AP-42, Chapter 1.4
	VOC	5.5	lb/MMft ³	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 ³)	hourly
	Hours in cold startup, hot startup, and shutdown	per event
ABEU2	Natural gas burned (MMft ³)	hourly

14.0 ABBREVIATIONS, ACRONYMS AND DEFINITIONS

ACDP	Air Contaminant Discharge Permit	NSR	New Source Review
ASTM	American Society for Testing and Materials	O ₂	Oxygen
AQMA	Air Quality Maintenance Area	OAR	Oregon Administrative Rules
calendar year	The 12-month period beginning January 1st and ending December 31 st	ORS	Oregon Revised Statutes
CFR	Code of Federal Regulations	O&M	Operation and Maintenance
CO	Carbon Monoxide	Pb	Lead
CO ₂ e	Carbon Dioxide Equivalent	PCD	Pollution Control Device
DEQ	Oregon Department of Environmental Quality	PM	Particulate Matter
dscf	dry standard cubic foot	PM ₁₀	Particulate Matter less than 10 microns in size
EPA	US Environmental Protection Agency	PM _{2.5}	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 ₂	Sulfur Dioxide
NO _x	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 (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 issuance
COMS	
CEMS	X
PEMS	
Ambient monitoring	

Reporting Requirements

Annual report (due date)	3/1
Quarterly report (due dates)	

Monthly report (due dates)	
Excess emissions report	X
Other (specify)	

Air Programs

Synthetic Minor (SM)	
SM -80	
NSPS (list subparts)	D, Dc, Y, IIII, KKKK, TTTT/UUUU
NESHAP (list subparts)	YYYY, ZZZZ, 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_x burner, Selective Catalytic Reduction (SCR) with ammonia injection to reduce NO_x 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_x burner technology and overfire air are used to minimize NO_x emissions. Emissions of SO₂ 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, SO₂, NO_x, CO₂, 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_x burner, Selective Catalytic Reduction (SCR) with ammonia injection to reduce NO_x 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 ₁₀	1,056	1,101	1,015	1,101	1,086	1,086	0
PM _{2.5}	--	853	792	853	847	847	0
SO ₂	30,450	9,502	8,500	8,502	9,525	8,525	-1,000
NO _x	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 _{2e})	5,670,500	5,670,500	4,351,900	5,670,300	6,796,100	6,796,000	-100
H ₂ SO ₄	--	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_{2.5}. [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 H₂SO₄ was not included since all sulfur from the coal plant was assumed to be emitted as SO₂ rather than SO₄. 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_x technologies in the coal boiler, and an increase in PM,

PM₁₀, PM_{2.5}, NO_x, 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 SO₂ allowances for the coal plant to 13,401 ton/yr and the annual average emissions of NO_x to 0.46 lb/MMBtu. The regional haze regulations impose limits on particulate (0.040 lb/MMBtu heat input), NO_x (0.23 lb/MMBtu heat input), and SO₂ (0.40 lb/MMBtu heat input until 7/1/2018 when the SO₂ limit is 0.30 lb/MMBtu heat input).
- ii. Previously PGE requested that limits on SO₂ 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 SO₂ emissions for 2015 were not to exceed 9,500 tons. This value is reflected in the previous netting basis. The coal-fired boiler SO₂ emissions for 2017 are not to exceed 8,500 tons. Therefore, 8,500 tons will be used in the coal boiler SO₂ netting basis determination of this permit. The SO₂ 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 ₁₀	1,101	1,101	1,101	1,101	86
PM _{2.5}	853	853	853	853	61
CO	9,202	9,202	9,202	9,202	321
NO _x	5,961	5,961	5,961	5,961	125
SO ₂	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 ₂ SO ₄	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 SO₂ 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 SO₂ 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 SO₂. 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 ₁₀	1,086	1,086	1,086	1,086	71
PM _{2.5}	847	847	847	847	61
SO ₂	8,525	8,195	6,875	6,725	39
NO _x	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 ₂ e)	6,796,000	6,796,000	6,796,000	6,796,000	1,318,400
H ₂ SO ₄	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 PM₁₀ and PM_{2.5} 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 SO₂ emissions is due to reductions based on the consent decree. Emissions of NO_x, H₂SO₄ 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 ₁₀	15	-15	-15	0
PM _{2.5}	10	-6	-6	0
SO ₂	40	-977	0	-977
NO _x	40	0	0	0
CO	100	321	0	321
VOC	40	194	0	194
GHG (CO _{2e})	75,000	1,125,500	1,125,500	0
H ₂ SO ₄	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/PM₁₀, NO_x, and H₂SO₄ 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 ₂ (3-hr rolling average)	CEMS
		All loads excluding startup and shutdown	20.6 lb/hr (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 ₂	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 ₂)	VOC Limit (@15% O ₂)	Averaging Time
6/30/17	Killingly Energy Center, CT	550 MW, 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 ¹	3.5 ppmvd	3-hour average
1/4/17	Indeck Niles, MI	4161 MMBtu/hr	4.0 ppm (24.7 lb/hr) ²	4.0 ppmvd	24-hour average
12/5/16	Holland Public Works, MI	162 MW, 554 MMBtu/yr	4.0 ppmvd (5.31 lb/hr) ³	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, 3,462 MMBtu/hr	2.0 ppmvd (18.1 lb/hr) 2.0 ppmvd ⁴ (15.3 lb/hr) ⁴	2.0 ppmvd (10.3 lb/hr) 1.0 ppmvd ⁴ (4.37 lb/hr) ⁴	3-hr rolling avg. (CO) 3 test runs (VOC)

Date	Facility	Engine Rating	CO Limit (@15% O ₂)	VOC Limit (@15% O ₂)	Averaging Time
6/17/16	Greenville Power Station, VA ⁵	533 MW, 3,227 MMBtu/hr	1.6 ppmvd 1.0 ppmvd ⁴	1.4 ppmvd 0.7 ppmvd ⁴	3-hr rolling avg. (CO) 3 test runs (VOC)
4/19/16	TVA Johnsonville Cogeneration, TN	1,339 MMBtu/hr	1800 lb/MW-hr	--	12-month rolling avg hourly avg
3/24/16	Apex Neches Station, TX	231 MW	4.0 ppm	2.0 ppm	
3/9/16	Okeechobee Energy Center, FL	350 MW, 3,096 MMBtu/hr	4.3 ppmvd	1.0 ppmvd ⁴	3-hr avg
3/8/16	Decordova II Power, TX	231 MW	4.0 ppm	2.0 ppm	--
11/30/15	CPV Towantic, CT ⁶	402 MW, 2,544 MMBtu/hr	1.7 ppmvd 0.9 ppmvd ⁴	2.0 ppmvd 1.0 ppmvd ⁴	1 hr block
11/13/15	Mattawoman Energy, MD ⁶	286 MW	2.0 ppmvd	1.9 ppmvd 1.0 ppmvd ⁴	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 ³	--	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 ≥ 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 ≤ 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% O₂ 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% O₂ 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 40.0 MMBtu/hr 13.2 MMBtu/hr	50 ppmvd@3% O ₂	5.42 ton/yr 0.94 ton/yr 0.3 ton/yr	Annual
10/9/15	Constellium Alloys Plant, AL	24.59 MMBtu/hr 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 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 2.25 MMBtu/hr	11.6 lb/hr 1.87 lb/hr	0.557 lb/hr 0.0117 lb/hr
6/17/16	Greensville Power Station, VA	376 bhp	2.6 g/hp-hr	3.0 g/hp-hr ¹
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 MMBtu/hr	1.1 lb/hr	0.1 lb/hr
3/9/16	Okeechobee Clean Energy Center, 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- hr
1/8/15	Tinker AFB, OK	300 hp	--	0.15 g/hp-hr ²

1. Limit is an NSPS limit for combined NO_x 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 ³)	Background Concentration (µg/m ³)	Total Concentration (µg/m ³)	National Ambient Air Quality Standard (µg/m ³)
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 th 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_x or VOC emission increase over netting basis
- = 195 ton/yr for VOC (0 ton/yr for NO_x).

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 (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	18.40
Hydrogen fluoride	3.07
Isophorone	0.89
Methyl bromide	0.25
Methyl chloride	0.81

Pollutant	Potential to Emit (ton/yr)
Methyl ethyl ketone	0.60
Methyl hydrazine	0.26
Methyl tert butyl ether	0.05
Methylene chloride	0.44
Polycyclic Aromatic Hydrocarbons (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
Total	60.7

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_x 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, SO₂ emissions, and NO_x 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_x 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_x emissions and on the sulfur content of the fuel burned in the turbine. The current permit has two NO_x limits (15 ppm at 15% O₂ 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% O₂ 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 SO₂). [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 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.

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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 ₁₀	PM _{2.5}	SO ₂	NO _x	CO	VOC	H ₂ SO ₄	GHG	Pb
Boardman Plant - main boiler	1,014.9	1,014.9	787.0	8,500	5835.9	8880.7	92.0	-- ^a	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							
Boardman Plant - Total	1,042.9	1,028.2	789.2	8,501.8	5,836.4	8,880.8	92.0	-- ^a	5,478,121	0.17
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 ₆ (Carty)									2.8	
Circuit Breaker – SF ₆ (Grassland)									231.8	
Carty Plant - Total	57.7	57.7	57.7	22.7	124.7	321.1	193.7	16.1	1,317,849	
Totals	1100.6	1085.9	846.9	8524.5	5961.1	9201.9	285.7	16.1	6,795,969	0.17

a. All sulfur from main boiler included in SO₂ emissions.

BOARDMAN PLANT EMISSIONS

Unit/Device	Process or Throughput		***** PM *****			***** PM ₁₀ *****			***** PM _{2.5} *****		
			Emission Factor		Emissions	Emission Factor		Emissions	Emission Factor		Emissions
	Rate	Units	Rate	Units	(tons/yr)	Rate	Units	(tons/yr)	Rate	Units	(tons/yr)
Particulate Matter											
Main Boiler - coal - oil	5.075E+07	MMBtu/yr	0.040	lb/MMBtu	1014.9	0.040	lb/MMBtu	1014.9	0.031	lb/MMBtu	787.0
	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 ² /yr	0.024	lb/ft ²	11.9	0.012	lb/ft ²	6.0	1.79E-03	lb/ft ²	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
Aggregate Insignificant Activity											
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
Total					1042.9			1028.2			789.2

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
	50	kgal/yr	5	lb/kgal	0.1
NO _x - Main boiler	5.075E+07	MMBtu/yr	0.23	lb/MMBtu	5835.9
	50	kgal/yr	20	lb/kgal	0.5
SO ₂ - Main boiler	5.075E+07	MMBtu/yr	0.40	lb/MMBtu	8500 ¹
	50	kgal/yr	71	lb/kgal	1.8
VOC - Main boiler	3.07E+06	ton/yr	0.06	lb/ton	92
	50	kgal/yr	0.2	lb/kgal	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	kgal/yr	1.24E-03	lb/kgal	0.00003
GHG - Main boiler					
CO ₂	5.075E+07	MMBtu/yr	214.22	lb/MMBtu	5,435,502
CH ₄	5.075E+07	MMBtu/yr	6.06E-01	lb/MMBtu	15,383
N ₂ O	5.075E+07	MMBtu/yr	1.05	lb/MMBtu	26,671
Total GHG - Main boiler (CO₂e)					5,477,556
GHG -Aux Boiler					
CO ₂	50	kgal/yr	22,501	lb/kgal	562.53
CH ₄	50	kgal/yr	22.82	lbCO ₂ e/kgal	0.57
N ₂ O	50	kgal/yr	54.40	lbCO ₂ e/kgal	1.36
Total GHG - Aux boiler (CO₂e)					564

1. Calculated value is 10,149 ton/yr. However, consent decree limits 1997 SO₂ emissions to 8,500 ton/yr.

BOARDMAN EMISSION FACTORS AND EMISSIONS DOCUMENTATION

Boiler Emissions:

The PM, PM₁₀, SO₂ and NO_x 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 PM₁₀ (OAR 340-223-0030(1)(c)), 0.40 lb/MMBtu heat input for SO₂ (OAR 340-223-0030(1)(b)), and 0.23 lb/MMBtu heat input for NO_x (OAR 340-223-0030(1)(a)). On 7/1/2018 the SO₂ emissions limit is decreased to 0.30 lb/MMBtu heat input. The emission factor for PM_{2.5} was estimated in a 9/26/2011 permit revision to be 77.54% of the PM₁₀ 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 CO₂, 25 for CH₄, and 298 for N₂O). There are no circuit breakers containing SF₆ 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 CO₂, 25 for CH₄, and 298 for N₂O).

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^2 per year
K = particle size multiplier, 1.0 for PM, 0.5 for PM_{10} , 0.075 for $PM_{2.5}$
N = number of disturbance periods per year
 P_i = erosion potential for the i th 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^2 , P = 0 if $u^* \leq u_t$
 u^* = friction velocity in m/sec
 u_t = 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_7^+ = 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 $116.59 g/m^2$ ($0.024 lb/ft^2$) for PM, $58.30 g/m^2$ ($0.012 lb/ft^2$) for PM_{10} and $8.74 g/m^2$ ($0.002 lb/ft^2$) for $PM_{2.5}$. 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 PM₁₀ (75%) and PM_{2.5} (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 PM₁₀, and 0.15 for PM_{2.5}
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 PM₁₀, and 0.9 for PM_{2.5}
W = average vehicle weight of all vehicles on road; 3 tons
b = empirical constant; 0.45 for PM, PM₁₀, and PM_{2.5}
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 PM₁₀, 0.053 for PM_{2.5}
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 PM₁₀, 0.053 for PM_{2.5}
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 PM₁₀. It was conservatively assumed that the PM_{2.5} emissions are similar to PM₁₀ 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 PM₁₀, 0.00054 for PM_{2.5}
sL = road surface silt loading; 0.015 g/m² 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 (tons/yr)
	Rate	Units	Rate	Units	
PM/PM₁₀/PM_{2.5}	22,485,120	MMBtu/yr	5.03E-03	lb/MMBtu	56.6
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
Total CO					320.2
NO _x - 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
Total NO_x					124.0
SO₂	22,030	MMcf/yr	3.0	lb/MMcf	22.6
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
Total VOC					193.6
H₂SO₄	22,030	MMcf/yr	1.46	lb/MMcf	16.1
GHG - CO ₂	22,485,120	MMBtu/yr	117.0	lb/MMBtu	1,315,111
- CH ₄ (CO ₂ e)	22,485,120	MMBtu/yr	5.51E-02	lb/MMBtu	619.6
- N ₂ O (CO ₂ e)	22,485,120	MMBtu/yr	6.57E-02	lb/MMBtu	738.6
Carty-SF ₆	1.21E-04	ton/yr	22,800	lb CO ₂ e/lb SF ₆	2.8
Grassland – SF ₆	1.02E-02	ton/yr	22,800	lb CO ₂ e/lb SF ₆	231.8
Total GHG (CO₂e)					1,316,703.4

COMBUSTION TURBINE EMISSION FACTOR DOCUMENTATION

The PM, PM₁₀ and PM_{2.5} emission factors as well as the estimates of CO, NO_x, 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_x emission factor during normal operation assumes the exhaust gas concentration of NO_x is 2 ppm at standard temperature and pressure, corrected to 15% oxygen. The SO₂ emission factor assumes the sulfur content of natural gas is 30 ppm but 31.6% of the SO₂ formed is converted to SO₄ which becomes H₂SO₄. 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 SF₆ at the Carty facility. There are also three circuit breakers at the Grassland Switchyard that contain 1,355.84 lbs of SF₆ each. The circuit breakers are assumed to leak SF₆, a greenhouse gas, at an annual rate of 0.5% by weight. As a result, 0.24 lbs of SF₆ leak from the two Carty breakers each year, and 20.34 lbs of SF₆ leak from the three Grassland Switchyard breakers. The global warming potential of SF₆ 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 ₁₀ /PM _{2.5}	19.0	MMcf/yr	2.5	lb/MMcf	0.02
SO ₂	19.0	MMcf/yr	3.0	lb/MMcf	0.03
NO _x	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 ₂	19,406	MMBtu/yr	117.0	lb/MMBtu	1,135
- CH ₄ (CO ₂ e)	19,406	MMBtu/yr	0.055	lb/MMBtu	0.54
- N ₂ O (CO ₂ e)	19,406	MMBtu/yr	0.066	lb/MMBtu	0.64
Total GHG (CO ₂ e)					1,136

CARTY AUXILIARY BOILER EMISSION FACTOR DOCUMENTATION

The Carty auxiliary boiler is used for turbine startup. The emission factors for PM, PM₁₀ and PM_{2.5} come from DEQ's table of emission factors (Form AQ-EF05). The SO₂ emission factor assumes a natural gas sulfur content of 30 ppm which is all converted to SO₂ emissions. The NO_x 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 ₁₀ /PM _{2.5}	15,750	hp-hr/yr	3.31E-04	lb/hp-hr	0.003
SO ₂	15,750	hp-hr/yr	2.05E-03	lb/hp-hr	0.016
NO _x	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 ₂	110.5	MMBtu/yr	163.1	lb/MMBtu	9.0
- CH ₄ (CO ₂ e)	110.5	MMBtu/yr	0.165	lb/MMBtu	0.009
- N ₂ O (CO ₂ e)	110.5	MMBtu/yr	0.394	lb/MMBtu	0.021
Total GHG (CO ₂ e)					9.0

FIRE WATER PUMP EMISSION FACTOR DOCUMENTATION

The PM, PM₁₀ and PM_{2.5} emission factor is set at the regulatory limit found in 40 CFR 60.4205(c). The emission factors for SO₂, NO_x, 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	Main Boiler (coal) 3,066,000 ton/yr 50,746,680 MMBtu/yr			Main Boiler (oil) 1,000 kgal/yr 138,000 MMBtu/yr			Carty Gas Turbine 22,044 MMscf/yr 22,485,120 MMBtu/yr			Carty Auxiliary Boiler 22.04 MMscf/yr 22,477 MMBtu/yr			Total
	Emission Factor ^a		Emissions (ton/yr)	Emission Factor ^f		Emissions (ton/yr)	Emission Factor ^g		Emissions (ton/yr)	Emission Factor ^h		Emissions (ton/yr)	Emissions (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> 3,066,000 ton/yr 50,746,680 MMBtu/yr			<u>Main Boiler (oil)</u> 1,000 kgal/yr 138,000 MMBtu/yr			<u>Carty Gas Turbine</u> 22,044 MMscf/yr 22,485,120 MMBtu/yr			<u>Carty Auxiliary Boiler</u> 22.04 MMscf/yr 22,477 MMBtu/yr			Total
	Emission Factor ^a		Emissions (ton/yr)	Emission Factor ^f		Emissions (ton/yr)	Emission Factor ^g		Emissions (ton/yr)	Emission Factor ^h		Emissions (ton/yr)	Emissions (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 ⁱ	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
Naphthalene (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> 3,066,000 ton/yr 50,746,680 MMBtu/yr			<u>Main Boiler (oil)</u> 1,000 kgal/yr 138,000 MMBtu/yr			<u>Carty Gas Turbine</u> 22,044 MMscf/yr 22,485,120 MMBtu/yr			<u>Carty Auxiliary Boiler</u> 22.04 MMscf/yr 22,477 MMBtu/yr			Total
	Emission Factor ^a		Emissions (ton/yr)	Emission Factor ^f		Emissions (ton/yr)	Emission Factor ^g		Emissions (ton/yr)	Emission Factor ^h		Emissions (ton/yr)	Emissions (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 ^{b, d}	0.12										0.12
Arsenic	8.87E-06	lb/MMBtu ^{c, d}	0.23	4E-06	lb/MMBtu	0.102				2.0E-04	lb/MMscf	1.9E-06	0.33
Beryllium	1.05E-06	lb/MMBtu ^{c, d}	0.03	3E-06	lb/MMBtu	0.076				1.2E-05	lb/MMscf	1.1E-07	0.11
Cadmium	5.76E-07	lb/MMBtu ^{c, d}	0.01	3E-06	lb/MMBtu	0.076				1.1E-03	lb/MMscf	1.1E-05	0.09
Chromium	2.04E-05	lb/MMBtu ^{c, d}	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 ^{b, d}	0.52										0.52
Cobalt	4.32E-04	lb/ton ^{b, d}	0.66							8.4E-05	lb/MMscf	8.0E-07	0.66
Lead	6.58E-06	lb/MMBtu ^{c, d}	0.17	9E-06	lb/MMBtu	0.228				5.0E-04	lb/MMscf	4.8E-06	0.40
Manganese	3.87E-05	lb/MMBtu ^{c, d}	0.98	6E-06	lb/MMBtu	0.152				3.8E-04	lb/MMscf	3.6E-06	1.13
Mercury	6.00E-07	lb/MMBtu ^e	0.02	3E-06	lb/MMBtu	0.076				2.6E-04	lb/MMscf	2.5E-06	0.10
Nickel	1.67E-05	lb/MMBtu ^{c, d}	0.42	3E-06	lb/MMBtu	0.076				2.1E-03	lb/MMscf	2.0E-05	0.50
Selenium	5.62E-03	lb/ton ^{b, d}	8.62	1.5E-05	lb/MMBtu	0.381				2.4E-05	lb/MMscf	2.3E-07	9.00
Total HAPS			47.9			0.02			11.5			0.02	60.7
Maximum Single HAP			18.4			1.27			8.0			0.02	18.4

- 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 Lutcher](#)
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

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 Lutcher
Executive Assistant
Morrow County Administration & Board of Commissioners
541-676-5613 (5303)
P.O. Box 788
110 N. Court St.
Heppner, OR 97836
Email: rlutcher@co.morrow.or.us





Board of Commissioners

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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, 1st Floor
Salem, OR 97301

RE: Carty Generating Facility Request for Amendment 2 and Draft Proposed Order

Dear Mr. McVeigh-Walker,

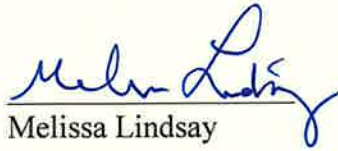
Morrow County appreciates the opportunity to comment on the Carty Generating Station's Request for Amendment 2 (RFA2) and the Draft Proposed Order. It is our understanding that Amendment 2 would incorporate existing common infrastructure shared by the facility and Boardman Coal Plant (BCP) including, 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.

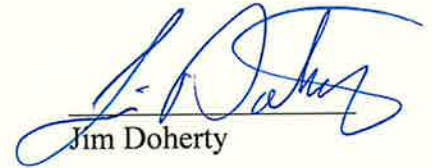
As always, Morrow County appreciates the opportunity to coordinate with you and other Department staff. Should you have any questions about this comment letter, or need additional

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

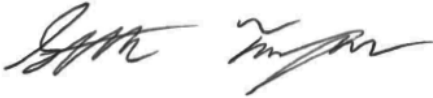
To make this determination, any incorporated existing infrastructure shared by the Carty Generation Station and Boardman Coal Plant within the modified site boundary that is more than 200 feet in height or within the distances provided above must undergo airspace analysis through submittal of a completed 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.

Sincerely,

A handwritten signature in black ink, appearing to read "Seth Thompson". The signature is written in a cursive style with a large initial "S" and a long horizontal stroke.

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
3040 25TH STREET SE, SALEM, OR 97302
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, enters 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

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: _____

9. Latitude: _____ ° _____ ' _____ " _____"
10. Longitude: _____ ° _____ ' _____ " _____"
11. Datum: NAD 83 NAD 27 Other
12. Nearest: City: _____ State: _____
13. Nearest Public-use (not private-use) or Military Airport or Heliport: _____

2. Sponsor's Representative (if other than #1):
Attn. of _____
Name: _____
Address: _____
City: _____ State: _____ Zip: _____
Telephone: _____ Fax: _____

14. Distance from #13. to Structure: _____
15. Direction from #13. to Structure: _____
16. Site Elevation (AMSL): _____ ft.
17. Total Structure Height (AGL): _____ ft.
18. Overall Height (#16 + #17) (AMSL): _____ ft.
19. Previous FAA Aeronautical Study Number (if applicable): _____-OE

3. Notice of: New Construction Alteration Existing
4. Duration: Permanent Temporary (____ months, ____ days)
5. Work Schedule: Beginning _____ End _____
6. Type: Antenna Tower Crane Building Power Line
 Landfill Water Tank Other _____
7. Marking/Painting and/or Lighting Preferred:
 Red Lights and Paint Dual - Red and Medium Intensity
 White-Medium Intensity Dual - Red and high Intensity
 White -High Intensity Other
8. FCC Antenna Structure Registration 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
------	---	-----------

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

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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.

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

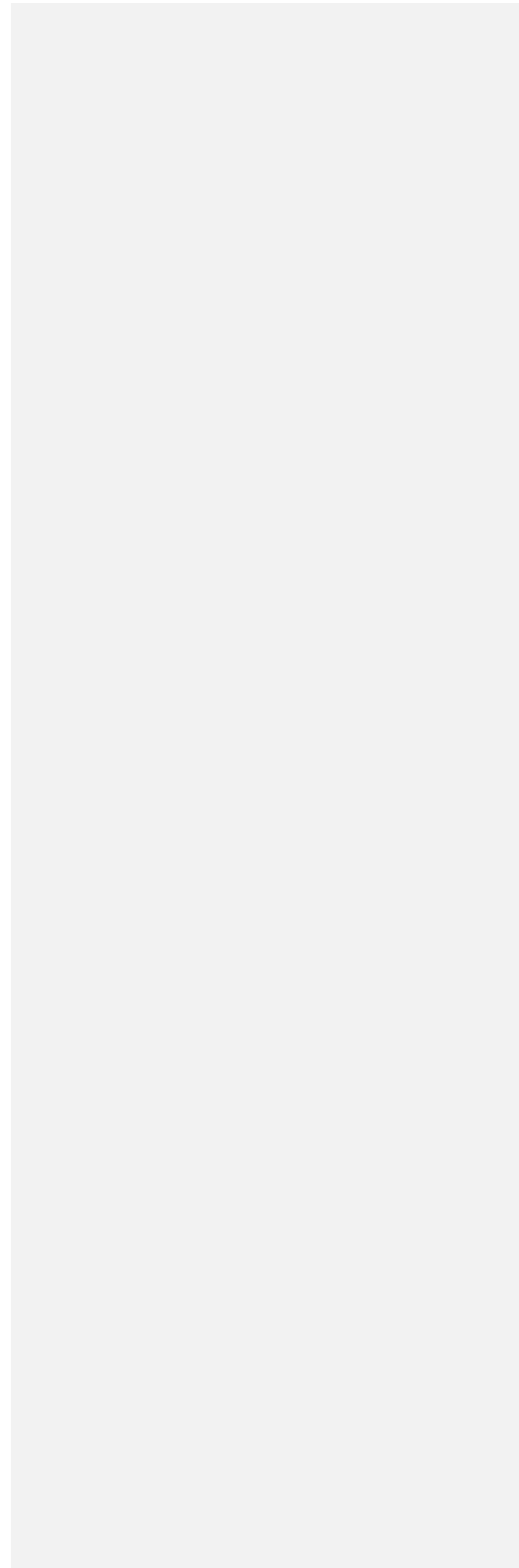


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- Attachment B: Reviewing Agency Comments and Documents Referenced in Order
- Attachment C: Draft Amended Wildlife and Habitat Monitoring and Mitigation Plan
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- Attachment E: Oregon Department of Environmental Quality Technical Analysis and Proposed Findings for Water Pollution Control Facilities Permit Modification (Addendum 2)

1 **I. INTRODUCTION**

2
3 The Oregon Department of Energy (Department) issues this draft proposed order, in
4 accordance with Oregon Revised Statute (ORS) 469.405(1) and Oregon Administrative Rule
5 (OAR) 345-027-0365, based on its review of Request for Amendment 2 (RFA2) to the Carty
6 Generating Station (CGS or Carty) site certificate, as well as comments and recommendations
7 received by specific state agencies, Tribal Governments and local governments during review of
8 the preliminary amendment request. The certificate holder for the facility is Portland General
9 Electric Company (certificate holder or PGE).

10
11 The certificate holder requests approval from the Energy Facility Siting Council (EFSC or Council)
12 to amend the site certificate to authorize the following modifications¹:

- 13
14 • Amend the site boundary to both remove approximately 378 acres of agricultural land
15 from the existing site boundary, and also increase the site boundary by approximately
16 3,414 acres to incorporate existing facilities currently authorized under the Boardman
17 Coal Plant site certificate, based on the planned decommissioning of the Boardman Coal
18 Plant;
- 19 • Amend the site certificate to incorporate shared infrastructure and existing facilities
20 (shared by the Boardman Coal Plant and Carty Generating Station);
- 21 • Construct new infrastructure at the Carty Generating Station, including a new sewer
22 line, septic tank, septic drain field, a backup water pipeline, potable water line, a
23 wastewater pipeline, a 7.2 kilovolt (kV) powerline, a substation and associated
24 distribution lines, an office and warehouse, and a new security guard station.
- 25 • Modify Schedule A, Condition 6 of the existing Oregon Department of Environmental
26 Quality (ODEQ) Water Pollution Control Facility (WPCF) permit to add turbine rinse
27 water as an allowed discharge to Carty Reservoir.

28
29 Based upon review of RFA2 and the comments and recommendations received by specific state
30 agencies, Tribal Governments and local governments, the Department recommends Council
31 approve the request and grant an amendment of the CGS site certificate subject to the existing,
32 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.

1 CGSAM2 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-BR05~~0403
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

17
18 **I.B. Facility Description (Operational/Approved)**

19
20 The approved, operating facility includes a 450 MW natural gas fueled combined-cycle electric
21 generating turbine (Unit 1) and its associated components including a heat recovery steam
22 generator, steam turbine generator, natural-gas fueled auxiliary boiler, and cooling tower cell.
23 Related and supporting facilities include the Grassland Switchyard, onsite 500 kV
24 interconnection transmission line (Unit 1 to Grassland Switchyard), interconnecting water
25 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 ~~po-table~~ 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,
34 Council approved the construction and operation of a 50 MW photovoltaic solar generating unit
35 (Carty Solar Farm). RFA1 was approved by Council on December 14, 2018 and the site
36 certificate was fully executed on February 4, 2019. Construction of the Carty Solar Farm must
37 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

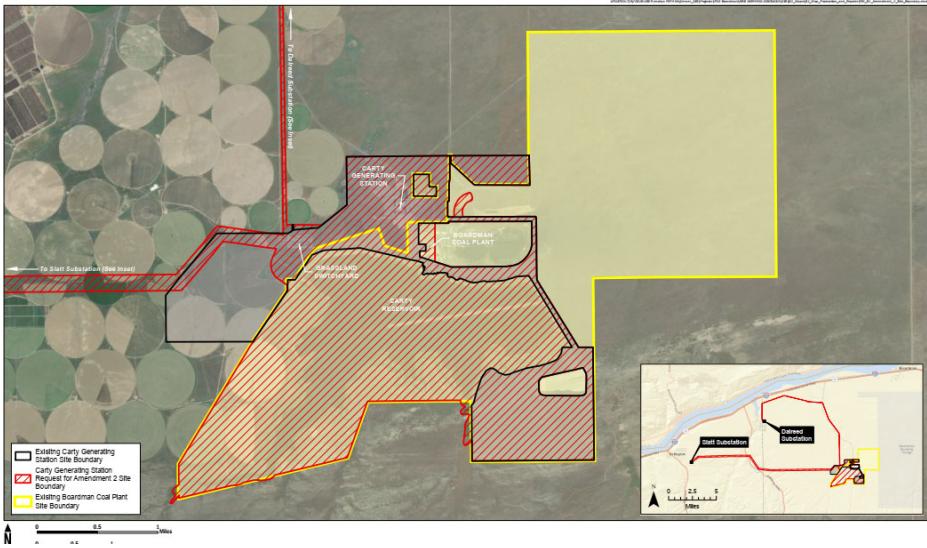
Commented [LCC2]: 3WTC-BR05 was an old "mail stop" for Arya Behbehani.

Commented [LCC3]: The cooling tower is a single structure containing seven cells, so would be more accurate to just say cooling tower.

Commented [LCC4]: Potable water

1 As presented in Figure 1, *Site Boundary*, the approved site boundary (outlined in “black”)
2 encompasses approximately 1,581 acres and includes the perimeter of the area of the
3 approved energy facility and its related or supporting facilities, temporary laydown and staging
4 areas, and all corridors.
5

Figure 1: Site Boundary



6
7 **I.D. Site Certificate Procedural History**

8
9 The Council issued its *Final Order on the Application for Site Certificate for the Carty Generating*
10 *Station (Final Order on ASC)* on June 29, 2012. The site certificate became effective on July 2,
11 2012. The final order authorized the construction and operation of a natural gas fuel combined-
12 cycle generating plant producing up to 900 megawatts (MW) of electrical power, and related or
13 supporting facilities.

14
15 On December 14, 2018, Council issued its *Final Order on Amendment 1* and granted an
16 amended site certificate on December 14, 2018, which approved the construction and
17 operation of a 50 MW photovoltaic solar unit, construction and operation of a 34.5 kilovolt (kV)
18 interconnection transmission line, five interconnection transmission line routing options and
19 three interconnection options, use of temporary construction laydown and parking areas,
20 removal of reference to previously approved but not yet constructed Unit 2 and its associated
21 components and related or supporting facilities, site boundary modification (reduction from
22 3,800 to 1,581 acres), amendment to the Water Pollution Control Facilities Permit (WPCF), and

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

3
4 The certificate holder submitted its *preliminary Request for Amendment 2* on February 28, 2020
5 and requested RFA1 be reviewed under the “Type B” process. Based on its evaluation of RFA1,
6 the Department determined on May 29, 2020 that the “Type B” review process was justified.
7 On August 17, 2020, a revised *preliminary Request for Amendment 2* was submitted to the
8 Department.² The Department received the complete Request on October 2, 2020, the
9 Department posted the complete RFA2 on its website and posted an announcement on the
10 project website informing the public that the complete RFA2 had been received and is available
11 for viewing.

12 **II. AMENDMENT PROCESS**

13
14 Council’s Final Order on RFA1 authorized construction and operation of the Carty Solar Farm
15 and its related or supporting facilities (50 MWs of solar photovoltaic energy generation
16 equipment) and established a construction commencement and completion deadline of
17 February 2022 and February 2025, respectively. The Department notes that, based on the
18 timing of RFA2, it is possible for construction activities approved in Final Order on RFA1 to
19 overlap with construction activities to be approved in Final Order on RFA2.
20

21 **II.A. Requested Amendment**

22
23 The certificate holder requests Council approval for the following:

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

38
39 The proposed components are described in further detail below.

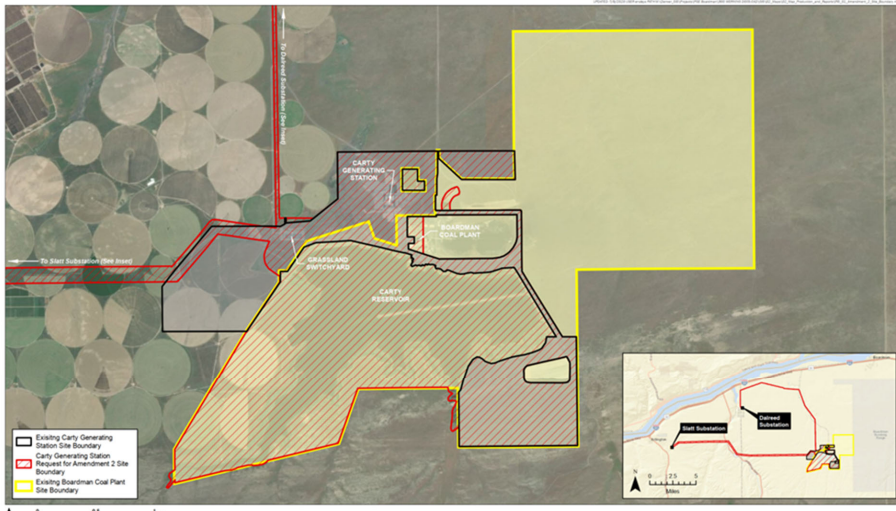
² Revisions made to the August 17, 2020 pRFA2 include incorporating additional existing facility components shared between CGS and BCP, as well as the authorization to construct and operate additional new facility infrastructure. Furthermore, minor amendments were proposed to select site certificate conditions.

1 *Amended Site Boundary*

2
3 The certificate holder proposes to amend the site boundary including removal of 378 acres of
4 agricultural land and adding approximately 3,414 acres. As proposed, the amended site
5 boundary would encompass approximately 4,997 acres. The areas within the proposed site
6 boundary expansion are currently authorized under the Boardman Coal Plant site certificate,
7 and include related or supporting facility components. Specifically, the site boundary expansion
8 would incorporate the following facility components: 500 kV Grassland to Slatt transmission
9 line, 230 kV BCP to Dalreed transmission line, 34.5 kV BCP to the railroad crossing at Tower
10 Road transmission line, Carty Reservoir (and associated pumping facilities and seepage
11 collection systems), portions of the Water Discharge Channel and raw water intake structure
12 not already included in the CGS Site Boundary, and sewage lagoons.

13
14 In Figure 2: *Amended Site Boundary*, below, the existing site boundary is presented in black
15 outline; the areas to be added to the existing site boundary are presented in red outline; and,
16 the area presented in yellow outline represents the BCP site boundary.

17
18 **Figure 2: Amended Site Boundary**



19
20
21
22
23
24 **FIGURE 1 - CARTY GENERATING STATION - SITE BOUNDARY - REQUEST FOR AMENDMENT 2**
PORTLAND GENERAL ELECTRIC COMPANY

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)³:

- 13
- 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:

- 35
- 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.

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.

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 is requesting
18 two existing evaporation ponds currently permitted under the Site Certificate for BCP be added
19 to the CGS; wastewater from the holding ponds would be conveyed to the evaporation ponds
20 via a new approximately 1,000-foot-long underground wastewater pipeline. The duration of
21 construction is anticipated at 3 months and would require excavators, a backhoe, dump truck,
22 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 construction substation.
33 The construction substation, in turn, derives power from a 12.5kV originating at the 1X33
34 transformer at BCP.

35
36 The ~~certificate holder is requesting a facility also includes~~ 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 the 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

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.

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.

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.

³ 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 following⁴:

- 31
32
- 33 • Box Structure: The box frame structure is a metal frame structure (not enclosed) that
34 would be approximately 16 feet wide by 36 feet long and 24 feet high.
 - 35 • 230 kV Disconnect Switch: The switch would be approximately 16 feet by 16 feet and 6
36 feet tall. It would be mounted on a 9-foot structure (overall height of about 15 feet).
 - 37 • Capacitive Voltage Transformer (CVT): The transformers are a tall cylinder shape,
38 similar in appearance to the- insulators. The transformer at Carty Substation would be
39 approximately 7-feet tall, mounted on an 8-foot structure, for an overall height of 15
feet.

⁴ CGSAMD2 Complete RFA with Attachments 2020-10-02, Section 5.1.5.

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.

- 1 • Dead End Structure: The dead-end structure would be one of the tallest features,
2 measuring approximately 53 feet. Shield wires for lightning protection would add an
3 additional 20 feet, resulting in an overall height of about 75 feet.
- 4 • Lightning Mast: Approximately two to four 75-foot-tall lightning masts would be
5 mounted on the dead-end structure.
- 6 • Circuit Switcher: The circuit switcher would be 15.5 feet tall and would be mounted on
7 a base measuring approximately 8 to 12 feet tall. The overall height would be 23.5 feet
8 to 27.5 feet.
- 9 • Circuit Breakers: The circuit breakers would be located underneath the box structure;
10 therefore, these components are considered part of the dimensions of the box
11 structure.
- 12 • Light poles: Lights would be installed and would be approximately 35 feet tall.
- 13 • Control House: The control house would be approximately 15 feet by 35 feet and 12
14 feet tall.
- 15 • Distribution line – The distribution line from Carty Substation to the existing
16 aboveground CGS backup power line would be mounted on single wood poles
17 approximately 50 feet tall. PGE anticipates needing four to five poles, two of which will
18 have down guys and anchors.

19
20 The substation would be contained within a fence line with dimensions of approximately 170
21 feet by 180 feet. The fence would be 8 feet tall with an additional 1 foot of barbed wire. Within
22 the fence line PGE would use the existing 27.5 megavolt-ampere power transformer and oil
23 containment. The transformer contains a total of 13,995 gallons of mineral oil and the CGS Spill
24 Prevention, Control, and Countermeasure Plan would be updated as required by condition 5.9
25 of the site certificate. The transformer is an existing noise source and is currently in operation
26 at the location of the new substation (e.g.i.e., the new substation is being built around the
27 existing transformer so that it can be reused). Because the transformer is the only noise-
28 emitting component, the substation is not considered a new noise source.

29
30 The temporary disturbance footprint is estimated to be 0.6 acre, which assumes a 10-foot
31 buffer around the fence line. New transmission infrastructure would relocate the existing 230
32 kV from the power block at BCP to a new dead-end structure. The new Carty Substation
33 infrastructure would support the future abandonment of the existing 500 kV line connecting
34 BCP to Grassland Substation, while maintaining optical ground wire for communication needs.
35 New distribution lines would be constructed to (1) connect to the existing pump house and
36 construction substation via an existing underground conduit, (2) connect to the existing intake
37 structure via an existing underground conduit from CGS to the intake structure, and (3) connect
38 to the existing H-frame to connect to CGS for backup power supply via a new overhead line.

39 *Office and Warehouse Space*

40
41
42 The certificate holder proposes to construct a new building within the existing CGS fence line to
43 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.

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.⁵ 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 2020⁶, and responses to RAI #2 and #3 on September 15, 2020.⁷ 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, 2020.⁸ 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

⁵ CGSAMD2 Completeness Determination and RAI 2020-03-20.

⁶ On June 5, 2020, the certificate holder requested to extend the deadline to provide responses to the Department's second batch of RAI's.

⁷ On September 15, 2020, the certificate holder provided the Department with a revised Amendment Determination Request.

⁸ CGSAMD2 PGE Responses to Questions 2020-09-18.

- 1 • Oregon Department of Environmental Quality (DEQ)⁹
- 2 • Oregon Department of Fish and Wildlife (ODFW)
- 3 • Oregon Department of Geologic and Mineral Industries (DOGAMI)
- 4 • Oregon Department of Aviation (ODA)

5
6 Issues raised by reviewing agencies regarding compliance with an applicable Council standard
7 are addressed in Section III.A, *Applicable Division 27 Rule Requirements* of this order.

8
9 **II.D. Council Review Process**

10
11 On October 2, 2020, the Department issued this draft proposed order, and a notice of comment
12 period on RFA2 and the draft proposed order (notice). The notice was distributed to all persons
13 on the Council’s general mailing list, to the special mailing list established for the facility, to an
14 updated list of property owners supplied by the certificate holder, and to a list of reviewing
15 agencies as defined in OAR 345-001-0010(52).

16
17 To raise an issue on the record of the draft proposed order, a person must raise the issue in a
18 written comment submitted after the date of the notice of the draft proposed order received
19 by the Department before the written comment deadline. The Council will not accept or
20 consider public comments on RFA2 or on the draft proposed order after the written comment
21 deadline, listed above, that closes the record on the draft proposed order. After the
22 Department considers all comments received before the comment deadline for the draft
23 proposed order, but not more than 21 days after the comment deadline, the Department will
24 issue a proposed order. The proposed order shall recommend approval, modification, or denial
25 of the second amended site certificate. Upon issuance of the proposed order, the Department
26 will issue a notice of the proposed order.

27
28 The Council, may adopt, modify or reject the proposed order based on the considerations
29 described in OAR 345-027-0375. In a written final order, the Council shall either grant or deny
30 issuance of an amended site certificate. In making a decision to grant or deny issuance of an
31 amended site certificate, the Council shall apply the applicable laws and Council standards
32 required under OAR 345-027-0375 and in effect on the dates described in OAR 345-027-0375
33 (3). The Council’s final order is subject to judicial review by the Oregon Supreme Court as
34 provided in ORS 469.403.

35
36
37

⁹ 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."¹⁰ 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

¹⁰ 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

17 *****11
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

¹¹ 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 conditions¹². 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

¹² 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 4.4.¹³ 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

¹³ 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.¹⁴ 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.

Commented [LCC13]: Consider modifying language since RFA2 is not specific to solar 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.¹⁵ 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

¹⁴ OAR 345-021-0010(1)(d)(D).

¹⁵ 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
8 **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
15 **III.A.3. Structural Standard: OAR 345-022-0020**

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.*

1

2 **Findings of Fact**

3

4 As provided in section (1) above, the Structural Standard generally requires the Council to
5 evaluate whether the applicant (certificate holder) has adequately characterized the potential
6 seismic, geological and soil hazards of the site, and whether the applicant (certificate holder)
7 can design, engineer and construct the facility to avoid dangers to human safety and the
8 environment from these hazards.¹⁶ Pursuant to OAR 345-022-0020(2), the Council may issue a
9 site certificate for a wind energy facility without making findings regarding compliance with the
10 Structural Standard; however, the Council may apply the requirements of the standard to
11 impose site certificate conditions.

12

13 The analysis area for the Structural Standard, as defined in the Project Order, is the area within
14 the site boundary.

15

16 In the *Final Order*, the Council found that the design, construction, and operation of the facility
17 would meet the Council’s Structural Standard, subject to the conditions adopted in Section
18 IV.C.2.¹⁷ In the *Final Order on Amendment 1*, the Council found that with both the existing and
19 amended site certificate conditions, the certificate holder continued to have the ability to
20 design, construct, and operate the facility, including the proposed Carty Solar Farm to avoid
21 dangers to human safety presented by the non-seismic hazards identified at the site.

22

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

29

30 **Recommended Amended Condition 6.7:** The certificate holder ~~shall~~must design, engineer
31 and construct the facility to avoid dangers to human safety and the environment presented
32 by seismic hazards affecting the site that are expected to result from all maximum probable
33 seismic events. As used in this rule “Seismic seismic hazard” includes ground shaking, ground
34 failure, landslide, liquefaction, triggering and consequences (including flow failure,
35 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.

¹⁶ 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.

¹⁷ 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 directivity effects and soil-structure interaction. For coastal sites, this also includes tsunami
2 inundation hazards, and seismically-induced coastal fault displacement and subsidence.

3 [Final Order IV.C.2.5] [Mandatory Condition OAR 345-027025-00200006(12)][AMD2]

4 **Recommended Amended Condition 6.10:** The certificate holder must notify the
5 Department, the State Building Codes Division and the Department of Geology and Mineral
6 Industries promptly if site investigations or trenching reveal that conditions in the
7 foundation rocks differ significantly from those described in the application for a site
8 certificate or requests for amendment. After the Department receives the notice, the
9 Council may require the certificate holder to consult with the DOGAMI and the Building
10 Codes Division and to propose and implement corrective or mitigation actions.

11 [Final Order IV.C.2.2] [Mandatory Condition OAR 345-027025-00200006(13)] [AMD1]

12 [AMD2]

13
14 **Recommended Amended Condition 6.11:**

15 The certificate holder must notify the Department, the State Building Codes Division and
16 the Department of Geology and Mineral Industries promptly if shear zones, artesian
17 aquifers, deformations or clastic dikes are found at or in the vicinity of the site. After the
18 Department receives notice, the Council may require the certificate holder to consult with
19 the Department of Geology and Mineral Industries and the Building Codes Division to
20 propose and implement corrective or mitigation actions.

21 [Final Order IV.C.2.3] [Mandatory Condition OAR 345-027025-00200006(14)][AMD2]

22
23 *Potential Seismic, Geological and Soil Hazards*

24
25 In RFA2, in response to a DOGAMI comment requesting that the certificate holder utilize the
26 latest building codes, and also conduct site specific Geotechnical work that involves borings, the
27 certificate holder clarifies that as proposed, the new related or supporting facility components
28 of RFA2 are sited in areas that were previously characterized for potential geological and soil
29 hazards.¹⁸ Additionally, the certificate holder explains that the geotechnical investigations
30 conducted as part of the 2011 ASC and also those provided in RFA1, along with the pre-
31 construction geotechnical evaluation performed at Carty in 2013 (Terracon Consultants, Inc.
32 2013) per Condition 5.4, will be used and therefore no additional geotechnical investigations
33 will be needed. As such, the certificate holder requests that Council amend Condition 5.4(a) to
34 specify that the exploratory borings would not be required for the new construction of facility
35 components associated with RFA2, presented below:

36
37 **Recommended Amended Condition 5.4:** Before beginning construction of Unit 1 and Carty
38 Solar Farm, the certificate holder must:

- 39 i. Complete an investigation of subsurface soil and geologic conditions to identify
40 geological or geotechnical hazards per Condition 5.4.a and obtain Department

¹⁸ CGSAMD2 Reviewing Agency Comment DOGAMI_Wang 2020-04-15.

1 approval of the investigation report per Condition 5.4.b. The investigation must
2 include at least the following activities...
3 [Final Order IV.C.2.1]
4 ii. Complete an investigation...
5 [AMD1] [AMD2]
6

7 As provided in the 2011 ASC on behalf of the certificate holder, Cornforth Consultants Inc. (CCI)
8 conducted a preliminary geotechnical investigation for the facility site, characterizing potential
9 seismic hazards at the site and in its vicinity. OAR 345-022-0020(1)(a) requires the certificate
10 holder to adequately characterize the seismic hazard risk of the site. In the 2011 ASC
11 geotechnical investigation, CCI identified two principal types of earthquake sources in the
12 vicinity of the facility site: the Cascadian Subduction Zone (CSZ) and local crustal faults.
13 Furthermore, Council previously determined that the facility is located over 200 miles from the
14 CSZ and within the light damage zone as defined in the Oregon [Resilience Resiliency-Plan](#)
15 (2013), making it inherently resilient to region-wide seismic disaster.
16

17 *Design, Engineer and Construct facility to Avoid Dangers to Human Safety from Seismic and*
18 *Non-Seismic Hazards*
19

20 In RFA2, the certificate holder confirmed that the new facility components proposed to be
21 constructed would occur in areas that were previously characterized in both the ASC and RFA1
22 for potential geologic and soil hazards.¹⁹ Furthermore, the certificate holder cites site certificate
23 conditions 5.4, 6.6, 6.7, 6.8, 6.10, and 6.11 and continued compliance with each condition
24 respectively as a means to ensure that RFA2 would continue to comply with the standard.
25 However, as represented in Attachment 1 of RFA2, the certificate holder proposes a
26 modification to Condition 5.4, to clarify when exploratory borings would be required. During
27 the completeness review of RFA2, the Department of Geology and Mineral industries (DOGAMI)
28 provided comments indicating that “the applicant needs to utilize the latest building codes [for
29 the construction of the new proposed components, and that]... the applicant needs to conduct
30 site specific [Geotechnical] work that involves borings”.²⁰ The Certificate holder explains in RFA2
31 that the geotechnical investigations associated with potential geological and soil hazard
32 assessments characterized in the 2011 ASC and RFA1, along with the pre-construction
33 geotechnical evaluation performed at Carty in 2013 (Terracon Consultants, Inc. 2013), will be
34 used and therefore no additional geotechnical investigations will be needed. Additionally, the
35 new security guard station, and office/warehouse building are considered “light structures,”
36 and therefore would not require a geotechnical investigation. Lastly, the new septic system,
37 water pipeline, and wastewater pipeline would not require a geotechnical investigation, and
38 percolation test have already been performed satisfactorily for the septic system.
39

¹⁹ CGSAMD2 Complete RFA with Attachments 2020-10-02, Section 8.2.
²⁰ CGSAMD2 Reviewing Agency Comment DOGAMI_Wang 2020-04-15.

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Integration of Disaster Resilience Design

In RFA2, the certificate holder explains that as proposed, the new related or supporting facilities components would also be located over 200 miles from the Cascadia Subduction Zone, within the light damage zone as defined in the Oregon Resiliency Plan (2013). As such, the certificate holder concludes that the new related or supporting facilities would inherently be resilient to region-wide seismic disaster, per their proposed location. Furthermore, the RFA indicates that ~~Local~~ seismic resiliency will be addressed by adhering to current seismic building codes, when building codes are applicable to the new construction. Lastly, the certificate holder explains that the construction of the Carty substation will ensure CGS continues to have a backup power supply, which directly helps maintain the resiliency of CGS as a whole.²¹

Conclusions of Law

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

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

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

Findings of Fact

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

In the *Final Order*, the Council found that the design, construction, and operation of the facility would not result in a significant adverse impact to soils. The Council adopted conditions in

²¹ 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.²²
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.²³ 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

²² 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.

²³ 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*

1 and Development Commission pertaining to the exception process, the Council may take
2 an exception to a goal if the Council finds:

3
4 (a) The land subject to the exception is physically developed to the extent that the land is
5 no longer available for uses allowed by the applicable goal;

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

10 (c) The following standards are met:

11
12 (A) Reasons justify why the state policy embodied in the applicable goal should not
13 apply;

14 (B) The significant environmental, economic, social and energy consequences
15 anticipated as a result of the proposed facility have been identified and adverse
16 impacts will be mitigated in accordance with rules of the Council applicable to
17 the siting of the proposed facility; and

18 (C) The proposed facility is compatible with other adjacent uses or will be made
19 compatible through measures designed to reduce adverse impacts.

20 ***

21 Findings of Fact

22 The Council must apply the Land Use standard in conformance with the requirements of ORS
23 469.504. Under ORS 469.504(1)(b)(A), the Council may find compliance with statewide planning
24 goals if the Council finds that the amendment request “complies with applicable substantive
25 criteria from the affected local government’s acknowledged comprehensive plan and land use
26 regulations that are required by the statewide planning goals and in effect on the date the
27 application is submitted” (the initial amendment request was received on August 29, 2016).

28
29 ~~The analysis area for potential land use impacts, as defined in the project order, is the area
30 within and extending ½ mile from the site boundary, as amended;~~

Commented [LCC17]: Redundant, see next paragraph.

31
32 The analysis area for potential land use impacts, as defined in the Project Order, is the area
33 within and extending ½-mile from the site boundary. RFA2 proposes to modify the site
34 boundary; therefore, the analysis area includes the area within and extending ½-mile from the
35 proposed amended site boundary, but for this amendment request, focuses on the area within
36 and extending ½-mile from proposed RFA2 facility component locations which would be limited
37 to area within Morrow County.

38
39 Previously approved, and existing facility components of the Boardman Coal Plant, proposed to
40 be incorporated into the Carty Generating Station site certificate have already been approved
41 and constructed in accordance with the BCP Site Certificate; ~~and~~ an evaluation of applicable
42 substantive criteria has therefore not been included in this order.
43

1 Local Applicable Substantive Criteria

2
3 Under OAR 345-022-0030(2), the Council must apply the applicable substantive criteria
4 recommended by the Special Advisory Group (SAG). On November 19, 2009, the Council
5 appointed the Gilliam County Board of Commissioners and Morrow County Board of
6 Commissioners as the Special Advisory Group (SAG) for the facility. In its consideration of a site
7 certificate amendment request, the Council applies the “applicable substantive criteria,” as
8 described in the rule above, that are in effect on the date the certificate holder submitted the
9 amendment request. Proposed RFA2 facility components would be located entirely within
10 Morrow County; therefore, the Department coordinated review of pRFA2 with Morrow County
11 Planning Department on behalf of Morrow County Board of Commissioners.²⁴ Comments
12 received on pRFA2 from Morrow County are addressed in RFA2 and in this order and are
13 provided as Attachment B of this order.

14
15 The applicable substantive criteria for proposed RFA2 facility components are presented in
16 Table 1, Morrow County Applicable Substantive Criteria below. As described above, while the
17 facility, as approved, would be located within Gilliam and Morrow County, proposed RFA2
18 facility components would be located entirely within Morrow County. Therefore, for this
19 amendment request, substantive criteria from Gilliam County Development Code and
20 Comprehensive Plan do not apply.

Table 1: Morrow County Applicable Substantive Criteria

Morrow County Zoning Ordinance (MCZO)	
<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

²⁴ CGSAMD2 Special Advisory Group Comment Morrow County_Wreccsics 2020-04-10.

Table 1: Morrow County Applicable Substantive Criteria

Morrow County Comprehensive Plan
Agricultural Policy 1 and 4
Energy Policies 3 and 9
Economic Element Policy 2A, 3A, 5A and 6C

1
2 As presented in the following section, the Department recommends Council find that the
3 certificate holder demonstrates that the components of the amendment request would comply
4 with all of the applicable substantive criteria in Morrow County.
5
6
7
8

9 III.A.5.1 Morrow County Zoning Ordinance (MCZO)

10
11 Facility modifications proposed in RFA2 include the Carty Substation and associated distribution
12 lines, septic system, water pipeline, wastewater pipeline, security guard station, and
13 office/warehouse building. These facilities would be constructed as part of the existing facility
14 and therefore are considered an “accessory use or accessory structure” to a “commercial utility
15 facilities for the purpose of generating power for public use by sale..”. The septic system and a
16 portion of the wastewater pipeline are within Morrow County’s Exclusive Farm Use (EFU) zone.
17 The Carty Substation and associated distribution lines, security guard station, and portion of the
18 wastewater pipeline connecting CGS to the evaporation ponds are within the General Industrial
19 (MG) zone. The office/warehouse building will likely be within the EFU zone, although
20 depending on final design it could partially be within the MG zone; therefore, applicable
21 ordinances for both the EFU and MG zone are evaluated for the office/warehouse building.²⁵
22

23 The following analysis addresses the applicable substantive criteria identified in the MCZO.
24

25 MCZO Section 1.050 Introductory Provisions, Zoning Permit

26
27 *Prior to the construction, reconstruction, alteration, or change of use of any structure*
28 *larger than 100 square feet or use for which a zoning permit is required, a zoning permit*
29 *for such construction, reconstruction, alteration, or change of use or uses shall be*
30 *obtained from the Planning Director or authorized agent thereof. A zoning permit shall*
31 *become void after 1 year unless the development action has commenced. A 12-month*
32 *extension may be granted when submitted to the Planning Department prior to the*
33 *expiration of the approval period.*
34

²⁵ CGSAMD2 Complete RFA with Attachments 2020-10-02, Section 8.4.

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

7
8 The construction and operation of the components proposed in the amendment request
9 would alter or change the existing land use by more than 100 square feet. Therefore, the
10 certificate holder would be required to obtain a zoning permit, which would be subject to
11 administrative review under the provisions of MCZO Article 4.165. As described below,
12 existing Condition 4.6 requires that the certificate holder obtain all necessary local permits,
13 including the zoning permit; this condition would apply to the proposed facility components of
14 RFA2. Moreover, the Department presents its evaluation of the certificate holder's MCZO
15 Section 4.165 compliance assessment below. Based upon compliance with existing Condition
16 4.6 and consistency with MCZO Section 4.165 provisions, the Department recommends
17 Council find that the components proposed in the amendment request would satisfy the
18 MCZO Section 1.050 provision.

19
20 MCZO Section 3.010 Exclusive Farm Use, EFU Zone

21
22 *MCZO 3.010(B) Uses Permitted Outright*

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

25
26 *22. Commercial utility facilities for the purpose of generating power for public*
27 *use by sale, not including wind power generation facilities or photovoltaic solar*
28 *power generation facilities subject to Subsection K.*

29
30 The Carty Generating Station is a commercial utility facility for the purpose of generating power
31 for public use by sale. Therefore, the requirement under MCZO Section 3.010(M) and (N) apply.

32
33 *MCZO Section 3.010(M) Yards. In an EFU Zone, the minimum yard setback requirements*
34 *shall be as follows:*

- 35 1. *The front yard setback from the property line shall be 20 feet for property*
36 *fronting on a local minor collector or marginal access street ROW, 30 feet from a*
37 *property line fronting on a major collector ROW, and 80 feet from an arterial*
38 *ROW unless other provisions for combining accesses are provided and approved*
39 *by the County.*
40 2. *Each side yard shall be a minimum of 20 feet except that on corner lots or parcels*
41 *the side yard on the street side shall be a minimum of 30 feet.*
42 3. *Rear yards shall be a minimum of 25 feet.*
43 4. *Stream Setback. All sewage disposal installations such as outhouses, septic tank*
44 *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).²⁶
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.*

²⁶ 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.²⁷
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.

²⁷ 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.

1
2 There are no inventoried historic buildings or sites on the site.

3
4 8. *The applicant shall determine if compliance is required with Oregon Water Resources*
5 *Department water quantity and/or Oregon Department of Environmental Quality water*
6 *quality designations.*

7
8 Water use and wastewater disposal are addressed in Section 8.13 of the RFA2.

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

12 PGE is not aware of any prior Code Enforcement violations.

13
14 10. *The applicant shall determine the method of disposal for solid waste, with staff*
15 *providing information to the applicant about recycling opportunities.*

16
17 Section 8.13 of the RFA2 addresses recycling and disposal of solid waste. In addition, Condition
18 6.3 of the First Amended Site Certificate for CGS requires the implementation of a waste
19 management plan during construction, and Condition 10.22 requires a waste management plan
20 during operation. PGE proposes to implement actions included in RFA2 in compliance with
21 these site certificate conditions.

22
23 11. *The applicant shall obtain the necessary access permit through the Public Works*
24 *Department as required by Morrow County Resolution R-29-2000.*

25
26 PGE does not anticipate needing new access to county roads. If access is needed, Condition 4.5
27 of the First Amended Site Certificate for CGS requires that the certificate holder obtain the
28 permit. PGE proposes to implement actions included in RFA2 in compliance with this site
29 certificate condition.

30
31 MCZO 9.060. Sewage Disposal Approval

32
33 *No zoning permit shall be issued for any use or structure which will have an individual*
34 *sanitary subsurface disposal system until written approval is obtained by the applicant*
35 *for said system.*

36
37 PGE will obtain a Construction Permit for On-site Sewage Treatment System from the Umatilla
38 County Public Health Department for the septic system. Therefore, CGS will remain in
39 compliance with its Zoning Permit.

40
41 **Morrow County Comprehensive Plan**

42
43 *Agricultural Lands Element*

44

1 *Agricultural Policy 1: It shall be the policy of Morrow County, Oregon, to preserve*
2 *agricultural lands, to protect agriculture as its main economic enterprise, to balance*
3 *economic and environmental considerations, to limit non-compatible nonagricultural*
4 *development, and to maintain a high level of livability in the County.*
5

6 The locations of the Carty Substation and associated distribution lines, septic system, water
7 pipeline, wastewater pipeline, security guard station, and office/warehouse building were
8 selected, in part, to minimize land disturbance and avoid critical resource areas. The sites
9 selected do not impact any cultivated farmland and are sites currently owned by PGE.
10

11 Agricultural Policy 4: It shall be the policy of the County to develop and implement
12 comprehensive and definitive criteria for the evaluation of all non-farm developments to ensure
13 that all objectives and policies set forth herein are complied with to the maximum level possible.
14

15 The new Carty Substation and associated distribution lines, septic system, water pipeline, and
16 office/warehouse building will be constructed in the EFU zone in Morrow County and are
17 considered an "accessory use or accessory structure" as defined in MCZO 1.030 and are
18 therefore not considered a "primary" use under the MCZO. The certificate holder complies with
19 Policy 4 by meeting the criteria for approval of non-farm uses in the EFU zone.
20

21 Directly Applicable Statutes and Administrative Rules
22

23 **ORS 215.296(1)**

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

- 26 1. *Force a significant change in accepted farm or forest practices on surrounding lands*
27 *devoted to farm or forest use; or*
- 28 2. *Significantly increase the cost of accepted farm or forest practices on surrounding lands*
29 *devoted to farm or forest use.*
30

31 The new Carty Substation and associated distribution lines, septic system, water pipeline, and
32 office/warehouse building will each be an "accessory use or accessory structure" to CGS and
33 will not force significant changes in farm practices or cause significant increases in the costs of
34 accepted farm practices on surrounding lands devoted to farm use. As stated in the Final Order
35 on the Application for Site Certificate the predominate farming practice in the area is center
36 pivot irrigation, the proposed structures will not create any new interference with the
37 predominate farming practice.
38

39 **OAR 660-033-130(5)**
40

41 The criteria of OAR 660-033-130(5) are identical to ORS 215.296(1) and are addressed above.
42

43 **Statewide Planning Goal 3—Agricultural Lands**
44

Commented [LCC19]: Potential format change needed to align with above "Agricultural Policy 1" section.

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.

44

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.²⁸ 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

²⁸ OAR 345-022-0050(1).

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

4
5 In RFA2, the certificate holder describes the methods and assumptions necessary to restore the
6 site of proposed RFA2 facility components to a useful, nonhazardous condition. Summarized
7 below are the methods and assumptions ~~for~~ associated with decommissioning specific RFA2
8 facility components:

9
10 Carty Reservoir and intake structure

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

25
26 Discharge Structure and Channel

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

33
34 Sanitary Sewer Lagoons

- 35 • Stabilization of lagoon solids (6-inch layer of will require stabilization with fly ash or lime
36 prior to disposal)
- 37 • Excavation of solids, liner, and underlying soils (1-foot thick layer will require excavation
38 and disposal)
- 39 • Disposal of soils, liner and underlying soils (1.2 tons/CY for transport/disposal at
40 Columbia Ridge Landfill (35 miles one way))
- 41 • Fine grading of entire area of berms and lagoon area
- 42 • Fill (10 foot thickness) and grade 10 acre percolation pond
- 43 • Seed and mulch disturbed area

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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

1 to restore both Block 1 of the Carty Generating Station, and the Carty Solar Farm and its
 2 supporting facilities to a useful nonhazardous condition. [the certificate holder has
 3 provided a bond for \$9,114,000 (Q1 2020), in accordance with the site certificate,
 4 related to Block 1 of the Carty facility]

- 5 • Condition 15.2, requires the certificate holder to ensure that the surety is obligated to
 6 comply with the requirements of applicable statutes, Council rules, and the site
 7 certificate when the surety exercises any legal or contractual right it may have to
 8 assume construction, operation, or retirement of the facility, if a bond is used to meet
 9 the requirements of Condition 15.1.
- 10 • Condition 15.3, which mirrors the OAR 345-025-0006(7) Mandatory Condition, requires
 11 that the certificate holder prevent the development of any condition on the site that
 12 would preclude restoration of the site to a useful, non-hazardous condition
- 13 • Condition 15.4, which mirrors the OAR 345-025-0006(9) Mandatory Condition, requires
 14 the certificate holder to retire the facility in accordance with a Council-approved
 15 retirement plan
- 16 • Condition 15.5, which mirrors the OAR 345-025-0006(16) Mandatory Condition,
 17 obligates the certificate holder to retire the facility upon permanent cessation of
 18 construction or operation. Additionally, the condition provides the Department the
 19 authority to develop a retirement plan, for Council approval, in the event the certificate
 20 holder ceases operation of its facility and does not retire the facility in accordance with
 21 a Council approved retirement plan
- 22 • Condition 15.6, which also mirrors the OAR 345-025-0006(16) Mandatory Condition,
 23 allows Council the ability to draw on the bond or letter of credit per Condition 15.1
- 24 • Condition 15.7, which mirrors the OAR 345-026-0048 Mandatory Condition, requires the
 25 certificate holder to implement a compliance plan following receipt of the site
 26 certificate or an amended site certificate

27 *Estimated cost of Site Restoration*

28
 29
 30 OAR 345-022-0050(2) requires the Council to find that the certificate holder continues to have a
 31 reasonable likelihood of obtaining a bond or letter of credit in a form and amount necessary to
 32 restore the site of the facility, with proposed RFA2 facility components, to a useful non-
 33 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
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

Restoration Task or Activity	Quantity	Unit Cost	Unit	Estimate
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>
Discharge Structure and Channel				
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>
Sanitary Sewer Lagoons				
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>
Evaporation Ponds and Wastewater Line				
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>
Other Structures				
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
<i>Subtotal =</i>				<i>\$583,902</i>
General Costs				
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>
Applied Contingencies				

Table 2: Proposed RFA2 Decommissioning and Site Restoration Cost Estimate

Restoration Task or Activity	Quantity	Unit Cost	Unit	Estimate
Performance Bond ¹		1	Percent	\$113,871.98
Administrative and Project Management ²		10 ²⁹	Percent	\$1,138,719.80
Future Development Contingency ³		10	Percent	\$1,138,719.80
ODOE Contingency Subtotal =				\$2,391,311.58
Total RFA2 Decommissioning Cost Estimate, Adjusted with ODOE Contingencies (4 th 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"> 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. 2. 10% for the Department's administrative and management expenses. 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. 				

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1
2 As presented in Table 4, *Proposed RFA2 Decommissioning and Site Restoration Cost Estimate*,
3 the Department recommends Council add contingency costs for future development,
4 administration and project management cost, and cost for maintaining a performance bond.
5 The 10 percent future development contingency accounts for uncertainty in the
6 decommissioning estimate. If site restoration becomes necessary, it might be many years in the
7 future where there is uncertainty of continued adequacy of the retirement cost estimate.
8 Uncertainty factors include different environmental standards or other legal requirements; and,
9 changes in cost of labor and equipment that increase at a rate exceeding the standard inflation
10 adjustment. The 10 percent contingency for administrative and management expenses are the
11 anticipated direct costs borne by the State in the course of managing site restoration and would
12 include the preparation and approval of a final retirement plan, obtaining legal permission to
13 proceed with demolition of the facility, legal expenses for protecting the State's interest,
14 preparing specification bid documents and contracts for demolition work, managing the bidding
15 process, negotiations of contracts, and other tasks. Based on the adjustments from
16 contingencies, the Department recommends Council find that \$13.779 million (Q4 2020 dollars)
17 is a reasonable estimate of an amount satisfactory to restore the site to a useful, nonhazardous
18 condition. The Department, therefore, recommends the Council amend Condition 15.1 as
19 follows:
20

²⁹ 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 **Recommended Amended Condition 15.1:** Before beginning construction, the certificate
2 holder shall submit to the State of Oregon through the Council a bond or letter of credit
3 naming the State of Oregon, acting by and through the Council, as beneficiary or payee. The
4 initial bond or letter of credit amount for Unit 1 is \$7.884 million (in 3rd Quarter 2011
5 dollars), to be adjusted to the date of issuance, and adjusted on an annual basis thereafter,
6 as described in sub-paragraph (a) of this condition. The initial bond or letter of credit
7 amount for the Carty Solar Farm and its supporting facilities is \$2.713 million (in 3rd Quarter
8 2016 dollars) to be adjusted to the date of issuance, and adjusted on an annual basis
9 thereafter, as described in sub-paragraph (a) of this condition. The initial bond or letter of
10 credit amount for the related or supporting facilities associated with Amendment 2 is
11 \$13.779 million (in 4th Quarter 2020 dollars) to be adjusted to the date of issuance and
12 submitted within 60 days of execution of the Second Amended Site Certificate, and adjusted
13 on an annual basis thereafter, as described in sub-paragraph (b) of this condition.

- 14
- 15 a. The certificate holder may adjust the amount of the bond or letter of credit based on
16 the final design configuration of the facility and turbine types selected by applying the
17 unit costs and general costs presented in Site Restoration Cost Estimate of the Final
18 Order on ASC for Unit 1; Table 4 of the Final Order on RFA1 for Carty Solar Farm; and
19 Table 2 of the Final Order on RFA2 for the approved related or supporting facilities. Any
20 revision to the restoration costs should be adjusted to the date of issuance as described
21 in (b), and is subject to review and approval by the Department.
- 22 b. The certificate holder shall adjust the amount of the bond or letter of credit, using the
23 following calculation and subject to approval by the Department.
- 24 i. Adjust the amount of the bond or letter of credit amount for Unit 1 (expressed in 3rd
25 Quarter 2011 dollars); ~~and Carty Solar Farm~~ (expressed in 3rd Quarter ~~2015-2016~~
26 dollars) and related or supporting facilities approved in RFA2 (expressed in 4th
27 Quarter 2020 dollars) to present value, using the U.S. Gross Domestic Product
28 Implicit Price Deflator, Chain-Weight, as published in the Oregon Department of
29 Administrative Services' "Oregon Economic and Revenue Forecast" or by any
30 successor agency (the "Index") and using the index value and the quarterly index
31 value applicable to Unit 1, ~~and Carty Solar Farm, and RFA2 facility components~~ for
32 the date of issuance of the new bond or letter of credit. If at any time the Index is no
33 longer published, the Council shall select a comparable calculation to adjust to
34 present value. [AMD1]
- 35 ii. Round the resulting total to the nearest \$1,000 to determine the financial assurance
36 amount.
- 37 c. The certificate holder shall use a form of bond or letter of credit approved by the
38 Council.
- 39 d. The certificate holder shall use an issuer of the bond or letter of credit approved by the
40 Council.
- 41 e. The certificate holder shall describe the status of the bond or letter of credit in the
42 annual report submitted to the Council under Condition VI.4.
- 43 f. The bond or letter of credit shall not be subject to revocation or reduction before
44 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 1st 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 14th, 2020 letter from Bank of the West, stating that it would be willing to
30 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

17 **Conclusions of Law**

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
23 **III.A.7. Fish and Wildlife Habitat: OAR 345-022-0060**

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
32 **Findings of Fact**

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.
42

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.³⁰ 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.

³⁰ CGSAMD2 Analysis Area adjustment Department EMAIL 2020-09-29.

1 December 2020 cease of operations at the BCP, and wouldn't change the intent of the
 2 condition. As such, the Department recommends Council amend Condition 10.5 as follows:

3 **Recommended Amended Condition 10.5:**

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

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

12 *Potential Impacts to Fish and Wildlife Habitat*

14 Construction and operation of the proposed new Facility components of RFA2 would result in
 15 both temporary and permanent habitat impacts to Category 4 (shrub-steppe); and Category 6
 16 (developed areas). With the exception of the Carty Substation and associated distribution lines,
 17 disturbance areas associated with the new facility components would occur in areas of
 18 Category 4, shrub-steppe habitat. The Carty Substation and associated distribution lines would
 19 be sited in developed areas designated as Category 6 habitat.³¹ As presented in Table 3,
 20 *Estimated Temporary and Permanent Habitat Impacts, by Category, for Facility, with Proposed*
 21 *Changes*, the proposed new Facility components of RFA2 would temporarily disturb 1, and 1.15
 22 acres of Category 4 and 6 habitat, respectively, ~~resulting in temporary and temporal habitat~~
 23 ~~impacts.~~ pProposed new Facility components of RFA2 would permanently disturb .6, and .85
 24 acres of Category 4, and 6 habitat respectively.

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

Habitat Category	Temporary Impacts ¹	Permanent Impact ²	Calculated Mitigation Area (Temporal and Permanent Impacts) ^{1,2}
	Acres		
Facility, as Approved/Operating: Unit 1 and Supporting Facilities³			
Category 4			
Total Area =	55.40	45.00	72.75
Proposed Changes: Proposed new Facility components of Request for Amendment 2⁴			
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 Facilities⁵			
Category 2	6.39	259.32	525.03

³¹ 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 ¹	Permanent Impact ²	Calculated Mitigation Area (Temporal and Permanent Impacts) ^{1,2}
	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
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 Changes <u>RFA2</u>	73.85		
Notes:			
In all cases impacts in a given area would only be mitigated once.			
1. 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.			
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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1
2 In an April 10, 2020 comment letter provided to the Department during the completeness
3 review of the pRFA, ODFW, in response to the certificate holder’s proposal to modify the site
4 boundary to include the Carty Reservoir, requested that the wildlife values of the Carty
5 Reservoir and surrounding riparian vegetation be maintained into the future.³² In response, the
6 certificate holder proposed that a new Site Certificate Condition be imposed (Condition 10.40),
7 which would commit PGE to operate the Carty Reservoir at an elevation no lower than an
8 annual average of 665 feet mean sea level (MSL). After additional consultation with ODFW, the
9 certificate holder explains that the Carty Reservoir is a wastewater facility constructed for the
10 BCP. Furthermore, the elevation of the reservoir has been maintained at a consistent elevation
11 between 667 and 668 feet MSL due to operational needs of the BCP. With BCP ceasing
12 operations, the Carty reservoir does not need to be maintained at the same elevation, and PGE
13 agrees to maintain the reservoir at a minimum annual average of 665 foot MSL. On August 31,

³² CGSAMD2 Reviewing Agency Comment ODFW_Cherry 2020-04-10.

1 2020, in an email sent to both the Department and the certificate holder, ODFW agreed that
2 the proposed condition language of Condition 10.40 was acceptable.³³ The Department
3 recommends that Council impose Condition 10.40, to require the certificate holder to maintain
4 the Carty reservoir at an annual average of 665 feet mean sea level (MSL).
5

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

16 [AMD2]
17

18 *Proposed Habitat Mitigation*

19

20 The mitigation goal for Category 2 habitat is no net loss of either habitat quantity or quality and
21 provision of a net benefit of habitat quantity or quality. To achieve this goal, impacts must be
22 avoided or unavoidable impacts must be mitigated through “reliable in-kind, in-proximity”
23 habitat mitigation to achieve no net loss; and a net benefit of habitat quantity or quality must
24 be provided. The mitigation goal for Category 3 habitat is no net loss of either habitat quantity
25 or quality. The goal is achieved by avoidance of impacts or by mitigation of unavoidable impacts
26 through “reliable in-kind, in-proximity” habitat mitigation. The mitigation goal for Category 4
27 habitat, similar to the mitigation goal for Category 3 habitat impacts, is no net loss of either
28 habitat quantity or quality. The Category 4 mitigation goal differs from the Category 3
29 mitigation goal in that achievement may be reached through avoidance of impacts or by
30 mitigation of unavoidable impacts through “reliable in-kind or out-of kind,” and “in- or off-of
31 proximity” habitat mitigation.
32

33 To mitigate the permanent and temporary habitat impacts, Council previously imposed
34 Condition 10.2 requiring the certificate holder to, prior to construction, provide a habitat
35 assessment including habitat (in acres) by habitat category and subtype of the proposed HMA
36 along with the easement.
37

38 An amended draft Wildlife and Habitat Monitoring and Mitigation Plan (WHMMP) was
39 prepared by the certificate holder and evaluated by both the Department and ODFW for RFA2.
40 The amended WHMMP is included in this order as Attachment C. Proposed updates made to

³³ 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 2016.³⁴

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

³⁴ 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.³⁵

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.³⁶

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.³⁷
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**

³⁷ 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.

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.

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 [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.³⁸

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

³⁸ 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.

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Fire Services

Construction and operation of facility modifications proposed in RFA2 could result in increased fire risk at the site, resulting in increased demand for fire protection services. Council previously imposed Condition 8.7, requiring that, during construction and operation of the facility, the certificate holder develop and implement fire safety plans in consultation with the Boardman Rural Fire Protection District. In developing the fire safety plans, the existing condition requires that the certificate holder consider the dry nature of the region and address risks on a seasonal basis. The existing condition also requires that the certificate holder meet annually with local fire protection agency personnel to discuss emergency planning and invite local fire protection agency personnel to observe any emergency drill conducted at the facility. Based on continued compliance with this existing condition, the Department recommends Council find that 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 fire service providers to provide services.

Police Protection

Construction and operation of facility modifications proposed in RFA2 could result in increased activity at the site, resulting in increased demand for law enforcement. Law enforcement services in the analysis area are provided by Morrow County Sherriff's Office. Council previously imposed Condition 8.1 requiring that, during construction, the certificate holder provide for on-site security and establish good communication with Morrow County Sheriff's Office. 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 police protection service providers to provide services.

Conclusions of Law

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

III.A.11. Waste Minimization: OAR 345-022-0120

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

(a) The applicant's solid waste and wastewater plans are likely to minimize generation of solid waste and wastewater in the construction and operation of the

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

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

3
4 (1) Can design, construct and operate the proposed transmission line so that alternating
5 current electric fields do not exceed 9 kV per meter at one meter above the ground
6 surface in areas accessible to the public;

7
8 (2) Can design, construct and operate the proposed transmission line so that induced
9 currents resulting from the transmission line and related or supporting facilities will
10 be as low as reasonably achievable

11
12 **Findings of Fact**

13 The Siting Standards for Transmission Lines address issues associated with alternating current
14 electric fields and induced currents generated by high-voltage transmission lines. OAR 345-024-
15 0090(1) sets a limit for electric fields from transmission lines of not more than 9 kV per meter at
16 one meter above the ground surface in areas that are accessible to the public. Section (2)
17 requires the certificate holder design, construct and operate the line in a manner that reduces
18 the risk posed by induced current.

19
20 *Electric Fields*

21
22 Electric fields around transmission lines are produced by the presence of an electric charge,
23 measured as voltage, on the energized conductor. Electric field strength is directly proportional
24 to the line's voltage; increased voltage produces a stronger electric field. In the Final Order on
25 the ASC, the council found that the certificate holder could design, construct, and operate the
26 proposed 500 kV transmission line so that alternating current electric fields do not exceed 9kV
27 per meter at one meter above the ground surface in areas accessible to the public.

28
29 In RFA2, the certificate holder ~~modeled-measured~~ electric fields and magnetic fields within the
30 boundaries of the existing 230 kV BCP to Dalreed substation transmission line. The ~~model~~
31 measurements showed that the highest electric field measurement collected was 1.36kV per
32 meter (kV/m) at one meter above ground. With a ~~modeled-measured~~ maximum of 1.36 kV/m,
33 the proposed transmission would remain below the 9-kV per meter threshold set forth in OAR
34 345-024-0090(1). Therefore, based on the certificate holder's ~~modelingmeasurements~~, the
35 Department recommends that Council find that the existing 230-kV BCP to Dalreed
36 transmission line would not exceed 9-kV per meter at one meter above ground level. The
37 second existing transmission line proposed to be incorporated into the site certificate is the 500
38 kV BCP to Slatt substation transmission line. The 500 kV transmission line was previously
39 evaluated in Exhibit AA of the 2011 ASC. In the Final Order, Council imposed Condition V.D.2.1
40 as a Public Health and Safety condition. Condition V.D.2.1 was imposed to address reasonable
41 steps that the certificate holder ~~must~~ take to reduce or manage human exposure to electric
42 and magnetic fields. In RFA2, the certificate holder proposes to amend Condition 7.1(b) to
43 include a date (June 29, 2012), clarifying the requirements 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.2,³⁹ 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

³⁹ 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 the state, water pollution control facility permits and regulations for appropriating ground
2 water.

3
4 III.A.13.1. Noise Control Regulations: OAR 340-035-0035

5
6 *(1) Standards and Regulations:*

7 ***

8 *(b) New Noise Sources:*

9 ***

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

18 ***

19 **Findings of Fact**

20 The Department of Environmental Quality (DEQ) noise control regulations at OAR 340-035-0035
21 have been adopted by Council as the compliance requirements for EFSC-jurisdiction energy
22 facilities. OAR 340-035-0035 provides the DEQ noise regulations for industry and commerce.
23 The DEQ noise rules set noise limits for new industrial or commercial noise sources based upon
24 whether those sources would be developed on a previously used or previously unused site.⁴⁰

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

Statistical Descriptor ¹	Maximum Permissible Hourly Statistical Noise Levels (dBA)	
	Daytime (7:00 AM - 10:00 PM)	Nighttime (10:00 PM - 7:00 AM)
L50	55	50
L10	60	55
L1	75	60

Notes:
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.
Source: OAR 340-035-0035, Table 8

26

⁴⁰ 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
5 *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
20 *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
27 **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
33 **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.

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.

12
13 **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.⁴¹

28
29 The certificate holder requests several other permit modifications, as follows:

- 30
31
- 32 • A change to language regarding the recirculation line for the Carty Generating Station and
33 Boardman Power Plant. This was corrected to state “intake structure” rather than
34 “recirculation line” to better address intake for the Boardman and Carty facilities.
 - 35 • Removal of language for submittal of a hydrogeologic characterization report (already
36 submitted during permit term).
 - 37 • Clarification regarding the facility lined evaporation ponds and to reflect that the ~~existing~~
38 ~~previous~~ clay lined sewage lagoons were relined in 2014. The facility also has stated that
39 while the sanitary sewage lagoons will remain operational for a period of time, there is a
possibility that sewage flows will be routed to a newly constructed septic system with

⁴¹ 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).

1 flows <2500 gpd. This system would be separately permitted through Umatilla County
2 Public Health. The permit modification has included added language to Schedule C for
3 required steps to properly decommission the sewage lagoons and evaporative ponds.

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

39
40 Based on the above-described analysis, and technical evaluation provided by DEQ and included in
41 Attachment E of this order, the Department recommends Council amend Condition 10.28 as
42 follows:
43

1 **Recommended Amended Condition 10.28:** ~~Before beginning operation of the facility, the~~ The
2 certificate holder shall demonstrate that the Oregon Department of Environmental Quality
3 has issued to the certificate holder:

- 4
- 5 i. Prior to operation of Unit 1, a Water Pollution Control Facilities Permit substantially in
6 the form of Exhibit 4 of the *Final Order on the Application*, allowing for wastewater
7 discharge from the Carty Generating Station.
8 [Final Order V.E.2.1]
 - 9 ii. Prior to operation of the Carty Solar Farm, Addendum 1 of the modified Water
10 Pollution Control Facilities Permit 100189 with the following additional condition,
11 allowing discharge of solar panel washwater:
 - 12 a. Solar panel wash water is permitted to be discharged through evaporation or
13 infiltration into the ground at the point of application. The use of chemicals, soaps,
14 detergents and heated water is prohibited. Pressure washing is allowed, so long as
15 it does not remove paint or other finishes. Soil erosion and runoff from the Carty
16 Solar Farm is prohibited. Soil erosion must be repaired within 30 days of
17 occurrence.
18 [AMD1]
 - 19 iii. Prior to operation of facility components authorized by the Final Order on Request for
20 Amendment 2, Addendum 2 of the modified Water Pollution Control Facilities Permit
21 100189, substantially in the form of Attachment E of the Final Order on Request for
22 Amendment 2.
23 [AMD2]
- 24

25 **Conclusions of Law**

26 The Department recommends Council find, based on the analysis presented above and in
27 Attachment E of this order, subject to compliance with the site certificate conditions and
28 conditions contained in WPCF Permit 100189 Addendum 2, the facility, with proposed changes,
29 meets the requirements of the WPCF Permit for wastewater discharges. The Department
30 recommends Council authorize DEQ to issue the certificate holder Addendum 2 of the WPCF
31 Permit substantially in the form of Attachment E of this order, pursuant to ORS 469.401.

32 **III.A.13.3. Water Rights**

33 Under ORS Chapters 537 and 540 and OAR Chapter 690, the Oregon Water Resources
34 Department (OWRD) administers water rights for appropriation and use of the water resources
35 of the state. Under OAR 345-022-0000(1)(b), the Council must determine whether the facility,
36 with proposed changes, would comply with the statutes and administrative rules identified in
37 the project order. The project order identifies OAR 690, Divisions 310 and 380 (Water
38 Resources Department permitting requirements) as the administrative rules governing use of
39 water resources and water rights as applicable to the facility.
40
41
42

43 **Findings of Fact**

1
2 OAR 690 establishes the procedures and standards which shall be applied by the OWRD in the
3 evaluation of applications for a permit to appropriate surface water, ground water, to construct
4 a reservoir and store water, to use reserved water, or to use water stored in a reservoir. The
5 certificate holder is not requesting a groundwater permit, a surface water permit, or a water
6 rights transfer during the construction and operation of the proposed related and supporting
7 facilities described in RFA2.

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

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

20
21 **Conclusions of Law**

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

25
26 **III.A.13.4. Removal-Fill**

27
28 The Oregon Removal-Fill Law (ORS 196.795 through 196.990) and Department of State Lands
29 (DSL) regulations (OAR 141-085-0500 through 141-085-0785) require a removal-fill permit if 50
30 cubic yards or more of material is removed, filled, or altered within any “waters of the state.”⁴²
31 The Council, in consultation with DSL, must determine whether a removal-fill permit is needed
32 and if so, whether a removal-fill permit should be issued. The analysis area for wetlands and
33 other waters of the state is the area within the site boundary.

34
35 **Findings of Fact**

36 The certificate holder states that a removal-fill permit is not required because construction and
37 operation of the proposed RFA2 facility components would not require removal of materials
38 from or placement of materials in any wetland or waterbody features. Information regarding
39 wetlands and other waters of the state was previously provided in the 2011 ASC, where based

⁴² ORS 196.800(15) defines “Waters of this state.” The term includes wetlands and certain other waterbodies.

1 on the information, Council concluded that a removal-fill permit would not be required. Council
2 previously imposed Condition 10.26 and 10.13 requiring that the certificate holder provide final
3 design maps to the Department demonstrating that proposed facility components would be
4 sited to avoid jurisdictional waters, and requiring that the certificate holder avoid disturbance
5 to delineated wetlands during construction, respectively.

6
7 Because the proposed RFA2 facility modifications resulting in construction (or new ground
8 disturbance) would be located within previously approved site boundary, the Department
9 recommends Council rely on the 2011 ASC wetland delineation data and ~~continue to find that~~
10 ~~at the~~ removal-fill permit would not be required for construction or operation of the proposed
11 RFA2 facility components.

12 13 **Conclusions of Law**

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

18 19 **III.B. Standards Not Likely to Be Impacted by Request for Amendment 2**

20
21 RFA2, as described throughout this order, requests the incorporation of existing infrastructure
22 shared by BCP and CGS into the Second Amended Site certificate for CGS, authorization to
23 construct and operate new related or supporting facility components, and a site boundary
24 modification. The Department recommends Council find that the Council's findings on the
25 record of the EFSC proceedings for the Carty Generating Facility from 2010-2019 would not be
26 impacted for the standards listed below.

27
28 Sections III.B.1 through III.B.4 present the language of the identified standards and other
29 applicable laws and regulations not likely to be impacted by RFA2, for reference purposes only.

30 31 **III.B.1. Division 23 Standards**

32
33 The Division 23 standards apply only to "nongenerating facilities" as defined in ORS
34 469.503(2)(e)(K), except nongenerating facilities that are related or supporting facilities. The
35 facility is not a nongenerating facility as defined in statute, and therefore Division 23 is
36 inapplicable to the requested amendment.

37 38 **III.B.2. Protected Areas: OAR 345-022-0040**

39
40 *(1) Except as provided in sections (2) and (3), the Council shall not issue a site certificate*
41 *for a proposed facility located in the areas listed below. To issue a site certificate for*
42 *a proposed facility located outside the areas listed below, the Council must find that,*
43 *taking into account mitigation, the design, construction and operation of the facility*

1 are not likely to result in significant adverse impact to the areas listed below.
2 References in this rule to protected areas designated under federal or state statutes
3 or regulations are to the designations in effect as of May 11, 2007:

4
5 (a) National parks, including but not limited to Crater Lake National Park and Fort
6 Clatsop National Memorial;

7
8 (b) National monuments, including but not limited to John Day Fossil Bed National
9 Monument, Newberry National Volcanic Monument and Oregon Caves National
10 Monument;

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

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

21
22 (e) National coordination areas, including but not limited to Government Island,
23 Ochoco and Summer Lake;

24
25 (f) National and state fish hatcheries, including but not limited to Eagle Creek and
26 Warm Springs;

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

31
32 (h) State parks and waysides as listed by the Oregon Department of Parks and
33 Recreation and the Willamette River Greenway;

34
35 (i) State natural heritage areas listed in the Oregon Register of Natural Heritage
36 Areas pursuant to ORS 273.581;

37
38 (j) State estuarine sanctuaries, including but not limited to South Slough Estuarine
39 Sanctuary, OAR Chapter 142;

40
41 (k) Scenic waterways designated pursuant to ORS 390.826, wild or scenic rivers
42 designated pursuant to 16 U.S.C. 1271 et seq., and those waterways and rivers listed
43 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

1 Council shall consider the following factors in judging the importance of a recreational
2 opportunity:

- 3
4 (a) Any special designation or management of the location;
5 (b) The degree of demand;
6 (c) Outstanding or unusual qualities;
7 (d) Availability or rareness;
8 (e) Irreplaceability or irretrievability of the opportunity.

9 ***43

10
11 **IV. PROPOSED CONCLUSIONS AND ORDER**

12
13 Based on the recommended findings and conclusions included in this order, the Department
14 recommends that Council make the following findings:

- 15
16 1. The proposed facility modifications included in Request for Amendment 2 of the
17 Carty Generating Station site certificate ~~complies~~ with the requirements of the
18 Oregon Energy Facility Siting Statutes, ORS 469.300 to 469.520.
19
20 2. The proposed facility modifications included in Request for Amendment 2 of the
21 Carty Generating Station site certificate ~~complies~~ comply with the standards
22 adopted by the Council pursuant to ORS 469.501.
23
24 3. The proposed facility modifications included in Request for Amendment 2 of the
25 Carty Generating Station site certificate ~~complies~~ comply with all other Oregon
26 statutes and administrative rules identified in the project order as applicable to the
27 issuance of a site certificate for the proposed facility.
28

29 Accordingly, the Department recommends that the Council find that the proposed facility
30 modifications included in Request for Amendment 2 of the Carty Generating Station site
31 certificate ~~complies~~ comply with the General Standard of Review (OAR 345-022-0000). The
32 Department recommends that the Council find, based on a preponderance of the evidence on
33 the record, that the site certificate may be amended as requested.
34
35
36
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40

⁴³ 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.

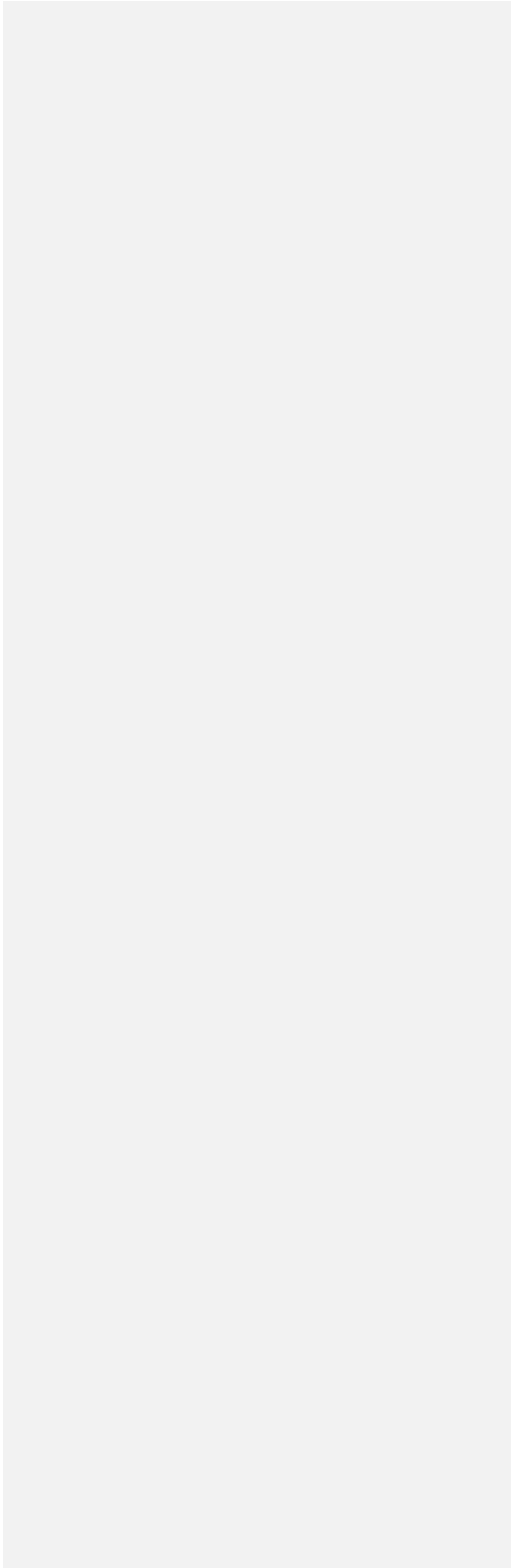
Issued this 2nd day of October, 2020

The Oregon Department of Energy

By: _____
Todd R. Cornett, Assistant Director, Siting Division
Oregon Department of Energy

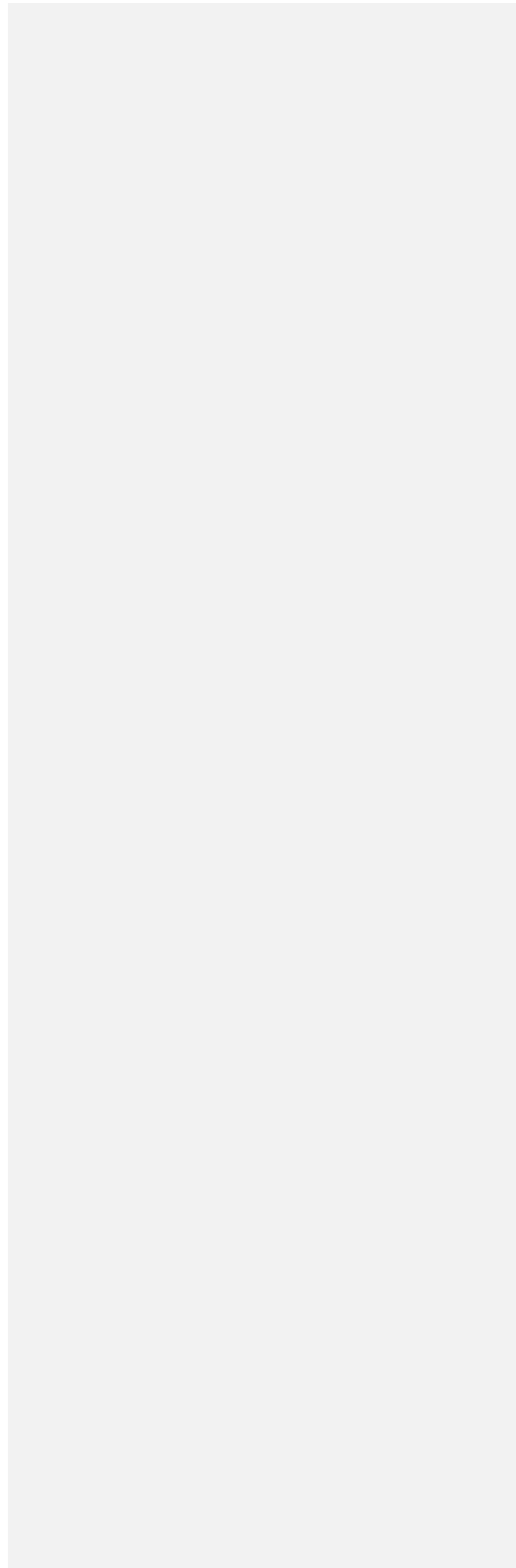
Attachments:

- 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>

Sent: Tuesday, November 3, 2020 10:01 AM

To: ESTERSON Sarah * ODOE <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



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

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

3040 25TH STREET SE, SALEM, OR 97302

WWW.OREGON.GOV/AVIATION

From: MCVEIGH-WALKER Chase * ODOE <Chase.McVeigh-Walker@oregon.gov>

Sent: Thursday, November 5, 2020 1:38 PM

To: THOMPSON Seth <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

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>
Sent: Thursday, November 5, 2020 9:29 AM
To: ESTERSON Sarah * ODOE <Sarah.Esterson@oregon.gov>
Cc: SVETKOVICH Christine <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>
Sent: Wednesday, November 4, 2020 3:59 PM
To: NIGG Eric <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>
Cc: ISAAK Patty <Patty.Isaak@state.or.us>; MCVEIGH-WALKER Chase * ODOE <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



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From: NIGG Eric <Eric.Nigg@state.or.us>
Sent: Tuesday, November 3, 2020 3:13 PM
To: ESTERSON Sarah * ODOE <Sarah.Esterson@oregon.gov>
Cc: ISAAK Patty <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>
Sent: Tuesday, November 3, 2020 9:26 AM
To: NIGG Eric <Eric.Nigg@deq.state.or.us>
Cc: RATLIFF Krista <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>
Sent: Tuesday, November 3, 2020 6:01 AM
To: ISAAK Patty <Patty.Isaak@state.or.us>
Cc: MCVEIGH-WALKER Chase * ODOE <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



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From: Lenna Cope <Lenna.Cope@pgn.com>
Sent: Tuesday, August 4, 2020 9:13 AM
To: MOORE Fredrick <Fredrick.MOORE@state.or.us>
Cc: MCVEIGH-WALKER Chase * ODOE <Chase.McVeigh-Walker@oregon.gov>; STERGER Justin <Justin.Sterger@state.or.us>; Kling, Louise <louise.kling@aecom.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 18th 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.

From: ESTERSON Sarah * ODOE [mailto:Sarah.Esterson@oregon.gov]

Sent: Thursday, November 12, 2020 10:55 AM

To: Teara Farrow Ferman <TearaFarrowFerman@ctuir.org>

Cc: MCVEIGH-WALKER Chase * ODOE <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



97301

P: 503-373-7945

C: 503-385-6128

P (In Oregon): 800-221-8035



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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 Plan¹ December 14, 2018², August 17, 2020³

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

¹ 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.

² 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.

³ 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).⁴ 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

⁴ 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.

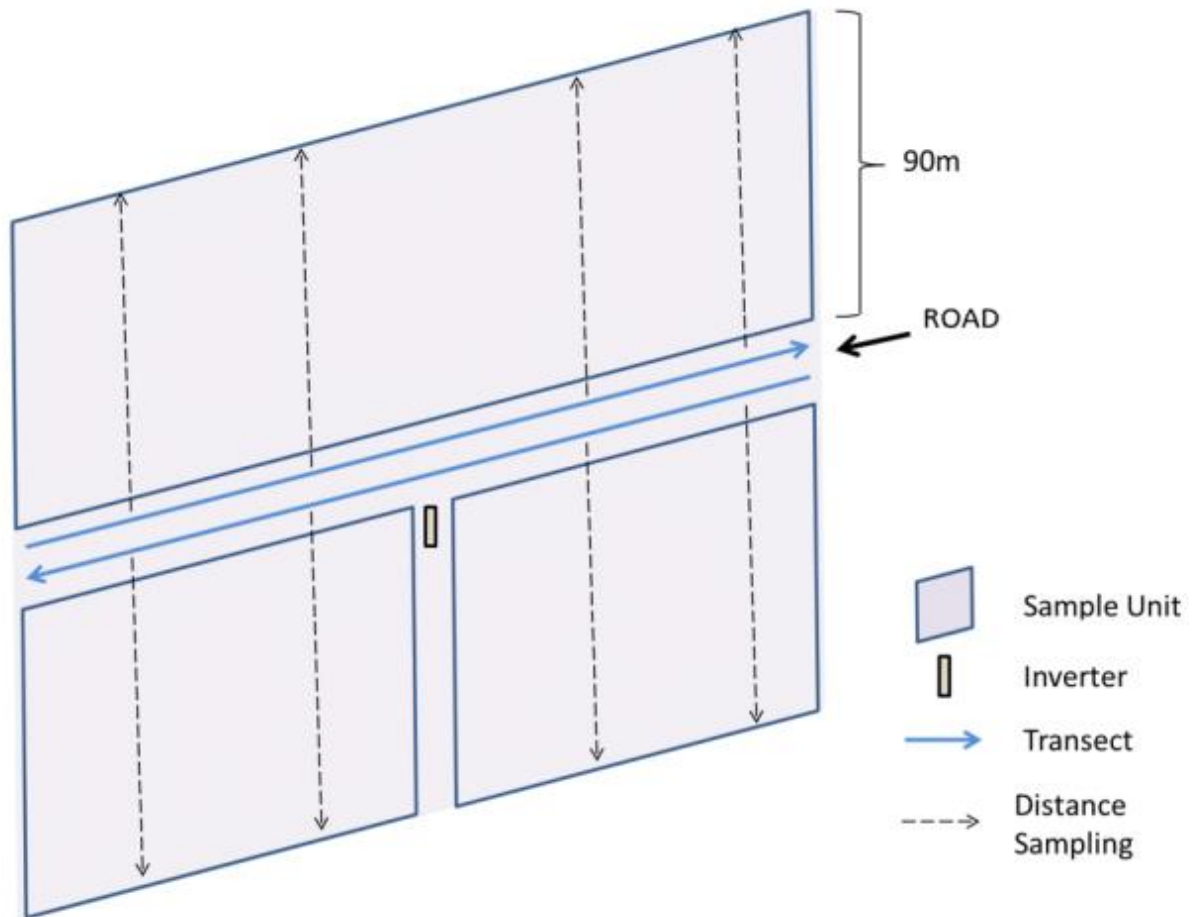


Figure 1. Example illustration of generic PV sampling unit with travel routes and searches using distance sampling (‘observation perspectives’).

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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
Totals		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
Totals		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) ¹	Permanent Impacts (acres) ²	Calculated Mitigation Area (acres) ^{1,2}
Unit 1 and Supporting Facilities³			
Category 4	55.4	45	72.75
Total Area	55.4	45	<u>100.4</u>
Total Unit 1 Mitigation ^{1,2}	27.75	45	72.75
Proposed new Facility components of Request for Amendment 2⁴			
Category 4	<u>1.0</u>	<u>0.6</u>	<u>1.10</u>
Category 6	<u>1.15</u>	<u>0.85</u>	<u>0.0</u>
Total Area	<u>2.15</u>	<u>1.45</u>	<u>3.6</u>
Total New RFA2 Facilities Mitigation	<u>0.50</u>	<u>0.6</u>	<u>1.10</u>
Carty Solar Farm and <u>Related or Supporting Facilities</u>⁴			
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 ^{1,2}	<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) ¹	Permanent Impacts (acres) ²	Calculated Mitigation Area (acres) ^{1,2}
<u>Additional Mitigation Required under RFA2 (proposed new Facility components)</u>			<u>1.10</u>
Notes:			
In all cases, impacts in a given project area will only be mitigated once.			
¹ 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.			
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 Unit 1 includes Unit 1 and all related or supporting facilities constructed as part of Unit 1.			
⁴ <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>			
⁵ 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 facility⁵ 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

⁴ 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 Ione to the south. TNC and Three Mile Canyon Farms may occasionally use the two track access crossing PGE’s property to access the Farm’s conservation area. Approved access to the site is currently limited to such occasional approved use of access roads, ~~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 reseeded would be monitored consistent with the revegetation monitoring methods and schedule as described in the Amended Carty Generating Station Revegetation and Noxious Weed Plan. See Section VI for schedule and performance criteria for habitat enhancements involving shrub and juniper plantings.

- 3) Photos taken from established photo points within the HMA, including 1) a minimum of five permanent photo points distributed to show general vegetation status throughout the HMA, and 2) additional photo points as needed to monitor success of significant enhancement activities, such as managed weed infestations and/or any necessary seeding/planting areas;
- 4) Incidental wildlife occurring within the HMA (counts concurrent with all other monitoring work);
- 5) Environmental factors found on site during monitoring activities and annual summary records (such as precipitation);
- 6) Surveys of resident special status wildlife species (WGS) that have been documented during previous monitoring or survey efforts within the HMA, using existing protocols approved by ODFW; and
- 7) Avian point counts during the breeding season ~~conducted annually as part of the~~ at existing point count stations, formerly monitored under the Boardman Plant Ecological Monitoring Program, in the vicinity of the HMA(s) existing Boardman Plant Ecological Monitoring Program (four existing point count stations are located in the immediate vicinity of the HMA for Unit 1, and an additional four sites are located in the immediate vicinity of the proposed HMA for the Carty Solar Farm.

VIII. DATA REPORTING

The certificate holder shall submit a report including wildlife and habitat monitoring data and analysis to ODOE and ODFW during each monitoring year according to the Table 5 as shown below. The certificate holder shall notify USFWS and ODFW within one business day if any federal or state endangered or threatened species are killed or injured on the facility site or within the HMA. The certificate holder may include the reporting of wildlife monitoring data and analysis in the report required under OAR 345-026-0080, or submit this information as a separate document concurrent with the submittal of the report. In addition, the certificate holder shall provide ODOE with any data or record generated by the investigators in carrying out this Amended Plan upon request by ODOE.

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Table 5. Schedule of Wildlife Mitigation and Monitoring Programs

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. N/A for Unit 1.
General HMA Monitoring	During the first, third, and fifth year after Unit 1 HMA, (i.e., 2017, 2019, 2021) and during the first, third, and fifth years after Carty Solar Farm construction for Carty Solar Farm HMA, and otherwise every fifth year thereafter for the life of the facility for entire applicable HMA.
Noxious Weed Inventory for HMA	
General Weed Control and Monitoring Activity for HMA	At least every two years (in priority areas based every-five-year comprehensive inventory results) starting from the completion of construction.
HMA Sagebrush Habitat Monitoring	Annually for a period of five years, with a performance goal of 60% survival at the end of the five-year monitoring period, for the Carty Solar Farm. N/A for Unit 1.
Additional Raptor Nest Opportunities (juniper plantings) Monitoring for HMA	Annually for a period of five years, with a performance goal of 60% survival at the end of the five-year monitoring period for Carty Solar Farm. N/A for Unit 1.

IX. AMENDMENT OF THE PLAN

This Wildlife and Habitat Monitoring and Mitigation Plan may be periodically amended by agreement of the certificate holder and ODOE. Such amendments may be made without amendment of the Site Certificate. The Energy Facility Siting Council (Council) authorizes ODOE to agree to amendments to this plan and to mitigation actions that may be required under this Plan. ODOE shall notify the Council of all amendments and mitigation actions, and the Council retains the authority to approve, reject, or modify any amendment of this plan or mitigation action agreed to by ODOE.

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Attachment D: Draft Amended Revegetation and Noxious Weed Control Plan

Carty Generating Station: Draft Amended Revegetation and Noxious Weed Control Plan¹

July 2, 2014², December 14, 2018³, ~~February 17~~ July 13, 2020⁴

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

¹ 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.

² 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.

³ 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.

⁴ 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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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 RFA2.⁵</u>	<u>42.15</u>

⁵ 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 grasses⁶ (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 -

⁶ 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 ^{1,2}	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

¹ PLS= pure live seed

² 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 (>100ft²) 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 (>100ft²) 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. 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.

DRAFT

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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 limitations² 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.

² 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 ⁵		
Total flow (MGD)	Daily	Record
Flow meter calibration	Annually	Written verification
pH	2/week	Grab/field measurement
BOD ₅	Quarterly	Composite ⁶
TSS	Quarterly	Composite ⁶
Overflow to seepage cell ⁷		
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 ₅	Quarterly	Composite ⁶
TSS	Quarterly	Composite ⁶
TKN	Quarterly	Grab
NO ₃ -N	Quarterly	Grab
Lagoon Site		
Freeboard ⁸	Weekly	Measure and record
Perimeter inspection ⁹	Weekly	Observation

⁵ 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 BOD₅, TSS and pH monitoring results of domestic sewage from Boardman Power Plant power block may be deemed representative of BOD₅, TSS and pH from Boardman Power Plant coal yard sewage collection system.

⁶ 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.

⁷ Required only when overflow occurs. Sample point is at overflow to seepage cell.

⁸ Freeboard is measured from lowest point on containment structure.

⁹ 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 ¹⁰		
Total Flow to pond (MG)	Quarterly	Record
Flow meter calibration	Annually	Written verification
As, Cd, Cr, Hg, TDS, Oil & Grease, TTHMs ¹¹ , pH	Quarterly	Grab
Freeboard	Weekly	Measure and record
Perimeter inspection	Weekly	Observation

c. Carty Reservoir

Items and Parameters	Minimum Frequency	Sample Type/Action
Effluent ¹²		
As, B, Cd, Ca, Cr, Cu, Fe, Mg, Hg, K, Na, V, Se, Zn, Bicarb Alk, Total Alk, Cl ⁻ , F ⁻ , NO ₃ ⁻ , SiO ₂ , SO ₄ , TDS, Cond, pH, TTHMs	Monthly	Grab
Make-up water		
Total flow (MG)	Monthly	Record
Flow meter calibration	Annually	Written verification
Irrigation withdrawal ¹³		
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

¹⁰ 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.

¹¹ Total trihalomethanes

¹² Sample point is at the intake structure from Carty Reservoir to the Boardman Power Plant and Carty Generating Station.

¹³ Sample point is at intake to irrigation withdrawal pump

4. **Groundwater Monitoring Resampling Requirements¹⁴**

- 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.

¹⁴ 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

Permittee:	Portland General Electric Co. 121 SW Salmon St. Portland, OR 97204
Existing Permit Information:	File Number: 70795 Permit Number: WPCF 100189 Expiration Date: April 30, 2023 EPA Reference Number: N/A
Source Contact:	Lenna Cope, (503) 464-2634
Facility Location:	73334 Tower Road Boardman, OR 97818-9804 Morrow County
LLID:	1198031456823 RM 10
Nearest surface stream:	Sixmile Canyon
Basin:	Umatilla
Sub-Basin	Middle Columbia / Lake Wallula
Proposed Action:	WPCF Major Permit Modification – Addendum #2
Source Category:	WPCF Minor – Industrial Type B10
Sources Covered:	Industrial and domestic wastewater, coal ash
Permit Type:	WPCF-IW-B10
Permit Writer:	Justin Sterger (541) 633-2016 Eastern Region/Water Quality Program - Bend Office 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 17th, 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.