

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

IN THE MATTER OF THE APPLICATION FOR A SITE  
CERTIFICATE FOR THE CARTY GENERATING STATION

FINAL ORDER

Issued by the Energy Facility Siting Council  
June 29, 2012

CARTY GENERATING STATION  
FINAL ORDER

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**ACRONYMS AND ABBREVIATIONS**

ACEC	AREA OF CRITICAL ENVIRONMENTAL CONCERN
ADA	AMERICANS WITH DISABILITIES ACT
AINW	ARCHAEOLOGICAL INVESTIGATIONS NORTHWEST, INC.
APLIC	AVIAN POWERLINE INTERACTION COMMITTEE
APPLICANT	PORTLAND GENERAL ELECTRIC COMPANY
APPLICATION	FINAL APPLICATION FOR SITE CERTIFICATE SUBMITTED MAY 2011
ASC	APPLICATION FOR SITE CERTIFICATE
BLM	BUREAU OF LAND MANAGEMENT
BPA	BONNEVILLE POWER ADMINISTRATION
CARTY	PROPOSED CARTY GENERATING STATION
CGS	CARTY GENERATING STATION
COUNCIL	OREGON ENERGY FACILITY SITING COUNCIL
CSZ	CASCADIA SUBDUCTION ZONE
CTG	COMBUSTION TURBINE GENERATOR
dba	DECIBELS (ON THE A-WEIGHTED SCALE)
DEPARTMENT	OREGON DEPARTMENT OF ENERGY
DEQ	OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY
DOGAMI	OREGON DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES
DPO	DRAFT PROPOSED ORDER
DSA	DALY STANDLEE AND ASSOCIATES, INC.
DSL	OREGON DEPARTMENT OF STATE LANDS
E&E	ECOLOGY AND ENVIRONMENT, INC.
EFSC	OREGON ENERGY FACILITY SITING COUNCIL
EFU	EXCLUSIVE FARM USE
ESA	ENDANGERED SPECIES ACT
ESCP	EROSION AND SEDIMENT CONTROL PLAN
FERC	FEDERAL ENERGY REGULATORY COMMISSION
FINAL ASC	FINAL APPLICATION FOR SITE CERTIFICATE
GCCP	GILLIAM COUNTY COMPREHENSIVE PLAN
GCZO	GILLIAM COUNTY ZONING ORDINANCE
GPD	GALLON(S) PER DAY
GPS	GLOBAL POSITIONING SYSTEM

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GTN	GAS TRANSMISSION NORTHWEST CORPORATION
HMA	HABITAT MITIGATION AREA
HRSG	HEAT RECOVERY STEAM GENERATOR
KG/KM <sup>2</sup> -MO	KILOGRAMS PER SQUARE KILOMETER PER MONTH
KOP	KEY OBSERVATION POINTS
kV	KILOVOLT(S)
LCDC	LAND CONSERVATION AND DEVELOPMENT COMMISSION
M	METER(S)
MCCP	MORROW COUNTY COMPREHENSIVE PLAN
MCE	MAXIMUM CREDIBLE EARTHQUAKE
MCZO	MORROW COUNTY ZONING ORDINANCE
MG	MILLIGAUSS
MG	GENERAL INDUSTRIAL ZONE
MW	MEGAWATT(S)
NOI	NOTICE OF INTENT
NPDES	NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
NRHP	NATIONAL REGISTER OF HISTORIC PLACES
OAR	OREGON ADMINISTRATIVE RULES
ODA	OREGON DEPARTMENT OF AGRICULTURE
ODFW	OREGON DEPARTMENT OF FISH AND WILDLIFE
ODOE	OREGON DEPARTMENT OF ENERGY
ODOT	OREGON DEPARTMENT OF TRANSPORTATION
ORBIC	OREGON BIODIVERSITY INFORMATION CENTER
ORNHIC	OREGON NATURAL HERITAGE INFORMATION CENTER
ORS	OREGON REVISED STATUTES
OSSC	OREGON STRUCTURAL SPECIALTY CODE
OWRD	OREGON WATER RESOURCES DEPARTMENT
PER	PERMIT EVALUATION REPORT
PGA	PEAK GROUND ACCELERATIONS
PGE	PORTLAND GENERAL ELECTRIC COMPANY
PUC	OREGON PUBLIC UTILITY COMMISSION
RAI	REQUEST FOR ADDITIONAL INFORMATION
ROW	RIGHT-OF-WAY
SACTI	SEASONAL/ANNUAL COOLING TOWER IMPACT

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SAG	SPECIAL ADVISORY GROUP
SHPO	STATE HISTORIC PRESERVATION OFFICE
SR	OREGON STATE ROUTE
STG	STEAM TURBINE GENERATOR
TIA	TRAFFIC IMPACT ANALYSIS
TNC	THE NATURE CONSERVANCY
USACE	UNITED STATES ARMY CORPS OF ENGINEERS
USFWS	UNITED STATES FISH AND WILDLIFE SERVICE
WGS	WASHINGTON GROUND SQUIRREL
WPCF	WATER POLLUTION CONTROL FACILITY

1 **I. INTRODUCTION**

2 This Order addresses the Application for a Site Certificate (ASC) for the construction and operation  
3 of a proposed natural gas energy facility in Morrow and Gilliam Counties, Oregon. The applicant is  
4 Portland General Electric Company (PGE, or Applicant). The Applicant has named the proposed facility  
5 the Carty Generating Station (Facility). The Oregon Energy Facility Siting Council (EFSC, or Council)  
6 issues this Order (Order) in accordance with Oregon Revised Statute (ORS) 469.370(7), based on its  
7 review of the ASC, public comments, and the comments and recommendations provided by reviewing  
8 agencies, affected local governments, and tribes.

9 In addition to all other conditions stated in this Order, the site certificate holder is subject to all  
10 conditions and requirements contained in the rules of the Council and in local ordinances and state law in  
11 effect on the date the certificate is executed. Under ORS 469.401(2), upon a clear showing of a significant  
12 threat to the public health, safety, or the environment that requires application of later-adopted laws or  
13 rules, the Council may require compliance with such later-adopted laws or rules.

14 The Council recognizes that many specific tasks related to the design, construction, operation, and  
15 retirement of the facility will be undertaken by the certificate holder’s agents or contractors. Nevertheless,  
16 the certificate holder is responsible for ensuring compliance with all provisions of the site certificate.

17 Unless otherwise specified, the definitions in ORS 469.300 and Oregon Administrative Rule (OAR)  
18 345-001-0010 apply to terms used in this Order.

19 **Authority and Jurisdiction of the Council**

20 It is the public policy of the State of Oregon that “the siting, construction and operation of energy  
21 facilities shall be accomplished in a manner consistent with protection of the public health and safety and  
22 in compliance with the energy policy and air, water, solid waste, land use and other environmental  
23 protection policies of this state.” ORS 469.310. With certain exceptions not relevant here, an energy  
24 facility may not be constructed without a site certificate issued by the Council. ORS 469.320. ORS  
25 469.300 defines “facility” as “an energy facility together with any related or supporting facilities.”  
26 Energy facilities subject to the Council’s jurisdiction include “electric power generating plants with a  
27 nominal electric generating capacity of 25 megawatts or more, including but not limited to \* \* \* [a]  
28 combustion turbine power plant.” ORS 469.300(11)(a)(A)(ii). The proposed Carty Generating Station is  
29 a natural gas-fueled electric power generating plant with a nominal electric generating capacity of greater  
30 than 25 megawatts and therefore is subject to the jurisdiction of the Council and may not be constructed  
31 without a site certificate.

32 A site certificate issued by the Council binds the state and all counties and cities and political  
33 subdivisions of Oregon. Once the Council issues the site certificate, the responsible state agency or local  
34 government must issue any necessary permits that are addressed in the site certificate without further  
35 proceedings. ORS 469.401(3). The Council has continuing authority over the site for which the site  
36 certificate is issued and may inspect the site at any time in order to ensure that the facility is being  
37 operated consistently with the terms and conditions of the site certificate. ORS 469.430.

38 To issue a site certificate for a proposed facility, the Council must determine that “the facility  
39 complies with the standards adopted by the Council pursuant to ORS 469.501, or the overall public  
40 benefits of the facility outweigh the damage to the resources protected by the standards the facility does  
41 not meet.” ORS 469.503(1). The Council must decide whether the proposed facility complies with all  
42 other applicable Oregon statutes and administrative rules identified in the project order, excluding  
43 requirements governing design or operational issues that do not relate to siting and excluding compliance  
44 with requirements of federally delegated programs. ORS 469.401(4) and ORS 469.503(3). In addition,  
45 the Council must include in the site certificate “conditions for the protection of the public health and  
46 safety, for the time for completion of construction, and to ensure compliance with the standards, statutes  
47 and rules described in ORS 469.501 and ORS 469.503.” ORS 469.401(2).



1 The Council does not have jurisdiction for determining compliance with federal law and regulations  
2 administered by federal agencies. Under ORS 469.503(3), the Council does not have jurisdiction for  
3 determining compliance with statutes and rules for which the federal government has delegated the  
4 decision on compliance to a state agency other than the Council. Nevertheless, the Council may consider  
5 these programs in the context of its own standards to ensure public health and safety, resource efficiency,  
6 and protection of the environment.

7 The Council does not have jurisdiction over matters that are not included in and governed by the site  
8 certificate or amended site certificate. Such matters include design-specific construction or operating  
9 standards and practices that do not relate to siting, as well as matters relating to employee health and  
10 safety, building code compliance, wage and hour or other labor regulations, or local government fees and  
11 charges. ORS 469.401(4). Nevertheless, the Council may rely on the determinations of compliance and  
12 the conditions in the permits issued by these state agencies and local governments in deciding whether the  
13 facility meets other standards and requirements under its jurisdiction.

14 In accordance with ORS 469.370(1), the Oregon Department of Energy (Department) issues a draft  
15 proposed order on an application. After the draft proposed order has been issued, the Council must  
16 conduct at least one public hearing in the affected area. At the hearing, the Council takes public comment  
17 on the application and draft proposed order. ORS 469.370(2). Any issues that may be the basis for a  
18 contested case hearing must be raised by the public hearing comment deadline or they are waived and  
19 cannot be considered in a contested case. ORS 469.370(3).

20 After the public hearing and the Council's review of the draft proposed order, the Department issues  
21 a proposed order. The Department issues a public notice of the proposed order and a notice to eligible  
22 persons that specifies a deadline for requests to participate as a party in the contested case and the date for  
23 the initial prehearing conference. ORS 469.370(4). Only those who appeared in person or in writing at the  
24 public hearing on the application (described in the preceding paragraph) may request to become parties to  
25 the contested case, and only those issues that were raised on the record of the public hearing with  
26 sufficient specificity can be considered in the contested case. ORS 469.370(5).

27 After the conclusion of the contested case proceeding, the Council decides whether to grant a site  
28 certificate and issues a final order that either approves or rejects the application based on the standards  
29 adopted under ORS 469.501 and any additional state statutes, rules or local government ordinances  
30 determined to be applicable to the proposed facility by the project order. ORS 469.370(7). Any party to a  
31 contested case proceeding may apply for rehearing within 30 days from the date of service of the final  
32 order. The Council's final order is subject to judicial review by the Oregon Supreme Court. Only a party  
33 to the contested case may request judicial review, and the only issues that may be subject to judicial  
34 review are issues raised by parties to the contested case. A petition for judicial review must be filed with  
35 the Supreme Court within 60 days after the date of service of the Council's final order or within 30 days  
36 after the date the petition for rehearing is denied or deemed denied. ORS 469.403.  
37

1  
2 **II. PROCEDURAL HISTORY OF THE CARTY GENERATING STATION ASC REVIEW**

3 **II.A. NOTICE OF INTENT**

4 On August 26, 2009 PGE submitted to ODOE a Notice of Intent (NOI) to submit an ASC for the  
5 Carty Generating Station.<sup>1</sup> The Department issued public notice to the Council’s general mailing list and  
6 to adjacent property owners on September 4, 2009,<sup>2</sup> and also published notice of the NOI in *The East*  
7 *Oregonian*, a newspaper of general circulation in the area. The NOI comment period was open from  
8 September 4, 2009 through October 8, 2009. A copy of the NOI and public notice were sent to the  
9 Boardman Library, the designated information repository for documents related to the Carty project.

10 A memorandum to reviewing agencies requesting review of the Carty NOI was issued on September  
11 4, 2009.<sup>3</sup> ODOE held a public information meeting on the proposed facility at the Port of Morrow  
12 Riverfront Center in Boardman, Oregon, on September 29, 2009. On June 12, 2009, the Council  
13 appointed Morrow County as a Special Advisory Group (SAG)<sup>4</sup> and Golder Associates, Inc. as the  
14 Council’s reviewing contractor.<sup>5</sup> On November 20, 2009 the Council appointed Gilliam County as a  
15 SAG.<sup>6</sup>

16 At the close of the NOI comment period ODOE had received comments from the Oregon Department  
17 of Agriculture and Oregon Department of Fish and Wildlife. Comments from the United States Fish and  
18 Wildlife Service (USFWS) and Oregon Parks and Recreation Department State Historic Preservation  
19 Office (SHPO) were received after the comment period had closed. Comments from the Morrow County  
20 Planning Department were received on October 9, 2009.

21 ODOE issued the project order<sup>7</sup> for Carty on November 3, 2009, specifying the state statutes,  
22 administrative rules, and local, state, and tribal permitting requirements applicable to the construction and  
23 operation of the Carty Generating Station.

24 **II.B. APPLICATION FOR SITE CERTIFICATE**

25 PGE submitted a preliminary ASC for the proposed Carty Generating Station to ODOE on December  
26 31, 2009.<sup>8</sup> A memorandum to reviewing agencies requesting review of the Carty preliminary ASC was  
27 issued on January 8, 2010.<sup>9</sup> Reviewing agencies were requested to comment on the completeness of the  
28 preliminary ASC no later than February 16, 2010. The Department received comments from the

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1 CGS-0039, 08-24-09, Notice of Intent to Apply for Site Certificate for the Carty Generating Station

2 CGS-0019, 09-24-09, Public Notice of Information Meeting and Request for Comments on the Carty  
Generating Station Notice of Intent

3 CGS-0004, 09-04-09, Memorandum to Reviewing Agencies – Request for Comments on Carty Generating  
Station Notice of Intent

4 CGS-0002, 06-12-09, Order Appointing the Morrow County Court as the Special Advisory Group for the Carty  
Generating Station, Energy Facility Siting Council

5 CGS-0001, 06-12-09, Order Appointing Golder Associates, Inc. as Reviewing Contractor for the Carty  
Generating Station, Energy Facility Siting Council

6 CGS-0106, 11-19-09, Order Appointing Gilliam County Court as the Special Advisory Group for the Carty  
Generating Station, Energy Facility Siting Council

7 CGS-0042, 11-03-09, Oregon Department of Energy Project Order for the Carty Generating Station

8 CGS-0060, 12-31-09, Carty Generating Station Preliminary Application for Site Certificate

9 CGS-0014, 01-08-10, Memorandum to Reviewing Agencies Request for Comments on Preliminary Application  
for Site Certificate for the Carty Generating Station

1 Department of State Lands (DSL),<sup>10</sup> the Oregon Department of Agriculture (ODA),<sup>11</sup> the Oregon  
2 Department of Fish and Wildlife (ODFW),<sup>12</sup> and the State Historic Preservation Office (SHPO).<sup>13</sup>

3 On April 1, 2010 ODOE sent PGE a letter stating that the application was incomplete and requested  
4 additional information (RAI #1).<sup>14</sup> The Applicant provided a Response to the First Request for  
5 Additional Information on May 17, 2010.<sup>15</sup> Following its review of the Response, ODOE issued RAI #2  
6 on November 29, 2010.<sup>16</sup> PGE provided an RAI#2 Response and a revised ASC on February 14, 2011.<sup>17</sup>

7 ODOE issued a letter on May 4, 2011 to the Applicant describing the final information necessary to  
8 determine completeness of the preliminary ASC.<sup>18</sup> PGE submitted a response on May 10, 2011.<sup>19</sup> ODOE  
9 completed its review of the Final ASC and deemed the application complete on May 10, 2011.<sup>20</sup> The  
10 Applicant distributed the complete ASC, accompanied by a May 10, 2011 memorandum prepared by the  
11 Department, to the list of reviewing agencies designated by the Department in the memorandum.<sup>21</sup> The  
12 memorandum requested the reviewing agencies provide their comments no later than June 10, 2011. A  
13 copy of the complete ASC was also sent to the designated information repository. On May 18, 2011 the  
14 Council appointed Mr. J. Kevin Shuba as hearings officer to conduct the public hearing on the draft  
15 proposed order and to conduct the contested case proceeding.<sup>22</sup>

16 ODOE issued a public notice requesting comment on the ASC to the Council's general mailing list,  
17 the project mailing list, and to adjacent property owners on May 24, 2011.<sup>23</sup> The notice was also  
18 published in *The East Oregonian*. A public information meeting was held on June 14, 2011 at the Port of  
19 Morrow Riverfront Center in Boardman, Oregon. The comment period closed on June 24, 2011.

20 The Department received comments from DSL on May 16, 2011,<sup>24</sup> SHPO on May 17 and July 8,  
21 2011,<sup>25</sup> ODFW on June 6, 2011,<sup>26</sup> The Oregon Historic Trails Advisory Council<sup>27</sup> and the United States

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10 CGS-0034, 01-28-10, Agency Comment from Sarah Kelly, Division of State Lands

11 CGS-0029, 01-25-10, Agency Comment from Rebecca Currin, Oregon Department of Agriculture

12 CGS-0027, 02-16-10, Agency Comment from Travis Schultz, Oregon Department of Fish and Wildlife

13 CGS-0033, 02-11-10, Agency Comment from Sarah Purdy, Oregon Parks and Recreation Department-State  
Historic Preservation Office

14 CGS-0009, 04-01-10, First Request for Additional Information (RAI #1) Regarding the Preliminary Site  
Certificate Application, Oregon Department of Energy

15 CGS-0037, 05-17-10, PGE Response to First Request for Additional Information

16 CGS-0043, 11-29-10, Second Request for Additional Information (RAI #1) Regarding the Preliminary Site  
Certificate Application, Oregon Department of Energy

17 CGS-0073, 02-14-11, PGE Response to Second Request for Additional Information

18 CGS-0063, 05-04-11, Information Needed to Determine Application Completeness, Oregon Department of  
Energy

19 CGS-0083, 05-10-11, Final Application for Site Certificate, Carty Generating Station, PGE

20 CGS-0065, 05-10-11, Determination of Completeness of Application for Site Certificate for the Carty  
Generating Station

21 CGS-0064, 05-10-11, Memorandum to Reviewing Agencies Request for Comments on Application for Site  
Certificate for the Carty Generating Station

22 CGS-0068, 05-18-11, EFSC Order Appointing J. Kevin Shuba as Hearing Officer for the proposed Carty  
Generating Station

23 CGS-0079, 05-29-11, Public Notice for the proposed Carty Generating Station: Information Meeting and  
Request for Comments on the Application for Site Certificate

24 CGS-0090, 05-16-11, Agency Comment from Sarah Kelly, Oregon Department of State Lands

25 CGS-0074, 05-17-11, Agency Comment from John Pouley, Oregon Parks and Recreation Department-State  
Historic Preservation Office

1 Fish and Wildlife Service<sup>28</sup> on June 13, 2011 and Oregon Wild on June 14, 2011.<sup>29</sup> Comments from DEQ  
2 were received on June 16, 2011,<sup>30</sup> and from the Friends of the Columbia River Gorge<sup>31</sup> on June 30, 2011.  
3 The Morrow County Planning Department submitted four comments on June 24, 2011.<sup>32</sup> An additional  
4 comment was received from Morrow County on August 9, 2011.<sup>33</sup>

## 5 **II.C. RECORD OF THE PUBLIC HEARING ON THE DRAFT PROPOSED ORDER**

6 The Department issued the Draft Proposed Order (DPO) for public comment on March 13, 2012.<sup>34</sup>  
7 The public notice stated that the record of the Hearing on the DPO would close on April 13, 2012.<sup>35</sup> A  
8 public hearing was conducted by the Hearing Officer (Mr. J. Kevin Shuba) on April 5, 2012, in  
9 Boardman, Oregon. The DPO was reviewed by the Energy Facility Siting Council on May 10, 2012.

10 Eight persons provided oral testimony at the hearing held on April 5, 2012 (two of these commenters  
11 also provided written testimony). The Department received a total of eight written comments during the  
12 DPO comment period (including those received at the April 5 hearing). All of the written comments were  
13 provided to the Hearing Officer for incorporation and review in the Hearing Officer Report.<sup>36</sup> A summary  
14 of public and agency comments on the record of the DPO hearing is presented below.

15 The following persons gave oral testimony at the public hearing, but either expressed general support  
16 for the proposed facility, or made oral comments that did not specifically address the DPO or a Council  
17 standard. These comments are not specifically addressed further in this Order:

- 18 • Chuck Little
- 19 • Chet Phillips (Mayor, City of Boardman)
- 20 • David Richards
- 21 • Karen Pettigrew
- 22 • Steve Doherty

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CGS-0089, 07-08-11, Agency Comment from John Pouley, Oregon Parks and Recreation Department-State  
Historic Preservation Office

26 CGS-0091, 06-06-11, Agency Comment from Travis Schultz, Oregon Department of Fish and Wildlife

27 CGS-0077, 06-09-11, Comment from Glenn Harrison, Oregon Historic Trails Advisory Council

28 CGS-0076, 06-09-11, Comment from Gary S. Miller, U.S. Fish and Wildlife Service

29 CGS-0092, 06-14-11, Comment from Doug Heiken, Oregon Wild

30 CGS-0078, 06-08-11, Comment from Carl Nadler, Oregon Department of Environmental Quality

31 CGS-0084, 06-24-11, Comment from Rick Till, Friends of Columbia Gorge

32 CGS-0085, 06-24-11, General Comment from Carla McLane, Morrow County Planning Department

CGS-0086, 06-24-11, Comment on Exhibit U (Public Services) from Carla McLane, Morrow County Planning  
Department

CGS-0087, 06-24-11, Comment on Exhibit V (Solid Waste and Wastewater) from Carla McLane, Morrow  
County Planning Department

CGS-0088, 06-24-11, Comment on Exhibit K (Land Use) from Carla McLane, Morrow County Planning  
Department

33 CGS-0093, 08-09-11, Revised (Follow-up) Comment Letter, Carla McLane, Morrow County Planning  
Department.

34 CGS-0120, 03-13-12, Draft Proposed Order in the Matter of the Application for Site Certificate for the Carty  
Generating Station

35 CGS-0110, 03-13-12, Notice of Public Hearing and Request for Comments on the Carty Generating Station  
Draft Proposed Order

36 CGS-0135, 05-22-12, Hearing Officer Report in the Matter of the Application for a Site Certificate for the Carty  
Generating Station, J. Kevin Shuba, Hearing Officer

- 1 • Danny Larsen (Mr. Larsen also submitted written comments<sup>37</sup> reflecting his oral testimony)
- 2 • Rick McArdle testified at the public hearing on behalf of the United States Navy and asserted that
- 3 the proposed use may not be compatible with other adjacent uses of property, specifically the
- 4 Boardman Bombing Range. Mr. McArdle discussed the air space restriction granted by the
- 5 Federal Aviation Administration and expressed concern that the height of the proposed Carty
- 6 Generating Station cooling towers would impact the ability of military pilots to practice low-level
- 7 bombing runs. The highest structure associated with the Carty Station is the exhaust stack, which
- 8 is expected to be approximately 200 feet high. The Council notes that the proposed Carty
- 9 Generating Station is located immediately adjacent to an existing coal-fired power plant that has
- 10 numerous tall structures, an exhaust stack almost 600 feet high, and has co-existed with the
- 11 bombing range for over 30 years.

12 The following commenters provided written comments on the DPO, but did not raise specific issues

13 related to compliance with siting standards. The Council has reviewed and considered these comments

14 but has not specifically addressed them further in this Order.

- 15 • John Hayes, Chair of the Oregon Historic Trails Advisory Council (Oregon Parks and Recreation
- 16 Department) commented on OHTAC’s focus “on any possible encroachment on the Oregon Trail
- 17 this project might present.”<sup>38</sup> Mr. Hayes did not identify any impacts from the proposed facility
- 18 on the Oregon Trail. The protection of historic, cultural and archaeological resources is
- 19 addressed in Section IV.K of this Order.
- 20 • Ms. Sandra Larsen, an Aviation Planning Analyst with the Oregon Department of Aviation
- 21 recommended “adherence to ORS 836.600 through 836.630, which allow for the future use and
- 22 growth of Oregon airports, as well as to OAR 660-013-0010 through 660-013-0160, known at the
- 23 Airport Planning Rule.”<sup>39</sup> Ms. Larsen did not identify any specific impacts from the proposed
- 24 facility on any Oregon airports.
- 25 • Mr. Grant Kendall of Kendall Energy Consulting LLC asked several questions in his comment,<sup>40</sup>
- 26 but did make any comments specific to any Council standards.

27 The following commenters provided written comments that related specifically to issues discussed in

28 the DPO or addressed the proposed facility’s compliance with one or more of the siting standards:

- 29 • Mr. Richard Till, representing the Friends of the Columbia Gorge, commented on the proposed
- 30 facility’s potential impacts to the Columbia River Gorge National Scenic Area.<sup>41</sup> Mr. Till’s
- 31 comments are discussed and addressed further in Section IV.F.1.D (Protected Areas).
- 32 • Ms. Lenna Cope, representing Portland General Electric Company (Applicant), commented on
- 33 numerous sections of the DPO.<sup>42</sup> PGE’s substantive comments<sup>43</sup> are discussed and addressed
- 34 further in the relevant sections of this Order, and include:

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37 CGS-0118, 04-05-11, Comments from Danny Larsen on the Carty Generating Station DPO

38 CGS-0126, 03-22-12, Comment from John Hayes, Oregon Historic Trails Advisory Council

39 CGS-0127, 04-05-12, Comment from Sandra Larsen, Oregon Department of Aviation

40 CGS-0122, 04-12-12, Comment from Grant Kendall, Kendall Energy Consulting, LLC

41 CGS-0116, 04-13-12, Comment from Richard Till, Friends of the Columbia River Gorge

42 CGS-0114, 04-13-12, Comment from Lenna Cope, Portland General Electric Company

43 PGE’s comments also included proposed revisions to Sections III.C, IV.B, and IV.F that involved correction of typographical errors and revisions to clarify text in the discussion. This Order incorporates the proposed corrections.

- 1           ○ A proposed change to the cooling tower drift rate limit in Condition IV.D.2.10 (related to
- 2           Soil Protection) and a request that Condition IV.D.2.11 prohibiting fuel storage on site be
- 3           removed.
- 4           ○ Proposed revisions to the text and the conditions in Section IV.G (related to Retirement and
- 5           Financial Assurance) to reflect the construction of the Carty Generating Facility in two
- 6           phases.
- 7           ○ A proposed revision to Condition IV.H.2.13 (related to Fish and Wildlife Habitat) to make
- 8           the condition consistent with the discussion in the text and with Condition IV.H.2.10, and a
- 9           request to revise Condition IV.H.2.15 restricting placement of equipment in Sixmile
- 10          Canyon.
- 11          ○ A proposal to delete Condition IV.I.2.7 in the DPO (related to Threatened and Endangered
- 12          Species) because the condition was not consistent with PGE’s agreement with the Oregon
- 13          Department of Fish and Wildlife concerning the protection of the Washington Ground
- 14          Squirrel.
- 15          ○ A proposal to add a new condition to Section IV.P related to the Carbon Dioxide Standard to
- 16          reflect the phased approach to the construction of the Carty Generating Station.
- 17          • Mr. Travis Schultz of the Oregon Department of Fish and Wildlife recommended that the
- 18          Department incorporate PGE’s proposal to delete Condition IV.I.2.7 in the DPO because the
- 19          condition “does not provide any additional protections and its removal would not affect the
- 20          probability of [the Washington Ground Squirrel’s] continued inhabitation of the area.”<sup>44</sup>
- 21          • Ms. Carla McLane, Morrow County Planning Director, made numerous comments on the DPO.<sup>45</sup>
- 22          Morrow County’s comments are discussed and addressed further in the relevant sections of this
- 23          Order:<sup>46</sup>
  - 24               ○ Morrow County noted that Condition IV.D.2.6 in the DPO (related to Soil Protection) and
  - 25               Condition IV.E.4.4 (related to Land Use) are similar in intent but worded differently. Ms.
  - 26               McLane pointed out that neither condition reflected the proposed condition language that
  - 27               Morrow County recommended in June 2011 in its comments on the Application for Site
  - 28               Certificate.
  - 29               ○ Morrow County stated its belief that the analysis in IV.M.1.c regarding impacts to Public
  - 30               Services, specifically housing, is inadequate.
  - 31               ○ Morrow County requested that the Council include a condition requiring the site certificate
  - 32               holder to obtain over-weight, -width, or -length permits as necessary during construction.
  - 33               ○ Morrow County stated its “frustration with the unfunded mandate that we adopt, without
  - 34               financial support from the applicant, Goal exceptions to our Comprehensive Plan.” The
  - 35               county requested that the Council include a condition requiring the site certificate holder to
  - 36               “work with Morrow County to achieve the necessary and required Comprehensive Plan
  - 37               Amendment.” [See Section IV.E.2 for further discussion of this issue.]

38           **II.D.       THE PROPOSED ORDER AND CONTESTED CASE PROCEEDING**

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<sup>44</sup> CGS-0128, 04-12-12, Comments from Travis Schultz, Heppner District Wildlife Technician for the Oregon Department of Fish and Wildlife

<sup>45</sup> CGS-0115, 04-13-12, Comments from Carla McLane, Morrow County Planning Director

<sup>46</sup> Morrow County’s April 2012 comments (CGS-0115) also noted that the DPO failed to address a follow-up comment on the Application for Site Certificate dated August 9, 2011. The Department acknowledged in its Proposed Order that the August 2011 comment from Morrow County was inadvertently not included and considered in the Draft Proposed Order. Applicable sections of the Proposed Order were revised to include discussion of the August 2011 comment.

1 The Proposed Order<sup>47</sup> was issued with a Notice of Contested Case Proceeding<sup>48</sup> on June 1, 2012. The  
2 deadline for requests to participate as a party in the contested case was 5:00 p.m. on June 13, 2012, and  
3 the date of the initial prehearing conference was scheduled for 10:00 a.m. on July 3, 2012. The Notice  
4 was sent via certified mail to all persons who commented on the Draft Proposed Order and by first class  
5 mail or email to all those on the Department's project mailing list.

6 No requests for party status were received by the June 13 deadline. On June 14, 2012 Portland  
7 General Electric Company sent a letter to the Hearing Officer indicating that the applicant did "not wish  
8 to raise any issues in the contested case proceeding and that the contested case therefore may be  
9 concluded."<sup>49</sup> On June 19, 2012 the Hearing Officer issued the Final Order Concluding Contested Case  
10 in the Matter of the Application for a Site Certificate for the Carty Generating Station.<sup>50</sup> The Council  
11 considered the Department's Proposed Order at a public meeting in Boardman, Oregon, on June 29, 2012,  
12 and issued this Final Order.

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<sup>47</sup> CGS-0137, 05-30-2012, Proposed Order in the Matter of the Application for a Site Certificate for the Carty  
Generating Station.

NOTE: "CGS-0137" is a document identification number assigned by the Oregon Department of Energy  
(ODOE). Document citations in this Order are generally listed in footnotes with the ODOE document  
identification number, the date and title. Exhibit 6 includes an index to the documents identified by the ODOE  
document identification number cited in this Order.

<sup>48</sup> CGS-0136, 05-30-2012, Notice of Contested Case in the Matter of the Application for a Site Certificate for the  
Carty Generating Station.

<sup>49</sup> CGS-0141, 06-14-2012, Letter from Loretta Mabinton, Associate General Counsel for Portland General Electric  
Company, to J. Kevin Shuba, Hearing Officer

<sup>50</sup> CGS-0142, 06-19-2012, Final Order Concluding Contested Case in the Matter of the Application for a Site  
Certificate for the Carty Generating Station

1 **III. DESCRIPTION OF THE FACILITY**

2 The information presented in this section is drawn from the Application for Site Certificate (ASC).  
3 Section III.A describes the Location and Site Boundary, Section III.B describes the Energy Facility, and  
4 Section III.C discusses the construction timeline requested by the Applicant. Section III.D contains the  
5 site certificate conditions related to the description and location of the facility and the construction  
6 timeline.

7 **III.A. LOCATION AND SITE BOUNDARY**

8 Exhibit B (General Information) and Exhibit C (Location) of the Final ASC provide the description of  
9 the proposed facility. The proposed Carty Generating Station site is located in Morrow County,  
10 southwest of the City of Boardman, Oregon, and north of the Carty reservoir. The location is also  
11 adjacent to the existing Boardman Coal Plant. The Applicant proposes an associated transmission line, to  
12 be located primarily within an existing transmission right-of-way, which would extend across the western  
13 portion of Morrow County, into the eastern portion of Gilliam County to connect to the existing  
14 Bonneville Power Administration (BPA) Slatt substation.

15 As defined by OAR 345-001-0010, the “site boundary” is the perimeter of the site of the energy  
16 facility, its related or supporting facilities, all temporary staging areas, and all corridors.<sup>51</sup> The site  
17 boundary for the proposed Carty facility<sup>52</sup> encompasses approximately 2,400 acres; approximately 1,400  
18 acres of this total area comprises the proposed transmission right-of-way corridor.<sup>53</sup>

19 The energy facility encompasses all or portions of the following:

- 20 • Township 2 North, Range 24 East, Section 5; and,
- 21 • Township 3 North, Range 24 East, Sections 32, 33, and 34.

22 The Council adopts Condition III.D.1<sup>54</sup> requiring the site certificate holder to provide the Department  
23 a legal description of the site boundary within 90 days after the beginning of operations.

24 **III.B. THE ENERGY FACILITY**

25 ORS 469.300(11)(a)(A) defines the “energy facility” in this case as “*an electric power generating*  
26 *plant with a nominal electric generating capacity of 25 MW or more, including, but not limited*  
27 *to...combustion turbine power plant.*” The proposed facility is a natural gas-fueled combined-cycle  
28 “electric power generating plant.” The proposed facility would consist of two generator blocks capable of  
29 generating up to 900 MW of electrical power.

30 The Carty Generating Station will have two generating blocks, each consisting of one or more high  
31 efficiency combustion turbine generators (CTGs), heat recovery steam generators (HRSGs), and a steam  
32 turbine generator (STG). Within the blocks, natural gas CTG(s) would produce electricity, with the  
33 exhaust gases from the CTG(s) supplying heat to the HRSG(s). Steam produced in the HRSG(s) would  
34 be used to power the STG to produce additional electricity. Duct burners fueled by natural gas in the  
35 HRSG(s) would allow for production of additional steam and additional electricity from the STG. Steam  
36 exhausted from the STG would be condensed in a water-cooled condenser, with the resultant condensate

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51 The facility “site,” as defined under ORS 469.300, includes all land upon which the energy facility and its related or supporting facilities are located.

52 In the preliminary ASC submitted in December 2009, the applicant proposed two alternate layouts for the energy facility; however, since that time the applicant selected a single layout to be included in the Final ASC. Only the layout described in the Final ASC is evaluated in this Order.

53 Final ASC, Section B.1, p. B-1

54 Condition III.D.1 is a mandatory site certificate condition per OAR 345-027-0020(2).



1 returned to the HRSG(s) to produce additional steam. Water used for cooling in the water-cooled  
2 condenser would be routed to a cooling tower, where the water would be cooled before being pumped  
3 back through the condenser. A separate cooling tower would be built for each block. If required for  
4 starting the CTG(s) or to maintain the plant in a ready-to-start condition, a natural gas-fueled auxiliary  
5 boiler would be provided to supply steam when none is available from the HRSG(s).

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

11 Generator transformers will be constructed to step up the voltage produced by both blocks to 500  
12 kilovolts (kV). A new 500-kV transmission line would connect the generator transformers to a new 500-  
13 kV switchyard, the Grassland Switchyard. From the switchyard, PGE will utilize the existing 500-kV  
14 Boardman to Slatt transmission line or will construct a new 500-kV single circuit or double circuit  
15 transmission line to connect the Grassland Switchyard to the existing Slatt Substation. The new  
16 transmission line would be approximately 18 miles long.<sup>55</sup>

17 The facility will consume about 150 million cubic feet of natural gas per day upon completion of the  
18 construction of both blocks. Natural gas will be supplied to the facility through a lateral pipeline that will  
19 be connected to an existing pipeline operated by the Gas Transmission Northwest Corporation (GTN).  
20 This lateral pipeline would be permitted, owned, and operated by GTN and is outside the jurisdiction of  
21 the Council. This natural gas pipeline is being permitted by the Federal Energy Regulatory Commission  
22 (FERC).<sup>56</sup>

23 PGE will interconnect Carty with the existing Boardman Coal Plant to obtain potable water<sup>57</sup> and to  
24 utilize the existing sanitary waste infrastructure.<sup>58</sup> The Carty facility would also connect to the existing  
25 Carty Reservoir for water withdrawal and water discharge purposes.<sup>59</sup> In addition, the facility would  
26 utilize the existing 500 kV Boardman to Slatt transmission line owned by PGE.

27 Under the Agreement for Construction, Ownership, and Operation of the Number One Boardman  
28 Station on Carty Reservoir dated as of October 15, 1976, between PGE, Idaho Power Company, and  
29 Pacific Northwest Generating Company, PGE has the right to construct and operate on Carty Reservoir  
30 additional generating units and to utilize facilities of the Boardman plan that may be used in common  
31 with the new generating units, including, but not limited to, the reservoir, pumping facilities, pipelines  
32 from the Columbia river, roads, railroad spurs, docks, parking lots, fencing and transmission facilities.<sup>60</sup>

33 The facility will include the following related or supporting facilities:

- 34 • On-site 500-kV transmission line
- 35 • 18 Mile 500 kV Transmission line from the Grassland Switchyard to the Slatt Substation
- 36 • Grassland Switchyard
- 37 • Interconnecting water pipelines
- 38 • Evaporation ponds

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<sup>55</sup> Final ASC, Section C.3.3, p. C-2  
(See FERC Docket #PF11-5 at [http://elibrary.ferc.gov/idmws/docket\\_search.asp](http://elibrary.ferc.gov/idmws/docket_search.asp))

<sup>56</sup> Final ASC, Section B.3.5, p. B-8

<sup>57</sup> Final ASC, Section O.2.2, p. O-2

<sup>58</sup> Final ASC, Section V.4.2, p. V-5

<sup>59</sup> Final ASC, Section B.4, p. B-12

<sup>60</sup> Final ASC, Section B.4, p. B-10

- 1 • Cooling towers
- 2 • Liquid storage facilities
- 3 • Accessory buildings
- 4 • Utility lines
- 5 • Roads
- 6 • Additional temporary construction areas

## 7 **500-kV Transmission Lines**

### 8 *On-Site*

9 A 500-kV transmission line will connect the step-up transformers located at each generating block to  
10 the proposed Grassland Switchyard. One transmission line will be constructed for each block, and each  
11 transmission line would be approximately 0.75 miles long and would require approximately four  
12 transmission support towers. These towers will be between 100 and 150 feet tall and would be spaced  
13 approximately 1,000 feet apart.<sup>61</sup>

### 14 *Connecting*

15 To access the grid, PGE will construct a new 500-kV single circuit or double circuit transmission line  
16 to connect the Grassland Switchyard to the existing Slatt Substation<sup>62</sup>, utilize the existing Boardman to  
17 Slatt 500-kV transmission line, or use both the existing and the new transmission lines. The new  
18 transmission line would be approximately 18 miles long and would be constructed mostly within the  
19 existing right of way.

## 20 **Grassland Switchyard**

21 A 500-kV, alternating current, open-air switchyard will be located west of the Carty Generating  
22 Station. The switchyard will be a leveled and graveled area approximately 15 acres in size, surrounded  
23 by a security fence. The switchyard will include 500-kV circuit breakers and disconnect switches to  
24 allow for clearing faults on the connected transmission lines and for maintenance of the circuit breakers  
25 and transmission lines. Steel take-off towers will be provided for termination of 500-kV overhead  
26 transmission lines that will connect the switchyard with the plant generator step-up transformers and  
27 outgoing transmission lines. A small building will be included to provide a controlled environment for  
28 the protective relaying and communication equipment.<sup>63</sup>

## 29 **Interconnecting Water Pipelines**

30 Water pipelines will connect the Carty Generating Station with the existing Boardman Plant to access  
31 the raw Carty Reservoir water intake structure, wastewater discharge structure for discharge to Carty  
32 Reservoir, potable water system, sanitary sewer, demineralized water supply, and fire water supply lines.  
33 The pipes will be installed either below grade, or above grade with trenches under road and railroad  
34 crossings. These interconnecting pipelines will be installed in areas that have already been disturbed by  
35 the existing Boardman Plant or will be disturbed during the construction of the Carty Generating Station.

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

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<sup>61</sup> Final ASC, Section B.4, p. B-11

<sup>62</sup> From the Grassland Switchyard, the Carty Generating Station would also utilize the existing 500-kV Boardman to Slatt transmission line for transmission of energy produced. The Boardman to Slatt transmission line was built for the Boardman Plant, which PGE has ownership, and is not considered a related or supporting facility.

<sup>63</sup> Final ASC, Section B.4, p. B-11

1 pipe.<sup>64</sup> This 48-inch pipe was terminated with a flange end just beyond the intake structure at the time it  
2 was constructed, to facilitate future development. Service water for the proposed Carty Generating Station  
3 will be connected at this point as an addition to the intake structure. The Applicant does not propose any  
4 changes to the in-water portion of the intake structure, but proposes changes to the equipment layout  
5 within the associated building and a new enclosure to be attached to the building. The Applicant will  
6 construct a new monorail system for extracting pumps for maintenance. From the intake structure, water  
7 will be directed through a 14 to 16-inch pipe approximately 5,000 feet to the Carty facility.<sup>65</sup>

### 8 **Evaporation Ponds**

9 PGE proposes to discharge process wastewater from the Carty facility either to the Carty Reservoir or  
10 to evaporation ponds, or both. Evaporation ponds will be lined and will receive wastewater including  
11 cooling tower blowdown, water wash wastes, filtration wastewater, and water demineralization  
12 wastewater. Evaporation ponds will be sized to accommodate 390 acre-feet per year and will be 10 to 15  
13 acres in area and eight feet deep. Up to four evaporation ponds are proposed and will occupy up to 58  
14 acres of the site area.<sup>66</sup>

### 15 **Cooling Towers**

16 Cooling towers will be constructed to exhaust excess heat from the power generation process. Each  
17 cooling tower will consist of a structure to contain a water-cooling medium, with exhaust fans located  
18 within an open-top, bell-shaped housing which pulls air under and through the water-cooling medium.  
19 The cooling towers will be approximately 50 feet in height.<sup>67</sup> One mechanical-draft wet cooling tower  
20 will be constructed for each block of the Carty facility.<sup>68</sup>

### 21 **Liquid Storage Facilities**

22 Liquid fuel will not be stored on the Carty facility site. Chemicals used for emissions control will be  
23 stored in steel horizontal sealed storage tanks with secondary containment.<sup>69</sup> Other chemicals such as  
24 anhydrous ammonia, sulfuric acid (used for pH control) and sodium hypochlorite and sodium bromide  
25 (used as biocides in cooling tower water) will be stored in tanks or totes with secondary containment.<sup>70</sup>  
26 Small-quantity chemicals such as cleaners and lubricants will be stored within on-site accessory  
27 buildings.<sup>71</sup>

### 28 **Accessory Buildings**

29 Accessory buildings will be constructed on-site to house the boiler feed pumps, chemical feed  
30 equipment, and other equipment requiring protection from weather or noise containment. Accessory  
31 buildings common to the two proposed generating blocks will be constructed for water treatment  
32 equipment as well as warehouse and administration areas.<sup>72</sup>

### 33 **Utility Lines**

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<sup>64</sup> Final ASC, Section B.4, p. B-12

<sup>65</sup> Final ASC, Section B.4, p. B-13

<sup>66</sup> Final ASC, Section B.4, p. B-15.

<sup>67</sup> Final ASC, Section B.3.2, p. B-7

<sup>68</sup> Final ASC, Section Z.2, p. Z-1

<sup>69</sup> Final ASC, Section B.3.3, p. B-7

<sup>70</sup> Final ASC, Section G.2.4, p. G-2

<sup>71</sup> Final ASC, Section G.2.4, p. G-3

<sup>72</sup> Final ASC, Section B.3.2, p. B-5

1 A below-grade electrical raceway will connect the new plant to the existing Boardman Plant. The  
2 raceway will contain communication cables to connect the plant phone and data highway systems into the  
3 existing Boardman Plant communication and data highway systems. In addition, electric power cables  
4 may be installed to allow for transmission of auxiliary power from the existing Boardman Plant to the  
5 Carty Generating Station in emergency operating conditions. Utility lines will be installed in areas already  
6 disturbed by the existing Boardman Plant or areas that will be within the proposed Carty site.<sup>73</sup>

### 7 **Roads**

8 A paved loop road, approximately 24 feet wide and 2,500 feet long, will be constructed for normal  
9 truck and operator vehicle traffic and will connect with Tower Road at both ends of the loop. This loop  
10 road will have spur roads leading to individual buildings and areas that require access.<sup>74</sup>

### 11 **Additional Temporary Construction Areas**

12 Additional areas in the vicinity of the proposed Carty Generating Station will be provided for  
13 construction offices, construction parking, construction staging, and temporary storage of soil displaced  
14 during the construction process. Similar temporary construction areas will be provided in the vicinity of  
15 the Grassland Switchyard.<sup>75</sup>

16 The Council adopts Condition III.D.2, requiring the site certificate holder to design, construct, and  
17 operate the facility substantially as described in the site certificate.<sup>76</sup>

### 18 **III.C. CONSTRUCTION TIMELINE**

19 The Applicant has proposed to construct the facility in two phases, Block 1 and Block 2. The  
20 Applicant expects to begin construction of Block 1 of the Carty facility in 2013 and complete construction  
21 and begin operation of Block 1 in 2015. Under the timeline estimated by the Applicant, construction of  
22 Block 2 will follow the completion of construction of Block 1 by at least six months, beginning in 2016,  
23 with completion of construction and operation in mid-2019. Construction of both phases of the facility  
24 depends on a number of factors, including PGE's portfolio requirements, availability and cost of  
25 equipment, construction materials and labor, and accessibility of capital. No construction activity,  
26 beyond survey and testing activities, is expected to occur prior to 2012.<sup>77</sup>

27 Under ORS 469.370 (12) the Council is required to "specify in the site certificate the date by which  
28 construction of the facility must begin. ORS 469.401 requires that the site certificate contain "conditions  
29 for the completion of construction." See also OAR 345-027-0020(4), to the same effect. The timeframes  
30 proposed by the Applicant will allow the Applicant more than one year to begin construction of Block  
31 1 and over seven years to complete construction of both phases of the facility. The Council finds that  
32 allowing three years from the effective date of the site certificate to begin construction of the facility is  
33 reasonable. In addition, the Council finds that allowing three years from the beginning of construction to  
34 complete construction of Block 1 is reasonable. The Council conditions the site certificate to require that  
35 the Applicant begin construction of Block 2 within five years of the date of the effective date of the site  
36 certificate, and complete that phase within three years of beginning construction. This approach will  
37 minimize the permitted construction window as much as possible while still allowing a realistic period to  
38 construct both phases of the facility.

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<sup>73</sup> Final ASC, Section B.4, p. B-14

<sup>74</sup> Final ASC, Section B.3.2, p. B-5

<sup>75</sup> Final ASC, Section B.4, p. B-15

<sup>76</sup> Recommended Condition III.D.3 is a mandatory site certificate condition per OAR 345-027-0020(3)

<sup>77</sup> Final ASC, Section B.7, p. B-18

1 If the Applicant does not begin construction of Block 2 within five years of the effective date of the  
2 site certificate, the Applicant could apply for an amendment of the site certificate to extend the deadline  
3 for beginning construction of Block 2, and a corresponding extension of the completion deadline for the  
4 facility. Based on this reasoning, the Council adopts Conditions III.D.3, III.D.4, and III.D.5, which will  
5 require the Applicant to commence construction of Block 1 within three years of the effective date of the  
6 site certificate, begin construction of Block 2 within five years of the effective date of the site certificate,  
7 and complete construction of each block within three years of beginning construction of each block,  
8 respectively.

9 ORS 469.320 prohibits construction of an energy facility, as defined in ORS 469.300, prior to  
10 issuance of a site certificate. ORS 469.300 provides that construction of the facility is defined as “work  
11 performed on a site, excluding surveys, exploration, or other activities to define or characterize the site,  
12 the cost of which exceeds \$250,000.” The Council adopts Condition III.D.6, regarding requirements  
13 before the beginning of construction.<sup>78</sup>

### 14 III.D. SITE CERTIFICATE CONDITIONS

15 OAR 345-027-0020 (Mandatory Conditions in Site Certificates), OAR 345-027-0023 (Site Specific  
16 Conditions), OAR 345-027-0028 (Monitoring Conditions) OAR Chapter 345, Division 26 (Construction  
17 and Operation Rules for Facilities) all provide for conditions that must be included in every site  
18 certificate. In this Order these conditions are included as conditions and are noted as a “Mandatory  
19 Condition” with the applicable OAR reference.<sup>79</sup> The site certificate conditions related to the description  
20 and location of the facility and the construction timeline (discussed above) are included in this section.  
21 Other mandatory conditions are included with the related standard in other sections of this DPO. The  
22 Council adopts the following conditions for inclusion in the site certificate:

23 III.D.1 The certificate holder shall submit a legal description of the site to the Department of Energy  
24 within 90 days after beginning operation of the facility. The legal description required by this  
25 rule means a description of metes and bounds or a description of the site by reference to a  
26 map and geographic data that clearly and specifically identifies the outer boundaries that  
27 contain all parts of the facility.

28 [Site Certificate Condition 4.4] [Mandatory Condition OAR 345-027-0020(2)]

29 III.D.2 The certificate holder shall design, construct, operate and retire the facility:

30 a. Substantially as described in the site certificate;

31 b. In compliance with the requirements of ORS Chapter 469, applicable Council rules, and  
32 applicable state and local laws, rules and ordinances in effect at the time the site  
33 certificate is issued; and

34 c. In compliance with all applicable permit requirements of other state agencies.

35 [Site Certificate Condition 2.9] [Mandatory Condition OAR 345-027-0020(3)]

36 III.D.3 The certificate holder shall begin construction of the facility within three years after the  
37 effective date of the site certificate. Under OAR 345-015-0085(9), a site certificate is  
38 effective upon execution by the Council Chair and the applicant. The Council may grant an  
39 extension of the deadline to begin construction in accordance with OAR 345-027-0030 or any  
40 successor rule in effect at the time the request for extension is submitted.

41 [Site Certificate Condition 4.1] [Mandatory Condition OAR 345-027-0020(4)]

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<sup>78</sup> Recommended Condition III.D.6 is a mandatory site certificate condition per OAR 345-027-0020(5)

<sup>79</sup> Only mandatory conditions that apply to the proposed facility are included in this Order.

- 1 III.D.4 The certificate holder must complete construction of Block 1 of the facility within three years  
2 of beginning construction of Block 1. Construction is complete when: 1) the facility is  
3 substantially complete as defined by the certificate holder’s construction contract documents;  
4 2) acceptance testing has been satisfactorily completed; and 3) the energy facility is ready to  
5 begin continuous operation consistent with the site certificate. The certificate holder shall  
6 promptly notify the Department of the date of completion of construction of Block 1. The  
7 Council may grant an extension of the deadline for completing construction in accordance  
8 with OAR 345-027-0030 or any successor rule in effect at the time the request for extension  
9 is submitted.  
10 [Site Certificate Condition 4.2] [Mandatory Condition OAR 345-027-0020(4)]
- 11 III.D.5 The certificate holder must begin construction of Block 2 of the facility no later than five  
12 years after the effective date of the site certificate. The certificate holder shall complete  
13 construction of the facility within three years of beginning construction of Block 2.  
14 Construction is complete when: 1) Block 2 is substantially complete as defined by the  
15 certificate holder’s construction contract documents; 2) acceptance testing has been  
16 satisfactorily completed; and 3) Block 2 is ready to begin continuous operation consistent  
17 with the site certificate. The certificate holder shall notify the Department when the  
18 construction of Block 2 begins, and notify the Department of the date of completion of Block  
19 2 construction. The Council may grant an extension of the deadline for completing  
20 construction in accordance with OAR 345-027-0030 or any successor rule in effect at the  
21 time the request for extension is submitted.  
22 [Site Certificate Condition 4.3] [Mandatory Condition OAR 345-027-0020(4)]
- 23 III.D.6 Except as necessary for the initial survey or as otherwise allowed for wind energy facilities,  
24 transmission lines or pipelines under OAR 345-027-0020, the certificate holder shall not  
25 begin construction, as defined in OAR 345-001-0010, or create a clearing on any part of the  
26 site until the certificate holder has construction rights on all parts of the site. For the purpose  
27 of this rule, “construction rights” means the legal right to engage in construction activities.  
28 [Site Certificate Condition 5.7] [Mandatory Condition OAR 345-027-0020(5)]  
29

1 **IV. ENERGY FACILITY SITING STANDARDS**

2 **IV.A. GENERAL STANDARDS OF REVIEW [OAR 345-022-0000]**

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

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

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

20 \* \* \*

21 The requirements of OAR 345-022-0000 are addressed throughout this order. Section IV includes the  
22 following subsections, each of which includes Findings of Fact, Site Certificate Conditions (including  
23 mandatory conditions, if applicable), and Conclusions of Law.

24 IV.B Organizational Expertise (OAR 345-022-0010)

25 IV.C Structural Standard (OAR 345-022-0020)

26 IV.D Soil Protection (OAR 345-022-0022)

27 IV.E Land Use (OAR 345-022-0030)

28 IV.F Protected Areas (OAR 345-022-0040)

29 IV.G Retirement and Financial Assurance (OAR 345-022-0050)

30 IV.H Fish and Wildlife Habitat (OAR 345-022-0060)

31 IV.I Threatened and Endangered Species (OAR 345-022-0070)

32 IV.J Scenic Resources (OAR 345-022-0080)

33 IV.K Historic, Cultural, and Archaeological Resources (OAR 345-022-0090)

34 IV.L Recreation (OAR 345-022-0100)

35 IV.M Public Services (OAR 345-022-0110)

36 IV.N Waste Minimization (OAR 345-022-0120)

37 IV.O Siting Standards for Transmission Lines (OAR 345-024-0090)

38 IV.P Carbon Dioxide Standard for Base and Non-Base Load Power Plants (OAR 345-024-0550  
39 and -0590)

1 **IV.B. ORGANIZATIONAL EXPERTISE [OAR 345-022-0010]**

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

31 **IV.B.1. ORGANIZATIONAL EXPERTISE: FINDINGS OF FACT**

32 The Applicant does not propose to design, construct and operate the proposed facility in accordance  
33 with an ISO 9000 or ISO 14000 certified program.<sup>80</sup> The Applicant states that it will not rely on any  
34 third-party permit approval for state, local, or federal permits required for construction or operation of the  
35 facility.<sup>81</sup> Therefore, the requirements of OAR 345-022-0010(2), (3), and (4) do not apply to the  
36 proposed facility.

37 In accordance with OAR 345-022-0010(1), to issue a site certificate the Council must find that the  
38 Applicant has the organizational expertise to construct, operate, and retire the proposed facility in  
39 compliance with Council standards and conditions of the site certificate. The standard permits the  
40 Council to consider the Applicant’s experience, access to technical expertise, and past performance in  
41 constructing, operating, and retiring other facilities. The Applicant provided evidence about its  
42 organizational expertise in Exhibits A and D and about permits needed for construction and operation of  
43 the proposed facility in Exhibit E of the Application for Site Certificate (ASC).

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<sup>80</sup> Final ASC, Section D.7, p. D-4

<sup>81</sup> Final ASC, Section E.5, p. E-2



1 PGE has constructed and operated several facilities similar to the proposed Carty Generating Station.  
2 In 2007, PGE completed the construction of the 406 MW Port Westward combined cycle gas turbine  
3 facility in Clatskanie, Oregon. In July 2001, PGE completed the construction of a new 24.9-MW simple  
4 cycle gas turbine project located at the Beaver Generation Facility. In 1995 PGE placed into service  
5 Coyote Springs Unit 1, a 240-MW combined cycle combustion turbine. Currently, PGE operates  
6 approximately 1,800 MW of thermal generation. In addition to thermal energy generation facilities, PGE  
7 currently operates 630 MW of hydroelectric generation and 275 MW of wind generation.<sup>82</sup>

8 The Applicant proposes to identify a qualified and credit-worthy contractor to execute an engineering,  
9 procurement and construction contract for the proposed facility. PGE has not yet selected a turbine  
10 vendor, but expects that one or more of the following manufacturers will provide the turbines for the  
11 Carty facility: Siemens, MHI, General Electric, Alstom or an equivalent.<sup>83</sup> PGE has not identified  
12 specific internal personnel to be responsible for the design, construction, and operation of the proposed  
13 facility; however, PGE has a number of qualified individuals on staff to supervise these tasks.<sup>84</sup> The  
14 Applicant has not identified the environmental expertise of the proposed contractors and their ability to  
15 comply with the site certificate conditions, although the application states that PGE will oversee and be  
16 extensively involved in the construction process. Because not all major contractors were chosen before  
17 the final ASC was deemed complete, the Council adopts Condition IV.B.2.1 requiring the certificate  
18 holder to inform the Department of the identity of all major design, engineering, and construction  
19 contractors before beginning construction.

20 In recent years, PGE has received the following regulatory citations related to the operation of  
21 existing generating facilities:

- 22 • 2006 - \$300 fine related to hazardous waste and underground storage tank inspections. The  
23 eighteen violations cited included sixteen related to records, labeling of waste storage areas,  
24 storage of waste aerosol cans and fluorescent bulbs. The remaining two violations, resulting in a  
25 total \$300 fine for the year, involved failure to conduct a third party audit for storage tanks.
- 26 • 2009 - Warning letter from the DEQ for the Beaver Generating Plant for exceedance of total  
27 suspended solids at one outfall.
- 28 • 2009 – Warning letter from the DEQ for the Port Westward Generating Plant for failure to  
29 conduct annual testing for ammonia at one emission unit location in 2008.

30 The conditions for which these citations were issued have been corrected. PGE has not received a  
31 monetary penalty or fine for regulatory violations at the Beaver natural gas fired generating facility since  
32 it began operation in 1974. No regulatory agency has levied any monetary penalty or fine against the  
33 Coyote Springs Power Plant or Port Westward Facility as a result of construction, operation or  
34 maintenance of those facilities, as of May 2011 (when the Carty Final ASC was submitted).<sup>85</sup>

35 The Council adopts Condition IV.B.2.2, which requires construction staff to include a full-time on-  
36 site manager who is qualified in environmental compliance to ensure compliance with all site certificate  
37 conditions. The Council adopts Conditions IV.B.2.3 and IV.B.2.4, which require all contractors and  
38 subcontractors working on the project to obtain all required permits, and comply with all applicable laws  
39 and regulations and with the terms of the site certificate. The Council also adopts Condition IV.B.2.5,  
40 which states that non-compliance with the site certificate, and any subsequent notice of violation or civil  
41 penalty, is the responsibility of the certificate holder.

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<sup>82</sup> Final ASC, Section D.2, p. D-1

<sup>83</sup> Final ASC, Section D.4, p. D-2

<sup>84</sup> Final ASC, Section D.3, p. D-2

<sup>85</sup> Final ASC, Section D.5, p. D-3

1 The Council adopts Condition IV.B.2.6 requiring the applicant to notify the Department in advance of  
2 work that does not meet the definition of “construction” as defined in ORS 469.300 and Condition  
3 IV.B.2.7 requiring the certificate holder to notify the Department of conditions or circumstances that may  
4 violate the terms or conditions of the site certificate within 72 hours of discovery.<sup>86</sup> In addition, the  
5 Council adopts Condition IV.B.2.8, which is a mandatory condition under Council rules, regarding  
6 notification to the Department of any facility ownership change.

7 In summary, the application presents evidence showing the Applicant’s experience developing  
8 thermal energy projects in Oregon. The evidence provided shows that the Applicant has, in the past,  
9 designed, constructed and operated such facilities in compliance with site certificate conditions and with  
10 the Council’s standards. Although the application did not include specific evidence of past experience  
11 with retiring energy facilities, the Applicant’s ability to retire the Carty facility to a useful, non-hazardous  
12 condition is evaluated in detail in Section IV.G, Retirement and Financial Assurance.

13 For the reasons discussed above, and subject to compliance with the site certificate conditions in  
14 Sections IV.B.2 and IV.G.2, the Council finds that the applicant has demonstrated the ability to design,  
15 construct and operate the proposed facility in compliance with site certificate conditions and in a manner  
16 that protects public health and safety and has demonstrated the ability to restore the site to a useful, non-  
17 hazardous condition.

18 **IV.B.2. ORGANIZATIONAL EXPERTISE: SITE CERTIFICATE CONDITIONS**

19 IV.B.2.1 Before beginning construction, the certificate holder must notify the Department of the  
20 identity and qualifications of the major design, engineering, and construction  
21 contractor(s) for the facility. The certificate holder must select contractors that have  
22 substantial experience in the design, engineering, and construction of similar facilities.  
23 The certificate holder must report to the Department any change of major contractors.  
24 [Site Certificate Condition 5.1]

25 IV.B.2.2 During construction, the certificate holder must have a full-time, on-site manager who is  
26 qualified in environmental compliance to ensure compliance with all site certificate  
27 conditions. The certificate holder must notify the Department of the name, telephone  
28 number, and e-mail address of this person prior to the start of construction and  
29 immediately upon any change in the contact information.  
30 [Site Certificate Condition 6.1]

31 IV.B.2.3 The certificate holder must contractually require all construction contractors and  
32 subcontractors involved in the construction of the facility to comply with all applicable  
33 laws and regulations and with the terms and conditions of the site certificate. Such  
34 contractual provisions do not relieve the certificate holder of responsibility under the site  
35 certificate.  
36 [Site Certificate Condition 5.2]  
37

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<sup>86</sup> The Council has previously included these same conditions in site certificates, including the Montague Wind Power Facility, Klamath Generation Facility, Helix Wind Power Facility, and the Summit Ridge Wind Farm.

- 1 IV.B.2.4 The certificate holder must obtain all necessary federal, state, and local permits or  
2 approvals required for construction, operation, and retirement of the facility or ensure that  
3 its contractors obtain the necessary federal, state, and local permits or approvals.  
4 [Site Certificate Condition 4.5]
- 5 IV.B.2.5 Any matter of non-compliance under the site certificate is the responsibility of the  
6 certificate holder. Any notice of violation issued under the site certificate will be issued  
7 to the certificate holder. Any civil penalties under the site certificate will be levied on the  
8 certificate holder.  
9 [Site Certificate Condition 2.11]
- 10 IV.B.2.6 Before beginning construction, the certificate holder must notify the Department in  
11 advance of any work on the site that does not meet the definition of “construction” in  
12 ORS 469.300 (excluding surveying, exploration, or other activities to define or  
13 characterize the site) and must provide to the Department a description of the work and  
14 evidence that its value is less than \$250,000.  
15 [Site Certificate Condition 5.8]
- 16 IV.B.2.7 Within 72 hours after discovery of conditions or circumstances that may violate the terms  
17 or conditions of the site certificate, the certificate holder must report the conditions or  
18 circumstances to the Department.  
19 [Site Certificate Condition 2.12]
- 20 IV.B.2.8 Before any transfer of ownership of the facility or ownership of the site certificate holder,  
21 the certificate holder must inform the Department of the proposed new owner(s). The  
22 requirements of OAR 345-027-0100 apply to any transfer of ownership that requires a  
23 transfer of the site certificate.  
24 [Site Certificate Condition 2.10] [Mandatory Condition OAR 345-027-0020(15)]

25 **IV.B.3. ORGANIZATIONAL EXPERTISE: CONCLUSIONS OF LAW**

26 Based on the foregoing findings of fact and conclusions, and subject to compliance with the site  
27 certificate conditions in Section IV.B.2, the Council finds that the applicant has the organizational  
28 expertise to construct, operate and retire the proposed facility in compliance with Council standards and  
29 conditions of the site certificate and therefore would comply with the Organizational Expertise Standard.  
30

1 **IV.C. STRUCTURAL STANDARD [OAR 345-022-0020]**

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

4 (a) *The applicant, through appropriate site-specific study, has adequately characterized the*  
5 *site as to the Maximum Considered Earthquake Ground Motion as shown for the site in*  
6 *the 2009 International Building Code and maximum probable ground motion, taking into*  
7 *account ground failure and amplification for the site specific soil profile under the*  
8 *maximum credible and maximum probable seismic events; and*

9 (b) *The applicant can design, engineer, and construct the facility to avoid dangers to human*  
10 *safety presented by seismic hazards affecting the site that are expected to result from*  
11 *maximum probable ground motion events. As used in this rule "seismic hazard" includes*  
12 *ground shaking, ground failure, landslide, liquefaction, lateral spreading, tsunami*  
13 *inundation, fault displacement, and subsidence;*

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

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

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

24 (3) *The Council may issue a site certificate for a special criteria facility under OAR 345-015-*  
25 *0310 without making the findings described in section (1). However, the Council may apply*  
26 *the requirements of section (1) to impose conditions on a site certificate issued for such a*  
27 *facility.*

28 **IV.C.1. STRUCTURAL STANDARD: FINDINGS OF FACT**

29 OAR 345-022-0020(2) and (3) do not apply because the proposed facility would not produce power  
30 from wind, solar or geothermal energy and the facility is not a special criteria facility as defined in OAR  
31 345-015-0310. Therefore, the criteria specified in OAR 345-022-0020(1)(a) through (d) apply to the  
32 proposed facility and the Council must make findings regarding the applicant's compliance with these  
33 sections of the standard. The analysis area for the structural standard is the area within the site  
34 boundary.<sup>87</sup>

35 The applicant provided information regarding the seismic characteristics of the site and possible  
36 seismic and geological hazards in Exhibit H of the Application for Site Certificate (ASC). The proposed  
37 Carty facility is located on Poverty Ridge, approximately 12 miles south of Boardman, Oregon, within the  
38 Columbia Plateau physiographic province. At the proposed Carty facility site, the terrain is gently  
39 sloping downhill to the north toward the Columbia River at approximately 0.5 to 1.5 degrees; this sloping

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<sup>87</sup> The site boundary is defined in OAR 345-001-0010(53) as the perimeter of the site of a proposed energy facility, its related and supporting facilities, all temporary laydown and staging areas and all corridors and micrositing corridors proposed by the applicant.

1 terrain is occasionally interrupted by geologic folds, of which Poverty Ridge is one. Poverty Ridge has an  
2 elevation of approximately 670 feet.<sup>88</sup>

3 **IV.C.1.a. Characterization of Seismic Hazards**

4 OAR 345-022-0020(1)(a) requires the Applicant to adequately characterize the probability and  
5 severity of seismic events and ground failure at the site.<sup>89</sup> The Applicant’s consultant (Cornforth  
6 Consultants, Inc.) conducted a limited geotechnical and geological site reconnaissance as well as a  
7 literature review.<sup>90</sup> Two sources of potential seismic hazards were identified in the analysis area: events  
8 at the interface between the Juan de Fuca and North American plates in the Cascadia Subduction Zone  
9 (CSZ), and movements along local crustal faults.<sup>91</sup> The primary potentially active crustal faults include  
10 the Horse Heaven Hills Structure, the Rattlesnake-Wallula Fault System, and the Mill Creek Thrust  
11 Fault.<sup>92</sup>

12 Under OAR 345-021-0010(1)(h)(F)(ii), the Council requires applicants to identify earthquake sources  
13 capable of generating median peak ground accelerations (PGA) greater than 0.05g on rock at the site. To  
14 fulfill this requirement, Cornforth Consultants calculated the maximum credible earthquake (MCE) for  
15 each of the identified sources of seismic hazard, which are summarized in the Deterministic Seismic  
16 Hazard Assessment table, below. The MCE is the maximum event that each source is believed to be  
17 capable of producing. Cornforth Consultants characterized the risk of seismic hazards at the Carty facility  
18 site as “not significant,” and stated that the likelihood of earth-quake induced landslides or liquefaction is  
19 low due to the gentle topography and lack of groundwater in the overburden of the area.<sup>93</sup>

20

<b>Deterministic Seismic Hazard Assessment</b>				
<b>Source</b>	<b>Probability of Activity</b>	<b>MCE</b>	<b>Minimum Distance (km)</b>	<b>Mean Peak Acceleration (g)</b>
Horse Heaven Hills Structure	1.0	7.1	65	0.06
Rattlesnake-Wallula Fault System	1.0	7.4	70	0.06
Mill Creek Thrust Fault	1.0	7.1	73	0.05
Random Crustal Event	1.0	6	10	0.17
Interface Event	1.0	8.3-9	310	0.05

21 The Applicant has identified the potential sources of seismic hazards at the site and has identified the  
22 MCE and mean PGA at the site. The Applicant has also identified the soil profile of the site, which is  
23 discussed in further detail in Section IV.D, Soil Protection. The Applicant proposes additional

<sup>88</sup> Final ASC, Appendix H-1, p. 2

<sup>89</sup> On May 11, 2012 the Council updated OAR 340-022-0020(1)(a) to require the use of the 2009 edition of the International Building Code (IBC). The previous rule required the applicant to utilize the 2003 edition of the IBC, and that is the edition used by the applicant to analyze the Maximum Considered Earthquake Ground Motion for the site. The Department of Geology and Mineral Industries has indicated that the underlying data used for the calculation of ground motion did not change between the 2003 and the 2009 editions of the IBC, therefore the applicant’s analysis is still valid.

<sup>90</sup> Final ASC, Section H.2, p. H-1

<sup>91</sup> Final ASC, Section H.7, p. H-4

<sup>92</sup> Final ASC, Table H-1, p. H-5

<sup>93</sup> Final ASC, Section H.7, p. H-6

1 geotechnical investigations at the site during the final design phase of the facility, which are discussed  
2 below in Section IV.C.1.b.

3 Based on the analysis presented by the applicant of its literature review and limited geotechnical and  
4 geological site reconnaissance, the Council finds that the applicant has adequately characterized the site  
5 as to the MCE and maximum probable ground motion, taking into account ground failure and  
6 amplification for the site specific soil profile under the maximum credible and maximum probable  
7 seismic event to the extent that specific soil information could be obtained.

#### 8 **IV.C.1.b. Design and Construction of the Facility – Seismic Hazards**

9 OAR 345-022-0020(1)(b) requires the Council to evaluate whether the Applicant can design and  
10 construct the facility to avoid dangers to human safety presented by the seismic hazards at the site. The  
11 Applicant proposes to conduct further site-specific geotechnical investigation to obtain additional  
12 information on the seismic hazards at the site to be used during facility design.<sup>94</sup> The Applicant consulted  
13 with the Oregon Department of Geology and Mineral Industries (DOGAMI) regarding the appropriate  
14 scope and methods for on-site geotechnical investigations.<sup>95</sup> The exploration would assess subsurface soil  
15 and geologic conditions and provide information that would be used to identify geological or geotechnical  
16 hazards, and would include the following components:

- 17 1. Drill six to eight exploratory borings up to a depth of 75 feet. These borings would be drilled  
18 under proposed critical structure locations, including the gas turbine units, cooling tower, and  
19 switchyard. Standard penetration tests would be performed at 2.5-foot and 5-foot intervals, and,  
20 depending on the depth of sampling, rock coring would be accomplished with HQ3 triple barrel  
21 coring in the bedrock units.
- 22 2. Perform a test pit program to assess the extent and thickness of any loose, surficial soil layers at  
23 the site. Key focus areas would include planned locations of critical structures, roadways, and  
24 landscaped areas where irrigation would occur.
- 25 3. Perform laboratory testing to evaluate engineering properties of soils. Specific tests would  
26 include natural water contents on all samples collected, mechanical and hydrometer gradations,  
27 Atterberg limits, and collapsibility and consolidation tests on select samples.
- 28 4. Provide foundation recommendations for various structures. Recommendations would include  
29 allowable bearing capacities and estimated settlements, piling support, static and dynamic lateral  
30 earth pressures, and uplift pressures. Site grading recommendations would include provisions for  
31 treatment of collapsible soils.<sup>96</sup>
- 32 5. Drill exploratory borings at critical locations along the transmission line route if subsurface  
33 information from the construction of the existing transmission line is not available.<sup>97</sup>

34 The Applicant would use the information gained from these investigational activities to design  
35 foundations for the energy facility and all related and supporting structures, including the overhead  
36 transmission lines.<sup>98</sup> the Council adopts Condition IV.C.2.1, which requires the certificate holder to  
37 conduct the investigational activities described above.

38 The Council also adopts Conditions IV.C.2.2 and IV.C.2.3, which are mandatory conditions  
39 regarding reporting requirements in the event that unexpected or unusual geologic features that might

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<sup>94</sup> Final ASC, Section H.3, p. H-1

<sup>95</sup> Final ASC, Section H.4, p. H-2

<sup>96</sup> Final ASC, Section H.3, p. H-2

<sup>97</sup> Final ASC, Section H.5, p. H-3

<sup>98</sup> Final ASC, Section H.3, p. H-4

1 affect facility design are discovered. In addition, the Council adopts Conditions IV.C.2.4 and IV.C.2.5,  
2 requiring the certificate holder to design the facility in accordance with applicable building codes and in a  
3 manner that avoids dangers to human safety from seismic hazards.

4 Based on the geotechnical information provided by the applicant, which demonstrates a knowledge of  
5 the potential hazards and the methods of mitigation, and subject to compliance with the conditions  
6 discussed above, the Council finds that the applicant can design, engineer, and construct the facility to  
7 avoid dangers to human safety presented by the seismic hazards at the site.

#### 8 **IV.C.1.c. Characterization of Non-Seismic Hazards**

9 OAR 345-022-0020(1)(c) requires the Applicant to adequately characterize potential geologic and  
10 soils hazards at the site that could adversely affect or be aggravated by construction and operation of the  
11 facility. Cornforth Consultants assessed the risk of non-seismic geological hazards, including landslides,  
12 rapid erosion, flooding, and soil liquefaction, and characterized the risks of non-seismic geological  
13 hazards at the site as low.<sup>99</sup> The soils within most of the site boundary consist of loose, sandy silt to a  
14 depth of six to 12 inches, which might present minor geotechnical concerns; however, the area in which  
15 the primary foundations for the facility would be built contains dense, cemented silt underlain by  
16 weathered rock, in turn underlain by hard basalt.<sup>100</sup> The geology along the transmission line route is  
17 similar to that within the footprint of the energy facility.<sup>101</sup> The soil near the proposed gas turbine area  
18 consists of a loose layer of silt approximately five feet deep overlying cemented soils. This area may  
19 raise concerns regarding erosion and collapse; collapse would be addressed through further geotechnical  
20 exploration to be performed prior to construction, as discussed above.

21 The risk of erosion at the site appears to be relatively low; the flat topography of the site makes water  
22 erosion unlikely, and the soil types at the ground surface have a low to medium susceptibility to wind  
23 erosion.<sup>102</sup> The risk of landslide at the site is judged to be very low due to the gentle topography and also  
24 to relatively strong soils and low groundwater levels. The risk of flooding is low due to the nearby  
25 Sixmile Canyon, which diverts runoff away from the proposed Carty facility.<sup>103</sup> The Applicant also  
26 proposes additional geotechnical investigation at the site during the final design phase of the facility,  
27 which is discussed above and included in Condition IV.C.2.1.

28 Based on the review of the information in the ASC discussed above, the Council finds that the  
29 Applicant has adequately characterized the potential geological and soils hazards of the site and its  
30 vicinity that could, in the absence of a seismic event, adversely affect, or be aggravated by, the  
31 construction and operation of the proposed facility.

#### 32 **IV.C.1.d. Design and Construction of the Facility – Non-Seismic Hazards**

33 OAR 345-022-0020(1)(d) requires the Council to evaluate whether the Applicant can design and  
34 construct the facility to avoid dangers to human safety presented by the non-seismic hazards at the site.  
35 The Applicant proposes to conduct further site-specific geotechnical investigation to obtain additional  
36 information on the seismic hazards at the site to be used during facility design.<sup>104</sup> Condition IV.C.2.1  
37 requires the certificate holder to conduct those investigations and report the results to DOGAMI and the  
38 Department. Previously adopted Conditions IV.C.2.2 and IV.C.2.3 further require the certificate holder to  
39 report unexpected geological conditions found during geotechnical investigations or during construction,

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<sup>99</sup> Final ASC, Section H.8, p. H-7

<sup>100</sup> Final ASC, Appendix H-1, pp. 4-5

<sup>101</sup> Final ASC, Section H.5, p. H-3

<sup>102</sup> Final ASC, Section H.8, p. H-7

<sup>103</sup> Final ASC, Section H.8, p. H-7

<sup>104</sup> Final ASC, Section H.3, p. H-1

1 and Condition IV.C.2.4 requires that the facility be designed and constructed in accordance with current  
2 building codes. The Council also adopts Condition IV.C.2.6, requiring the site certificate holder to design  
3 and construct the facility to avoid danger from any non-seismic hazards that are identified at the site.

4 For the reasons discussed above, the applicant’s demonstrated knowledge of appropriate mitigation  
5 for the non-seismic hazards likely to be encountered at the proposed facility site, and compliance with the  
6 site certificate conditions discussed above, the Council finds that the applicant can design and construct  
7 the facility to avoid dangers to human safety presented by the non-seismic hazards identified at the site.

8 **IV.C.2. STRUCTURAL STANDARD: SITE CERTIFICATE CONDITIONS**

9 IV.C.2.1 Before beginning construction, the certificate holder must complete an investigation of  
10 subsurface soil and geologic conditions to identify geological or geotechnical hazards per  
11 Condition IV.C.2.1.a and obtain Department approval of the investigation report per  
12 Condition IV.C.2.1.b.

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

- 14 1. Drilling of six to eight exploratory borings up to a depth of 75 feet under  
15 proposed critical structure locations, including the gas turbine units, cooling  
16 tower, transmission structures, and switchyard. Standard penetration tests should  
17 be conducted at 2.5-foot and 5-foot intervals. Drilling of exploratory borings  
18 along transmission line corridor is not necessary if such information is available  
19 from the construction of the existing transmission line.
- 20 2. Digging of test pits to assess the extent and thickness of any loose, surficial soil  
21 layers at the site. Key focus areas should include planned locations of critical  
22 structures, roadways, and landscaped areas where irrigation would occur.
- 23 3. Performing laboratory testing to evaluate the engineering properties of soils,  
24 including natural water contents on all samples collected, mechanical and  
25 hydrometer gradations, Atterberg limits, and collapsibility and consolidation tests  
26 on selected samples.

27 b. The certificate holder must prepare a geotechnical report with final facility design  
28 recommendations based on the investigation conducted per the requirements of  
29 Condition IV.C.2.1.a. The geotechnical report must be submitted to the Oregon  
30 Department of Geology & Mineral Industries (DOGAMI) and the Department. The  
31 certificate holder may not commence construction of the facility prior to Department  
32 approval of this report.

33 [Site Certificate Condition 5.4]

34 IV.C.2.2 The certificate holder must notify the Department, the State Building Codes Division and  
35 the Department of Geology and Mineral Industries promptly if site investigations or  
36 trenching reveal that conditions in the foundation rocks differ significantly from those  
37 described in the application for a site certificate. After the Department receives the  
38 notice, the Council may require the certificate holder to consult with the DOGAMI and  
39 the Building Codes Division and to propose mitigation actions.

40 [Site Certificate Condition 6.10] [Mandatory Condition OAR 345-027-0020(13)]

41 IV.C.2.3 The certificate holder must notify the Department, the State Building Codes Division and  
42 the Department of Geology and Mineral Industries promptly if shear zones, artesian  
43 aquifers, deformations or clastic dikes are found at or in the vicinity of the site.

44 [Site Certificate Condition 6.11] [Mandatory Condition OAR 345-027-0020(14)]



1 IV.C.2.4 The certificate holder must design and construct the facility in accordance with  
2 requirements of the Oregon Structural Specialty Code (OSSC 2007) and the 2010  
3 International Building Code.  
4 [Site Certificate Condition 6.6]

5 IV.C.2.5 The certificate holder shall design, engineer and construct the facility to avoid dangers to  
6 human safety presented by seismic hazards affecting the site that are expected to result  
7 from all maximum probable seismic events. As used in this condition, “seismic hazard”  
8 includes ground shaking, landslide, liquefaction, lateral spreading, tsunami inundation,  
9 fault displacement and subsidence.  
10 [Site Certificate Condition 6.7] [Mandatory Condition OAR 345-027-0020(12)]

11 IV.C.2.6 The certificate holder must design, engineer and construct the facility to avoid dangers to  
12 human safety presented by non-seismic hazards. As used in this condition, “non-seismic  
13 hazards” include settlement, landslides, flooding and erosion.  
14 [Site Certificate Condition 6.8]

15 **IV.C.3. STRUCTURAL STANDARD: CONCLUSIONS OF LAW**

16 Based on the foregoing findings of fact and conclusions, and subject to compliance with the site  
17 certificate conditions in Section IV.C.2, the Council finds that the applicant has adequately characterized  
18 the site as to Maximum Considered Earthquake Ground Motion; can design, engineer, and construct the  
19 facility to avoid dangers to human safety presented by seismic hazards affecting the site; has adequately  
20 characterized the potential geological and soils hazards of the site and its vicinity; and can design,  
21 engineer and construct the facility to avoid dangers to human safety presented by the potential geological  
22 and soils hazards.  
23

1 **IV.D. SOIL PROTECTION [OAR 345-022-0022]**

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

6 **IV.D.1. SOIL PROTECTION: FINDINGS OF FACT**

7 Construction and operation of the proposed energy facility has the potential to adversely impact soils  
8 through erosion, compaction, chemical spills, salt deposition from cooling tower drift, and land  
9 application of liquid effluent (from the Carty Reservoir). Adverse impacts to soils can affect crop  
10 production on adjacent agricultural lands, native vegetation, fish and wildlife habitat, and surface and  
11 groundwater quality. The analysis area for the Soil Protection Standard is the area within the site  
12 boundary.<sup>105</sup> The Applicant discussed potential soil impacts and its proposed mitigation measures in  
13 Exhibits I and Exhibit Z of the Application for Site Certificate (ASC).

14 Construction activities would occur on approximately 298 acres within the site boundary; of this total  
15 area, approximately 207 acres would be temporarily disturbed, and 91 acres would be occupied by  
16 permanent structures.<sup>106</sup> The Applicant identified 12 soil series, which contain a total of 24 soil phases.  
17 Soil classes were identified using the Natural Resources Conservation Service soil survey program.<sup>107</sup>  
18 The Applicant estimated that the soil erosion potential within the facility site boundary is slight to  
19 moderate, based on the gently sloping nature of the site and the soil types present.<sup>108</sup> Dominant soil types  
20 in the site boundary are characterized by low to moderate wind and water erosion potentials.

21 **IV.D.1.a. Potential Soil Impacts**

22 Based on the information provided in Exhibit I of the ASC, wind and water erosion may occur  
23 during construction because of the removal of surface vegetation and grading and leveling operations.  
24 Installation of underground utilities and pipelines requires trenching that could also expose affected  
25 areas to increased erosion risk. Movement of construction vehicles and heavy equipment will  
26 temporarily increase the potential for soil compaction, erosion, and dust emissions. All of these  
27 activities also increase the opportunity for invasive weeds to populate the disturbed areas. During  
28 construction, there is also a risk of chemical spills from fuels, oils and grease associated with  
29 operation and refueling of construction vehicles and equipment. Decommissioning and retiring the  
30 facility will involve the same type of activities that occur during construction, and carry the same risk  
31 of adverse soil impacts.

32 Operations can also pose a risk of soil compaction and potential spills from truck traffic and  
33 heavy equipment operation if traffic is not confined to properly designed roads. In addition, repair or  
34 maintenance of underground utilities could expose soils to increased erosion. During operation of the  
35 facility the drainage of stormwater from structures and impervious surfaces, such as concrete or  
36 compacted gravel, could erode nearby soils. The operation of facility's cooling tower also has the  
37 potential to adversely impact soils because of salt deposition. In addition, the Applicant proposes to  
38 discharge wastewater to the Carty Reservoir. Because the Carty Reservoir is used for irrigation water

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<sup>105</sup> CGS-0042, 11-03-09, Oregon Department of Energy Project Order for the Carty Generating Station. The applicant included areas outside the site boundary when analyzing the potential impacts on adjacent soils from cooling tower drift.

<sup>106</sup> Final ASC, Table P-2, p. P-10

<sup>107</sup> Final ASC, Section I.3, p. I-1

<sup>108</sup> Final ASC, Section I.5, p. I-7

1 by local agriculture interests, there are potential soil impacts from the land application of the water in  
2 Carty Reservoir. These sources of potential soil impacts (stormwater discharge, cooling tower  
3 operations, chemical storage areas, and land application of process wastewater) are discussed below.

4 ***IV.D.1.a.i. Potential Soil Impacts of Stormwater Discharge***

5 During operation of the Carty facility, drainage of stormwater from structures and impervious  
6 surfaces, such as concrete or compacted gravel, could erode nearby soils. In addition, repair or  
7 maintenance of underground utilities could expose soils to increased erosion. Small amounts of  
8 chemicals such as cleaners for the facility and herbicides for weed control would be used at the  
9 facility site and could present a risk to soils from accidental spills that are subsequently washed  
10 off the site during precipitation events.

11 ***IV.D.1.a.ii. Potential Soil Impacts of Cooling Tower Operations***

12 The exhaust stream (plume) from the cooling tower for the proposed facility is primarily  
13 gaseous water vapor, but a fraction of the plume is water in liquid form, referred to as “drift.”  
14 Drift is analyzed separately because unlike the vapor, which is pure water, the drift contains  
15 entrained salts and other dissolved solids. As the plume cools and condenses, entrained solids are  
16 deposited on the ground. Excessive salt deposits may have an adverse effect on the capacity of  
17 soils to support vegetation. Exhibit Z of the ASC includes an analysis of the potential for soil  
18 impacts from cooling tower drift using the Seasonal/Annual Cooling Tower Impact (SACTI)  
19 computer model. The SACTI model predicts seasonal/annual impacts from cooling tower  
20 plumes, including impacts related to drift, fogging, icing, and shadowing.<sup>109</sup>

21 The results of the analysis indicate that no significant adverse impacts from cooling tower  
22 operation are expected.<sup>110</sup> The SACTI model predicted that the greatest salt deposition rates  
23 occur within the project boundary, within 200 meters (m) of the cooling tower. Between 200 and  
24 600 meters of the cooling tower the predicted deposition rates decrease rapidly, such that outside  
25 of the project boundary deposition rates are expected to be less than 50 kilograms per square  
26 kilometer per month (kg/km<sup>2</sup>-mo). Irrigated crop circles located closest to the proposed Carty  
27 facility are approximately 700 meters away, where deposition rates are expected to be less than 6  
28 kg/km<sup>2</sup>-mo.<sup>111</sup> The Applicant provided research on salt stress in agricultural crops which showed  
29 that crops began to show signs of stress above a salt deposition rate of approximately 836 kg/km<sup>2</sup>-  
30 mo.<sup>112</sup> The maximum average annual salt deposition from the proposed Carty Generating Station  
31 is well below this threshold.

32 The Applicant also modeled deposition of specific dissolved solids (arsenic, cadmium, and  
33 chromium) and the deposition rates show a similar distribution as the total dissolved solids.<sup>113</sup>  
34 The Applicant compared these deposition rates against OAR 603-059-0100, which limits the  
35 levels of metals contained in fertilizers, agricultural amendments, agricultural minerals, and lime  
36 products sold or distributed in the State of Oregon. Although the metals limits for agricultural  
37 products intended to be applied to the ground are not directly comparable, the Applicant believes  
38 the limits can be used to evaluate the potential impacts of metals deposition from the cooling  
39 tower. The maximum average annual arsenic and cadmium deposition rates predicted by the  
40 SACTI model are less than the maximum allowed concentration of each metal in any product,

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<sup>109</sup> Final ASC, Section Z.2, p. Z-2

<sup>110</sup> Final ASC, Section Z.7, p. Z-19

<sup>111</sup> Final ASC, Section Z.4.1, p. Z-7

<sup>112</sup> Final ASC, Section Z.4.3, p. Z-14

<sup>113</sup> Final ASC, Section Z.4.1, p. Z-8

1 using the values when the product does not have a guaranteed analysis of phosphorus or  
2 micronutrients.<sup>114</sup>

3 ***IV.D.1.a.iii. Potential Soil Impacts from Fuel and Chemical Storage Areas***

4 Review of Exhibit G indicates that the proposed facility would include multiple above-  
5 ground storage tanks of various sizes for storage of chemicals used during operations, in addition  
6 to chemical storage in drums and totes and a 100-gallon tank for storage of diesel fuel to be used  
7 for the operation of fire pumps. The applicant has indicated that “Fuel used for vehicles would  
8 not be stored on site.”<sup>115</sup> Impacts to soil can occur around fueling and chemical storage areas due  
9 to leaks, drips, and spills. The ASC indicates that all aboveground storage tanks and other fuel  
10 and chemical storage areas will be managed to prevent spills and would have appropriate  
11 secondary containment.<sup>116</sup>

12 ***IV.D.1.a.iv. Potential Soil Impacts from Discharge of Process Wastewater***

13 The Applicant included a Water Pollution Control Facility (WPCF) permit application in the  
14 ASC to allow use of evaporation ponds, if necessary.<sup>117</sup> Solids would accumulate in the  
15 evaporation ponds over time as the water in the ponds becomes concentrated. These solids would  
16 consist of soluble salts that would precipitate out of the water discharged to the pond. There  
17 would also be insoluble suspended solids in the evaporation ponds water, which would include  
18 silt and other debris discharged to the pond with the wastewater and solids blown into the ponds  
19 from the surrounding area. Approximately 40,000 tons of these solids would accumulate in the  
20 evaporation ponds over the life of the Carty facility. The Applicant states that these solids are not  
21 expected to be hazardous in nature and are not anticipated to accumulate at a rate that would  
22 require removal during the 30 year life of the facility. The solids could be found to be suitable for  
23 use as fill when the plant is decommissioned or disposed of in a suitable landfill.<sup>118</sup>

24 The WPCF permit application also requested permitting of wastewater discharge to Carty  
25 Reservoir, which is currently used for wastewater disposal from the adjacent Boardman Coal  
26 Plant. Because the water from Carty Reservoir is periodically used for irrigation, there is  
27 potential risk to soils (and to groundwater) from the land application of water from Carty  
28 Reservoir.

29 **IV.D.1.b. Measures to Mitigate Adverse Impacts to Soil**

30 The applicant has proposed several measures to control and mitigate the impacts on soil described  
31 above. Discussion of potential impacts and the applicant’s proposed mitigation measures are  
32 discussed in each of the sections below.

33 During construction the site certificate holder will be subject to compliance with a National  
34 Pollutant Discharge Elimination System (NPDES) Stormwater Discharge General Permit #1200-C  
35 that will be issued by the Oregon Department of Environmental Quality (DEQ). NPDES 1200-C  
36 permits include the approval and implementation of an Erosion and Sediment Control Plan (ESCP)  
37 that governs erosion control during construction activities. ESCPs require the use of best

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<sup>114</sup> Final ASC, Section Z.4.4, p. Z-15

<sup>115</sup> Final ASC, Section B.3.3

<sup>116</sup> Management of fuel and chemical storage areas as related to public safety is further addressed in Section V.D of this Order.

<sup>117</sup> Final ASC, Exhibit E, Appendix E-2. See also Section V.E and Exhibit 4 of this Order.

<sup>118</sup> Final ASC, Section V.3.1, p. V-2

1 management practices during construction, including the use of a stabilized construction  
2 entrance/exit, preservation of existing vegetation where practicable, silt fencing, straw wattles (if  
3 needed), soil binders, mulching, stabilization matting, soil binders, tackifiers, and revegetation of  
4 disturbed areas

5 The Applicant submitted its NPDES 1200-C permit application to the DEQ on May 27, 2010 and  
6 included a copy of the application in Exhibit I of the ASC. Based on its evaluation of the NPDES  
7 permit application and associated ESCP, the DEQ notified the Department on July 28, 2010 that only  
8 minor revisions would be required for approval of the ESCP and that the NPDES permit could be  
9 issued upon site certificate approval.<sup>119</sup>

10 The Applicant would use best management practices defined in the ESCP to minimize the  
11 potential for erosion during construction of the facility and transmission line. These practices would  
12 include but not be limited to the use of sediment fences, straw wattles, bio-filter bags, mulching,  
13 revegetation, sediment traps and/or basins, and rock check dams or gravel filter berms.<sup>120</sup> The ESCP  
14 would also provide for containment protection for oil and other spills on all stationary or power  
15 driven equipment, and prevention of construction debris and other pollutants from spilling on the  
16 site.<sup>121</sup> the Council adopts Condition IV.D.2.1, which requires all construction work to be in  
17 compliance with the ESCP and the NPDES Permit #1200-C.

18 In addition, the Council adopts Condition IV.D.2.2, which limits truck traffic during construction  
19 to improved road surfaces to the extent possible to limit soil compaction, and Condition IV.D.2.3,  
20 which requires the certificate holder to implement best management practices (such as water  
21 application to disturbed ground, graveling of permanent roadways and enforcement of speed limits) to  
22 reduce dust emissions during construction.

23 In addition to the erosion controls described above, the applicant proposes to conduct the  
24 following monitoring activities to ensure that controls are effective:<sup>122</sup>

- 25 • During construction, PGE would monitor disturbed area erosion and sediment control  
26 measures at the active construction site on a weekly basis and every two weeks on inactive  
27 sites. Inspection of both active and inactive sites would occur at least daily during periods  
28 when 0.5 inches or more rain has fallen in a 24-hour period.
- 29 • Erosion and sediment control measures would be maintained by removing trapped sediment  
30 when storage capacity has been reduced by 50 percent. Sediments will be placed in an  
31 upland area certified by a qualified wetlands specialist. If any of the erosion and sediment  
32 control measures is deemed ineffective, different strategies and/or measures would be  
33 implemented, maintained and monitored.
- 34 • PGE would observe and record color and turbidity within 35 feet upstream and downstream  
35 of locations where surface waters from the construction site(s) enter a receiving stream.  
36 Observations would note whether sheen and floating matter is present or absent. Any  
37 apparent color and turbidity of the discharge, as well as any observable difference in  
38 comparison with the receiving stream would be described.
- 39 • After completing construction in an area, PGE would monitor the area until soils are  
40 stabilized, to evaluate whether construction-related impacts to soils are being adequately  
41 addressed by the mitigation procedures described in the Erosion and Sediment Control Plan

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<sup>119</sup> Final ASC, Appendix I-2 and CGS-0031

<sup>120</sup> Final ASC, Section I.6, p. I-9

<sup>121</sup> Final ASC, Section I.6, p. I-8

<sup>122</sup> Final ASC, Section I.7, p. I-10

1 and the Weed Control Plan. As necessary, PGE would implement follow-up restoration  
2 measures such as scarification and reseeded to address those remaining impacts.

3 Based on the representations in the ASC regarding the applicant’s erosion control monitoring  
4 plan, the Council adopts the proposed monitoring activities as a condition in the site certificate,  
5 included as Condition IV.D.2.4, to ensure compliance with those representations, and to ensure  
6 significant potential adverse impacts to soils are mitigated as proposed. The Council also adopts  
7 Condition IV.D.2.5, which extends monitoring of the transmission line right-of-way, roads and other  
8 potentially impacted areas for erosion and to limit the spread of noxious weeds during the operation  
9 of the facility.

10 The Applicant prepared a Revegetation and Noxious Weed Control Plan in consultation with the  
11 Oregon Department of Fish and Wildlife to minimize potential expansion of invasive weeds resulting  
12 from construction disturbances and included a copy in Exhibit P of the ASC (Appendix P-4). The  
13 plan provides guidelines for the revegetation of all areas disturbed by project-related activities that are  
14 not occupied by permanent structures or facilities. The Applicant would implement revegetation  
15 measures in all temporary construction disturbance areas where soil is disturbed. Such soil  
16 disturbance sites would require active measures to restore vegetation cover in a timely manner,  
17 control erosion, and prevent the establishment of noxious weeds.<sup>123</sup> The draft Revegetation and  
18 Noxious Weed Control Plan is included as Exhibit 2 to this Order.

19 The ASC states that the plan “will be reviewed and approved by the Morrow County Weed  
20 Control Advisory District Board and the Gilliam County Weed Control Officer prior to the start of  
21 construction.” In the DPO, the Department recommended that the Council adopt Condition IV.D.2.6,  
22 which requires the certificate holder to consult with the Morrow and Gilliam County weed control  
23 staff and to obtain Department approval of the Revegetation and Noxious Weed Control Plan prior to  
24 the start of construction.

25 The Morrow County Planning Department provided comments on the DPO<sup>124</sup> and noted that  
26 Condition IV.D.2.6 in the DPO was “similar in intent” to Condition IV.E.4.4 in Section IV.E (Land  
27 Use) of the DPO. In the DPO the Department recommended that the Council adopt Condition  
28 IV.D.2.6 as a soil protection measure, and Condition IV.E.4.4 to comply with the Morrow County  
29 Weed Control Ordinance. However, the Department concurred with Morrow County’s comment that  
30 the two conditions had the same intent. Consequently, the Council has deleted Condition IV.E.4.4 in  
31 the Land Use section and revise the language in Condition IV.D.2.6 to combine the requirements  
32 regarding revegetation and weed control measures into a single condition and to require the certificate  
33 holder to consult with the Morrow County Weed Control Supervisor prior to construction for review  
34 and approval of the Revegetation and Noxious Weed Control Plan.

35 The Council also adopts Conditions IV.D.2.7<sup>125</sup> and IV.D.2.8, which require the certificate holder  
36 to implement the soil protection measures described in the approved Revegetation and Noxious Weed  
37 Control Plan during construction and operation of the facility and transmission line.

38 If the Applicant uses evaporation ponds for the process water effluent, the Applicant estimated  
39 that up to 40,000 tons of solids could be generated throughout the life of the pond.<sup>126</sup> Although the  
40 Applicant states that the evaporation pond solids are not expected to be hazardous, the solids will be  
41 concentrated salts that contain metals naturally occurring in the water. Because the evaporation  
42 ponds will be lined with an impermeable membrane and will be managed in accordance with WPCF

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<sup>123</sup> Final ASC, Appendix P-4, Section 1, p. 1

<sup>124</sup> CGS-0115, 04-13-12, Comments from Carla McLane, Morrow County Planning Director

<sup>125</sup> Condition IV.D.2.7 is a mandatory condition per OAR 345-027-0020(11).

<sup>126</sup> Final ASC, Section V.3.1, p. V-2

1 Permit, operation of evaporation ponds is not expected to cause adverse impacts to soil. However, the  
2 Council adopts Condition IV.D.2.9, which requires the certificate holder to dispose of all accumulated  
3 evaporation pond solids at an approved landfill.

4 The Applicant has stated that if the evaporation ponds are not constructed, the Carty Generating  
5 Station will discharge wastewater to the Carty Reservoir. WPCF Permit conditions proposed by the  
6 DEQ include concentration limits for various constituents that are designed to protect against  
7 groundwater contamination from the land application of the water from Carty Reservoir. The WPCF  
8 permit and proposed compliance conditions are discussed in detail in Section V.E. of this Order.

9 The Council recognizes that the use of the SACTI model for analysis of cooling tower impacts is  
10 standard industry practice. The applicant's model input parameters presented in Attachment Z-1  
11 (such as the type of cooling tower, size of the cells, etc.) were found to be consistent with information  
12 contained elsewhere in the ASC. The meteorological data used by the applicant and other  
13 assumptions used for model input parameters were also found to be consistent with information found  
14 elsewhere in the ASC and in conformance with standard plume modeling practices. The applicant  
15 proposes to configure the cooling tower with high-efficiency mist eliminators to limit the amount of  
16 drift and reduce deposition impacts.

17 The Council finds that the low level of salt deposition from the operation of the facility's cooling  
18 tower is not likely to have a significant adverse impact on soils within the site boundary, nor on soils  
19 of adjacent areas, provided that the drift rate from the cooling towers does not exceed the assumed  
20 drift rate of 176 g/s (0.0013%) used as a model input.<sup>127</sup> Therefore, to ensure that deposition to soils  
21 from the operation of the cooling towers does not adversely impact surrounding soils, the Council  
22 adopts Condition IV.D.2.10, which limits the drift rate from the cooling towers to 0.001%.<sup>128</sup>

23 Chemical and fuel storage areas will include secondary containment and management controls to  
24 prevent spills. The Council adopts Condition IV.D.2.11 requiring the certificate holder to manage  
25 hazardous materials in a manner that is protective of human health and the environment and in  
26 compliance with applicable laws and regulations. Condition IV.D.2.11 also prohibits the storage of  
27 gasoline on site for the purposes of re-fueling vehicles during operation of the facility.<sup>129</sup> The  
28 Council also adopts Condition IV.D.2.12, which addresses preparation for, and response to, spills and

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<sup>127</sup> Final ASC, Exhibit Z, Table Z-11

<sup>128</sup> In the Draft Proposed Order the Department recommended that the Council limit the drift rate to 0.0005% because "...it was not clear what drift rate was used in the SACTI model." In its comments on the DPO, PGE pointed out that the drift rate was stated in grams/second and was included in Table Z-11. PGE stated that "To convert this drift rate into a percentage, the drift rate in the ASC is converted to 2.71 gallon per minute (gpm) and then divided by the total flow of recirculating water through the cooling towers (205,000 gpm). This results in a SACTI model drift rate of 0.0013%. Since the model did not indicate any adverse impacts on soils, PGE requested the drift rate limit be set at 0.001% rather than 0.0005%."

<sup>129</sup> Condition IV.D.2.11 as presented in the Draft Proposed Order stated that "The certificate holder may not store gasoline on the facility site." In its comments on the DPO, PGE requested that the restriction be removed because the requirements to handle hazardous material in compliance with all applicable laws and in a manner that protects public health and safety would mean that "storage of gasoline would not result in any adverse impacts to the facility site." The prohibition of gasoline storage on the facility site was intended to reflect the statement in the ASC that "fuel used for vehicles will not be stored on site." The Council did not intend to prohibit the storage of small quantities of gasoline intended for use in landscaping equipment or other gas-operated power tools during operations. Nor did it intend to prevent the use of a fuel tanker on site during construction to fuel construction equipment. Condition IV.D.2.11 has been revised to clarify that the prohibition on gasoline storage applies to vehicle fueling during operation of the facility.

1 accidental releases of hazardous materials, including a requirement to notify the Department of any  
2 spill or release of hazardous material that occurs during construction or operation of the facility.<sup>130</sup>

3 For the reasons discussed above, and subject to compliance with the conditions in the WPCF Permit  
4 as presented in Exhibit 4 to this Order and compliance with the site certificate conditions listed in Section  
5 IV.D.2, the Councils find that the design, construction and operation of the facility as described in Exhibit  
6 I of the Final ASC, the NPDES 1200-C stormwater permit application, and associated Erosion and  
7 Sediment Control Plan are sufficient to minimize impacts on soils due to compaction, erosion, runoff,  
8 land application of liquid effluent, and chemical spills.

9 The Council also finds that that the revegetation program proposed in the Revegetation and Noxious  
10 Weed Control Plan will provide adequate impact mitigation where such impacts are unavoidable.

11  
12 **IV.D.2. SOIL PROTECTION: SITE CERTIFICATE CONDITIONS**

13 IV.D.2.1 The certificate holder must conduct all construction work in compliance with an Erosion and  
14 Sediment Control Plan (ESCP) satisfactory to the Oregon Department of Environmental  
15 Quality and as required under the NPDES Storm Water Discharge General Permit #1200-C.  
16 The certificate holder must include in the ESCP any procedures necessary to meet local  
17 erosion and sediment control requirements or storm water management requirements.  
18 [Site Certificate Condition 9.1]

19 IV.D.2.2 During construction, the certificate holder, to the extent practicable, must limit truck traffic to  
20 improved road surfaces to avoid soil compaction.  
21 [Site Certificate Condition 9.2]

22 IV.D.2.3 During construction, the certificate holder must implement best management practices to  
23 control any dust generated by construction activities, such as applying water to roads and  
24 disturbed soil areas.  
25 [Site Certificate Condition 9.3]

26 IV.D.2.4 During construction of the facility, the certificate holder must complete the following  
27 monitoring to ensure that there are no significant potential adverse impacts to soils:

- 28 a. During construction, monitor disturbed area erosion and sediment control measures at the  
29 active construction site on a weekly basis and every two weeks on inactive sites.  
30 Inspection of both active and inactive sites must occur at least daily during periods when  
31 0.5 inches or more rain has fallen in a 24-hour period.
- 32 b. The certificate holder must remove trapped sediment when storage capacity has been  
33 reduced by 50 percent. Sediments will be placed in an upland area certified by a  
34 qualified wetlands specialist.
- 35 c. Observe and record color and turbidity within 35 feet upstream and downstream of  
36 locations where surface waters from the construction site(s) enter a receiving stream.  
37 Observations shall note whether sheen and floating matter is present or absent. Any  
38 apparent color and turbidity of the discharge, as well as any observable difference in  
39 comparison with the receiving stream shall be described. If there are observable  
40 differences, or any sheen or floating matter is present, the certificate holder must take  
41 immediate steps to identify and rectify the cause of the run-off to the stream.

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<sup>130</sup> Further discussion and analysis of fuel and chemical storage areas is included in Section IV.U (Public Health and Safety).



- 1 d. If the erosion and sediment control measures are deemed ineffective, different strategies  
2 and/or measures shall be implemented, maintained and monitored.
- 3 e. After completing construction in an area, the certificate holder must monitor the area  
4 until soils are stabilized and evaluate whether construction-related impacts to soils are  
5 being adequately addressed by the mitigation procedures described in the Erosion and  
6 Sediment Control Plan and the approved Revegetation and Noxious Weed Control Plan.  
7 As necessary, the certificate holder must implement follow-up restoration measures such  
8 as scarification and reseeded to address those remaining impacts.  
9 [Site Certificate Condition 9.4]
- 10 IV.D.2.5 During facility operation, the certificate holder shall routinely inspect and maintain all  
11 transmission line corridors, roads, pads and trenched areas and, as necessary, maintain or  
12 repair erosion and sediment control measures and control the introduction and spread of  
13 noxious weeds.  
14 [Site Certificate Condition 9.5]
- 15 IV.D.2.6 During construction and operation of the facility, the certificate holder must implement a  
16 revegetation and weed control plan. The certificate holder must comply with the applicable  
17 provisions of the Morrow County and Gilliam County Weed Control Ordinances, as  
18 determined by the Morrow County Weed Control Supervisor, and Gilliam County Weed  
19 Officer, respectively. Prior to beginning construction the certificate holder must consult with  
20 the Morrow County Weed Control Supervisor and the Gilliam County Weed Control Officer  
21 and obtain approval of a Revegetation and Noxious Weed Control Plan. The final  
22 Revegetation and Noxious Weed Control Plan must be submitted to the Department of  
23 Energy for approval prior to the start of construction.  
24 [Site Certificate Condition 5.5]
- 25 IV.D.2.7 Upon completion of construction, the certificate holder must restore vegetation to the extent  
26 practicable and shall landscape all areas disturbed by construction in a manner compatible  
27 with the surroundings and proposed use and in compliance with the Revegetation and  
28 Noxious Weed Control Plan. Upon completion of construction, the certificate holder must  
29 remove all temporary structures not required for facility operation and dispose of all timber,  
30 brush, refuse and flammable or combustible material resulting from clearing of land and  
31 construction of the facility.  
32 [Site Certificate Condition 9.6] [Mandatory Condition OAR 345-027-0020(11)]
- 33 IV.D.2.8 During operation of the facility, the certificate holder shall restore areas that are temporarily  
34 disturbed during facility maintenance or repair activities using the same methods and  
35 monitoring procedures described in the Revegetation and Noxious Weed Control Plan.  
36 [Site Certificate Condition 9.7]
- 37 IV.D.2.9 The certificate holder must dispose of all accumulated evaporation pond solids, when  
38 removed, in a landfill approved for such waste material. All residual solids deposited in  
39 evaporation ponds must be removed to an appropriate disposal facility upon closure of the  
40 facility. The certificate holder shall include protocols for solids removal and soil restoration  
41 at the location of the evaporation ponds in the retirement plan.  
42 [Site Certificate Condition 9.8]
- 43 IV.D.2.10 During operation, the certificate holder must minimize drift from the cooling towers through  
44 the use of high efficiency drift eliminators that allow no more than a 0.001% drift rate.  
45 [Site Certificate Condition 9.9]
- 46 IV.D.2.11 The certificate holder must handle hazardous materials used on the site in a manner that  
47 protects public health, safety and the environment and shall comply with all applicable local,

1 state and federal environmental laws and regulations. During operation, the certificate holder  
2 may not store gasoline that is intended for fueling vehicles on the facility site.  
3 [Site Certificate Condition 9.10]

4 IV.D.2.12 If a reportable release of hazardous substance occurs during construction or operation of the  
5 facility, the certificate holder must notify the Department within 72 hours and must clean up  
6 the spill or release and dispose of any contaminated soil or other materials according to  
7 applicable regulations. The certificate holder must make sure that spill kits containing items  
8 such as absorbent pads are located on equipment, near storage areas, and in the administrative  
9 or maintenance areas of the facility. The certificate holder must instruct employees about  
10 proper handling, storage and cleanup of hazardous materials.  
11 [Site Certificate Condition 9.11]

12 **IV.D.3. SOIL PROTECTION: CONCLUSIONS OF LAW**

13 Based on the foregoing findings of fact and conclusions, and subject to compliance with the site  
14 certificate conditions, the Council finds that the design, construction and operation of the proposed  
15 facility are not likely to result in a significant adverse impact to soils, and therefore would comply with  
16 the Soil Protection Standard.  
17

1 **IV.E. LAND USE [OAR 345-022-0030]**

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

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

6 \*\*\*

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

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

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

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

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

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

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

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

41 *(c) The following standards are met:*

42 *(A) Reasons justify why the state policy embodied in the applicable goal should*  
43 *not apply;*

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

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

3 \* \* \*

4 **IV.E.1. LAND USE: FINDINGS OF FACT**

5 Exhibit K of the Final ASC addresses the Council’s Land Use Standard. The Applicant has elected to  
6 have the Council make the land use determination under OAR 345-022-0030(2)(b).<sup>131</sup>

7 The Council must apply the Land Use Standard in conformance with the requirements of ORS  
8 469.504. The Oregon Supreme Court has held “under ORS 469.504(1)(b) and (5), the Council may  
9 choose to determine compliance with statewide planning goals by evaluating a facility under paragraph  
10 (A) or (B) or (C), but \* \* \* it may not combine elements or methods from more than one paragraph,  
11 except to the extent that the chosen paragraph itself permits.” The Applicant has requested that the  
12 Council make a determination based on the approval criteria in ORS 469.504(1)(b)(B).

13 The analysis area for the Land Use Standard is the area within the site boundary and one-half mile  
14 from the site boundary. The Carty facility would lie partially within the jurisdiction of Morrow County  
15 and partially within the jurisdiction of Gilliam County. The portion of the project inside Morrow County  
16 comprises the proposed energy facility and the majority of the proposed transmission line corridor. The  
17 remainder of the proposed transmission line is located in Gilliam County. The land on which the proposed  
18 energy facility would be built is currently leased or owned by PGE and Threemile Canyon Farms; the  
19 proposed transmission line would be built along the route of the existing Boardman to Slatt transmission  
20 line. The right-of-way would be widened along the easternmost two miles and could be widened along the  
21 westernmost three miles of the route. All right-of-way would be controlled by PGE. Some of this right-of-  
22 way crosses federal land that is owned by the Bonneville Power Administration (BPA). All construction  
23 on BPA-controlled land would occur within existing right-of-way.<sup>132</sup> The portions of the subject site  
24 located in Morrow County’s jurisdiction are zoned General Industrial (MG) and Exclusive Farm Use  
25 (EFU).<sup>133</sup> The portions of the site located in Gilliam County are zoned EFU.<sup>134</sup>

26 Under ORS 469.504(5), the Council must apply the applicable substantive criteria recommended by  
27 the Special Advisory Groups (SAGs). The Council may find compliance with statewide planning goals  
28 under ORS 469.504(1)(b)(B) if the Council finds that the proposed facility “does not comply with one or  
29 more of the applicable substantive criteria but does otherwise comply with the applicable statewide  
30 planning goals, or that an exception to any applicable statewide planning goal is justified under subsection  
31 (2) of this section.” The Oregon Supreme Court has determined that “paragraph (B) necessarily requires  
32 an evaluation of the same applicable substantive criteria as paragraph (A) and, to the extent those criteria  
33 are not met, directs the Council to consider statewide planning goals.”<sup>135</sup>

34 Morrow and Gilliam Counties were both appointed as SAGs by the Council for the Carty project.<sup>136</sup>  
35 On October 8, 2009, the Morrow County Planning Director identified the applicable substantive criteria

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<sup>131</sup> Under OAR 345-021-0010(1)(k), an applicant must elect whether to address the Council's land use standard by obtaining local land use approvals under ORS 469.504(1)(a) or by obtaining a Council determination under ORS 504(1)(b). The applicant elected to have the Council make the determination (Final ASC, Exhibit K, Section K.3).

<sup>132</sup> Final ASC, Section K.4, p. K-4

<sup>133</sup> Final ASC, Section K.5.1, pp. K-5 and K-6

<sup>134</sup> Final ASC, Section K.6.1, p. K-38

<sup>135</sup> *Save our Rural Oregon v. Energy Facility Siting Council*, 339 Or 353 (2005)

<sup>136</sup> CGS-0042, 11-03-09, Oregon Department of Energy Project Order for the Carty Generating Station, p. 11

1 provided by the Morrow County Zoning Ordinance (MCZO) and Morrow County Comprehensive Plan  
2 (MCCP).<sup>137</sup>

3 Morrow County submitted comments on the ASC requesting that the Council adopt two additional  
4 general conditions of approval.<sup>138</sup> One of the conditions requested would require the Applicant to work  
5 with Morrow County to adopt the goal exceptions recommended in this Order as part of the Morrow  
6 County Comprehensive Plan. Because the Applicant has chosen to have the Council evaluate compliance  
7 with land use standards, the Council is responsible for analysis of the necessary goal exceptions. Morrow  
8 County identified ORS 469.504(7) as an “unfunded mandate” and impliedly has requested that the  
9 Council require the applicant to fund the comprehensive plan amendment. However, Morrow County did  
10 not provide an analysis explaining the Council’s authority to fund the amendment required under ORS  
11 469.504(7).<sup>139</sup> In addition, in requiring that PGE “work with” the County, the requested condition is not  
12 clear as to the role that the applicant would take in the comprehensive plan amendment. Therefore, the  
13 Council has not included the requested condition in the site certificate.<sup>140</sup>

14 In its ASC comments, Morrow County also requested that the Council require the Applicant to obtain  
15 approval for an existing helipad which is in operation in the vicinity of the Carty facility site; however,  
16 because this helipad is not part of the proposed facility or a related and supporting facility to the Carty  
17 facility, this matter is outside of the Council’s jurisdiction.<sup>141</sup>

18 The Morrow County applicable substantive criteria are:

19 **Morrow County Zoning Ordinance (MCZO)**

- 20 – Article 3: Use Zones
- 21     ▪ Section 3.010 Exclusive Farm Use
  - 22         • Section 3.010.D Conditional Uses Permitted
  - 23         • Section 3.010.D Limitations on Conditional Uses<sup>142</sup>
  - 24         • Section 3.010.H Yards
  - 25         • Section 3.010.I Transportation Impacts
  - 26     ▪ Section 3.070 General Industrial Zone
  - 27         • Section 3.070.D Dimensional Requirements
  - 28         • Section 3.070.E Transportation Impacts
- 29 – Article 6: Conditional Use Criteria
- 30     ▪ Section 6.020 General Criteria
  - 31     ▪ Section 6.030 General Conditions
  - 32     ▪ Section 6.040 Permit and Improvements Assistance

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<sup>137</sup> CGS-0023, 10-08-09, Morrow County Reviewing Agency Comments on NOI

<sup>138</sup> CGS-0085, 06-30-11, Morrow County Comment on Carty Generating Station Application for Site Certificate - Comments General

<sup>139</sup> If Morrow County is relying on Article XI, section 15 of the Oregon Constitution, the redress for reimbursement of the costs appears to be to the legislature, not to the Council.

<sup>140</sup> The Morrow County Planning Director submitted a follow-up comment on August 9, 2011 (CGS-0093) indicating that “Morrow County is willing to remove this requested Condition of Approval, but still would like to have a clear path to having the exceptions approved by the Siting Council incorporated into the Morrow County Comprehensive Plan.”

<sup>141</sup> Morrow County’s August 9, 2011 follow-up comments (CGS-0093) indicated that Portland General Electric has agreed to obtain the necessary permits for the helipad and that Morrow County “would withdraw our request for this Condition of Approval.”

<sup>142</sup> The Morrow County Zoning Ordinance contains two sections numbered “3.010.D.”

- 1       – Article 4: Supplementary Provisions
- 2             ▪ Section 4.010 Access
- 3             ▪ Section 4.040 Off-Street Vehicle Parking Requirements
- 4             ▪ Section 4.045 Bicycle Parking Requirement
- 5                 • Section 4.045.A Number of Parking Spaces
- 6             ▪ Section 4.060 Design and Improvement Standards: Parking Lots
- 7             ▪ Section 4.070 Sign Limitations and Regulations

8       **Morrow County Solid Waste Management Ordinance (MCSWMO)**

- 9       – Section 3.000 Purpose and Policy
- 10      – Section 5.000 Public Responsibilities
- 11      – Section 5.010 Transportation of Solid Waste
- 12      – Section 5.020 Accumulation, Littering and Disturbance of Solid Waste Prohibited
- 13      – Section 5.030 Responsibility for Proper Disposal of Hazardous Waste
- 14      – Section 5.040 Open Burning

15      **Morrow County Code Enforcement Ordinance (MCCEO)**

- 16      – Section 7 Noise as a Public Nuisance

17      **Morrow County Weed Control Ordinance (MCWCO)**

- 18      – Section 7 Duties of Owners and Occupants

19      **Morrow County Comprehensive Plan (MCCP)**

- 20      – Citizen Involvement Policies (Policies 1 and 2)
- 21      – General Land Use Policies (Policies 3 and 4)
- 22      – Agricultural Lands Policies (Policy 1)
- 23      – Economic Policies (Policies 1, 2, 3, 9, 10, and 11)
- 24      – Housing Policies (Policy 5)
- 25      – Public Facilities and Services Policies (Policies A, C, F, M)
- 26      – Schools (Policy 1)
- 27      – Utilities (Policies A, B, and C)
- 28      – Solid Waste (Policies A and C)
- 29      – Energy Policies (Policy 1)

30       On August 8, 2011, the Gilliam County Planning Director identified the applicable substantive  
 31 criteria in the Gilliam County Zoning Ordinance (GCZO) and Gilliam County Comprehensive Plan  
 32 (GCCP).<sup>143</sup>

33       The Gilliam County applicable substantive criteria are:

34      **Gilliam County Zoning and Land Development Ordinance (GCZLDO)**

- 35      – Article 4 Exclusive Farm Use
- 36             ▪ Section 4.020 EFU Exclusive Farm Use

37      **Gilliam County Comprehensive Plan (GCCP)**

- 38      – Part 3 Agricultural Land Use (Policies 1, 2 and 3)

39       The applicable substantive criteria for both Morrow and Gilliam Counties are addressed below.

40      **IV.E.1.a. Morrow County’s Applicable Substantive Criteria**

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<sup>143</sup> CGS-0103, 08-09-11, Comments of Gilliam County on the Carty Generating Station

1 **IV.E.1.a.i. Morrow County Ordinances**

2 **Morrow County Zoning Ordinance (MCZO) Article 3: Use Zones**

3 **MCZO Section 3.010: Exclusive Farm Use, EFU Zone**

4 **MCZO Section 3.010.D: Conditional Uses Permitted**

5 *In an EFU Zone, the following uses and their accessory uses are permitted subject to*  
6 *demonstration of compliance with the requirements of Article 6 of this ordinance and Section (G)*  
7 *below:*

8 *16. Commercial utility facilities for the purposes of generating power for public use by sale.*  
9 *A power generation facility shall not preclude more than 12 acres of high value farmland or 20*  
10 *acres of other land from commercial farm use unless an exception is approved pursuant to OAR*  
11 *660 Division 4.*

12 The proposed Carty facility is a commercial utility facility for the purpose of generating  
13 power for public use by sale. In Morrow County, most of the facility components would be  
14 located in the EFU zone. The project components that would be located in the MG zone include  
15 an evaporation pond and some temporary construction areas; the remaining components would be  
16 located in the EFU zone, including the generating equipment, additional evaporation ponds, and  
17 transmission line.<sup>144</sup> This use is conditionally permitted in the EFU zone but is limited to an  
18 impact of 12 acres for high-value farmland and 20 acres for all other land. OAR 660-033-0020(8)  
19 defines “high-value farmland” as “land in a tract composed predominantly of soils that are: (A)  
20 Irrigated and classified prime, unique, Class I or II; or (B) Not irrigated and classified prime,  
21 unique, Class I or II.” The soil classes present in the proposed site boundary are only considered  
22 high-value farmland if irrigated, and none of the lands within the site boundary are irrigated;  
23 therefore none of the land that would be impacted constitutes high-value farmland.

24 A total of 65.9 acres of non-high-value farmland would be permanently impacted.<sup>145</sup> Because  
25 this exceeds the 20-acre maximum provided by MCZO Section 3.010.D, the proposed facility is  
26 not permitted without an exception pursuant to Statewide Planning Goal 2, and therefore the  
27 Council must evaluate its compliance with the Statewide Planning Goals. In this case, because  
28 the proposed use would be located on EFU land, the applicable goal is Oregon Statewide Goal 3,  
29 Agricultural Lands. Because MCZO Section 3.010.D implements and is required to comply with  
30 OAR 660-033-0130(17) and (22), which in turn implements Goal 3, noncompliance with the  
31 local ordinance also precludes compliance with Goal 3. Accordingly, the facility must obtain  
32 approval of an exception to Goal 3.<sup>146</sup> This exception is discussed below in findings regarding  
33 compliance with other applicable state standards.

34 *17. Utility facilities “necessary” for public service, excluding commercial utility facilities for*  
35 *the purpose of generating power for public use by sale, and transmission towers over 200 feet in*  
36 *height. A utility facility is necessary for public service if the facility must be sited in an exclusive*  
37 *farm use zone in order to provide the service. To demonstrate that a utility facility is necessary,*  
38 *an applicant must show that reasonable alternatives have been considered and that the facility*  
39 *must be sited in an exclusive farm use zone due to one or more of the factors listed in OAR 660-*  
40 *033-0130(16).*

41 The proposed transmission line falls into this “utility facilities necessary for public service”  
42 category. ORS 215.275 provides specific standards for determining when a utility facility is

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144 Final ASC, Figure K-3

145 Final ASC, Section K.5.1.1, p. K-9

146 The goal exception process for energy facilities is governed by ORS 469.504(2).

1 “necessary” for public service. These standards are also incorporated into OAR 660-033-  
2 0130(16). The proposed transmission line’s conformance with these standards is discussed below  
3 in Section IV.E.2.c, ORS 215.275.

4 **MCZO Section 3.010.D: Limitations on Conditional Uses**

5 *In addition to the general standards and conditions that may be attached to the approval of a*  
6 *conditional use as provided by Article 6 of this ordinance, the following limitations shall apply to*  
7 *a Conditional Use in the EFU Zone.*

8 *1. Will not force a significant change in accepted farm or forest practices on surrounding*  
9 *lands devoted to farm or forest use; and*

10 *2. Will not significantly increase the cost of accepted farm or forest practices on lands*  
11 *devoted to farm or forest use.*

12 This section of the MCZO implements the requirements of OAR 660-033-0130(5), which  
13 apply to “commercial utility facilities for the purpose of generating power for public use by sale,”  
14 proposed for an EFU zone. This section applies to the proposed Carty energy facility but does not  
15 apply to the proposed transmission line because the transmission line is subject to the  
16 requirements for “utility facilities necessary for public service;” utility facilities necessary for  
17 public service are not subject to review criteria beyond those provided by ORS 215.275 and OAR  
18 660-033-0130(16).<sup>147</sup>

19 There are no lands devoted to forest uses in the vicinity of the proposed facility. Farm uses on  
20 surrounding lands consist of cultivation by Threemile Canyon Farms of a variety of crops, using  
21 center-pivot irrigation. The Carty energy facility would be located approximately one-quarter  
22 mile from the nearest irrigation circle. The Applicant does not propose any changes to road  
23 networks in the area or to parcel configuration, both of which could have potentially significant  
24 impacts to farming practices if changed. Construction of the Carty facility also would not require  
25 any changes to farm-related infrastructure.<sup>148</sup> However, to minimize the possibility of impacts to  
26 accepted farm practices or an increase in cost of those practices, the Council adopts Condition  
27 IV.E.4.1 requiring the certificate holder to design and construct the facility using the minimum  
28 land area necessary and to minimize disturbance of farming practices.

29 As proposed, the activities associated with the proposed energy facility would be contained  
30 within the parcel on which the energy facility would be located. For this reason, it appears that  
31 the aspects of the operation most likely to affect nearby accepted farm practices or the cost of  
32 such practices would be traffic/transportation, water availability for irrigation, and cooling tower  
33 effects. The Applicant modeled cooling tower deposition and determined that the highest rates of  
34 salt deposition would occur within the site boundary. At the location of the existing irrigation  
35 circles, approximately 700 meters west of the proposed facility, deposition would occur at a rate  
36 of approximately six kilograms per square kilometer per month (kg/km<sup>2</sup>-mo).<sup>149</sup> In the Final  
37 ASC, the Applicant cites research showing that salt-sensitive agricultural crops begin to show  
38 signs of salt stress at deposition levels above 836 kg/km<sup>2</sup>-mo.<sup>150</sup> The predicted off-site deposition  
39 rate from the cooling towers is less than 1% of the deposition rates shown to produce adverse  
40 impacts to agricultural crops.

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<sup>147</sup> Brentmar v. Jackson County, 321 Or 481, 496 (1995)

<sup>148</sup> Final ASC, Section K.7.1, p. K-48

<sup>149</sup> Final ASC, Section Z.4.1, pp. Z-7-8

<sup>150</sup> Final ASC, Section Z.4.2, p. Z-14



1 Water availability for irrigation is addressed in detail in Section V.C, Groundwater Act.  
2 Potential impacts to transportation were quantified in a Traffic Impact Analysis, which shows  
3 that, even with the additional traffic generated by the Carty facility, all roadways and  
4 intersections in the analysis area would continue to operate acceptably.<sup>151</sup> For these reasons, the  
5 Council finds that, subject to compliance with Condition IV.E.4.1, the facility would not force a  
6 significant change in farm practices or increase the cost of such practices.

7 **MCZO Section 3.010.H: Yards**

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

9 *1. The front yard setback from the property line shall be a minimum of 100 feet if the property*  
10 *line is adjacent to an intensive agricultural use except as approved by the Commission;*  
11 *otherwise, front yards shall be 20 feet for property fronting on a local minor collector or*  
12 *marginal access street ROW, 30 feet from a property line fronting on a major collector ROW, and*  
13 *80 feet from an arterial ROW unless other provisions for combining accesses are provided and*  
14 *approved by the County.*

15 *2. Each side yard shall be a minimum of 20 feet except that on corner lots or parcels the side*  
16 *yard on the street side shall be a minimum of 30 feet, and for parcels or lots with side yards*  
17 *adjacent to an intensive agricultural use the adjacent side yard shall be a minimum of 100 feet,*  
18 *except as approved by the Commission.*

19 *3. Rear yards shall be a minimum of 25 feet, except for parcels or lots with rear yards*  
20 *adjacent to an intensive agricultural use rear yards shall be a minimum of 100 feet, except as*  
21 *approved by the Commission.*

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

28 The proposed location for all project components, excluding the transmission line, includes  
29 roughly 75 acres; the Applicant states that this area is sufficient to site the proposed facility in  
30 conformance to the setback requirements provided by this section.<sup>152</sup> Figure K-3 in the Final ASC  
31 shows the proposed layout of project components within the property on which they would be  
32 located. This figure shows a front setback of approximately 215 feet from Tower Road, and  
33 setbacks of over one-half mile in all other directions. These distances exceed the setback  
34 requirements in MCZO Section 3.010.H and therefore these setbacks can be met.

35 The Carty facility would utilize existing sewage disposal facilities that currently serve the  
36 nearby Boardman Plant, and therefore no new wastewater facilities would be constructed and the  
37 stream setback would not apply. The Council adopts Condition IV.E.4.3, which requires the  
38 Applicant to conform to the setbacks provided by the MCZO section 3.010(H).

39 The proposed transmission line is a “utility facility necessary for public service” and is  
40 therefore subject to the ORS 215.275 requirements and not subject to Morrow County conditional  
41 use requirements. For this reason the setback requirements of MCZO Section 3.010.H do not  
42 apply to the transmission line.

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<sup>151</sup> Final ASC, Section U.4.2.1, p. U-22

<sup>152</sup> Final ASC, Section K.5.1.1, p. K-11

1 Based on the evidence submitted by the Applicant and other evidence in the record, and  
2 subject to compliance with Condition IV.E.4.3 to ensure the proposed facility satisfies all setback  
3 requirements, the Council find that the facility satisfies the requirements of MCZO Section  
4 3.010.H: Yards.

5 **MCZO Section 3.010.I: Transportation Impacts**

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

13 The Applicant provided a Traffic Impact Analysis (TIA) prepared by Kittelson and  
14 Associates, Inc. for construction and operation of the Carty facility. This analysis indicates that  
15 construction of the Carty facility would generate approximately 25 trips during both the AM and  
16 PM peak hour, which would result in fewer than 400 total vehicle trips per day.<sup>153</sup> The number of  
17 trips generated as a result of construction and operation of the transmission line is expected to be  
18 insignificant, due to the limited number of staff required.<sup>154</sup> Based on this analysis, the Council  
19 finds that the facility satisfies the requirements of MCZO Section 3.010.I: Transportation Impacts  
20 without the need for additional traffic analysis.

21 **MCZO Section 3.070: General Industrial Zone**

22 Section 3.070 of the MCZO lists the permitted uses within the General Industrial (MG) zoning  
23 district; a utility facility or electrical generation facility is not an outright or a conditionally permitted  
24 use in this zone. One evaporation pond and temporary construction staging areas are located in this  
25 zone; all other project components are located in the EFU zone. Although only a few project  
26 components are located in the MG zone, because these components are part of the energy facility the  
27 requirements of this zone still apply. Pursuant to OAR 345-022-0030(1), if the proposed facility does  
28 not comply with the local land use regulations, the Council must determine whether the establishment  
29 of the proposed facility in the MG zone complies with the statewide planning goals. This evaluation  
30 is addressed below in findings regarding compliance with applicable state standards. The Carty  
31 facility's conformance to all other applicable provisions of the MG zone is also discussed below.

32 **MCZO Section 3.070.D: Dimensional Requirements**

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

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

40 *2. Setbacks: No specific side or rear yard setbacks are identified within this zone, but may be*  
41 *dictated by provisions of the Building Code or other siting requirements. The minimum setback*  
42 *between a structure and the right-of-way of an arterial shall be 50 feet. The minimum setback of a*

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<sup>153</sup> Final ASC, Section U.4.2.1, p. U-22

<sup>154</sup> Final ASC, Section K.5.1.1, p. K-13

1 structure from the right-of-way of a collector shall be 30 feet, and from all lower class streets the  
2 minimum setback shall be 20 feet. There shall be no setback requirement where a property abuts  
3 a railroad siding or spur if the siding or spur will be utilized by the permitted use.

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

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

15 The proposed energy facility site is large enough to accommodate the Carty facility as  
16 proposed. Figure K-3 in the Final ASC shows all proposed energy facility components in a  
17 preliminary layout on this property. All project components excluding the transmission line are  
18 located on one property, and, as discussed above, these components appear to comply with  
19 applicable setbacks. The Applicant proposes to access the site from Tower Road; the project site  
20 has roughly 5,000 feet of frontage on Tower Road, in conformance to the standard frontage  
21 requirement in Subsection 1.<sup>155</sup> Tower Road is a private local road; the project site does not have  
22 frontage on arterial or collector roads.<sup>156</sup> As proposed, all structures would have a minimum  
23 setback from Tower Road of approximately 215 feet, greater than the minimum 20-foot setback  
24 in MCZO 3.070.D.<sup>157</sup> The Council adopts Condition IV.E.4.3, which requires the certificate  
25 holder to construct all facility components in compliance with the applicable setback  
26 requirements of MCZO 3.070.D.

27 Exhibit J of the Final ASC identifies the wetlands and waterways located within the analysis  
28 area. Willow Creek is the only stream or lake located within the site boundary,<sup>158</sup> and this water  
29 body is located in the portion of the site boundary located in Gilliam County.<sup>159</sup> Therefore, the  
30 stream setback required under Subsection 3 of MCZO Section 3.070.D does not apply. The  
31 proposed facility is not located adjacent to residential uses, and therefore the screening  
32 requirements of Subsection 4 also do not apply.<sup>160</sup>

33 Based on this analysis, and subject to compliance with Condition IV.E.4.3 to ensure  
34 compliance with the street setback requirements, the Council finds that the requirements of  
35 MCZO Section 3.070.D can be satisfied.

### 36 **MCZO Section 3.070.E: Transportation Impacts**

37 1. *Traffic Impact Analysis (TIA)*. In addition to the other standards and conditions set forth in  
38 this section, a TIA will be required for all projects generating more than 400 passenger car  
39 equivalent trips per day. Heavy vehicles B trucks, recreational vehicles and buses B will be

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155 Final ASC, Section K.5.1.2, p. K-20

156 Final ASC, Section K.5.1.2, p. K-20

157 Final ASC, Figure K-3

158 Final ASC, Section J.2.8, p. J-4

159 Final ASC, Appendix J-1, Figure 3d

160 Final ASC, Section K.5.1.2, p. K-20

1 *defined as 2.2 passenger car equivalents. A TIA will include: trips generated by the project, trip*  
2 *distribution for the project, identification of intersections for which the project adds 30 or more*  
3 *peak hour passenger car equivalent trips, and level of service assessment, impacts of the project,*  
4 *and, mitigation of the impacts. If the corridor is a State Highway, use ODOT standards.*

5 As discussed previously (see compliance with MCZO Section 3.010.I) the Applicant has  
6 provided a Traffic Impact Analysis (TIA) in accordance with the requirements of MCZO Sections  
7 3.010.I and 3.070.E.<sup>161</sup> Based on the analysis of the information in the TIA, the Council finds  
8 that the facility satisfies the requirements of MCZO Section 3.070.E to provide a TIA and that  
9 there is no need for additional traffic analysis.

## 10 **MCZO Article 6: Conditional Use Criteria**

11 The provisions of Article 6 of the MCZO apply because the proposed use is conditionally  
12 permitted in the EFU zoning district. Not all of the proposed energy facility is located within the  
13 EFU zone; one evaporation pond and some temporary construction areas are located in the MG  
14 zoning district. All other project components located in Morrow County are in the EFU zone. For the  
15 reasons explained above, the transmission line is not subject to conditional use criteria; therefore only  
16 the energy facility components located in the EFU zone are evaluated below for compliance with  
17 EFU zone conditional use criteria. The applicable provisions of Article 6 are addressed below.

### 18 **MCZO Section 6.020: General Criteria**

19 *In judging whether or not a conditional use proposal shall be approved or denied, the*  
20 *Commission shall weigh the proposal's appropriateness and desirability, or the public*  
21 *convenience or necessity to be served against any adverse conditions that would result from*  
22 *authorizing the particular development at the location proposed and, to approve such use, shall*  
23 *find that the following criteria are either met or can be met by observance of conditions.*

24 *A. The proposal will be consistent with the Comprehensive Plan and the objectives of the*  
25 *Zoning Ordinance and other applicable policies and regulations of the County.*

26 *C. The proposal will not exceed carrying capacities of natural resources or public facilities.*

27 The proposal's compliance with applicable provisions of Morrow County's Comprehensive  
28 Plan and Zoning Ordinance is addressed throughout these findings. Exhibits P, Q, S, and U of the  
29 Final ASC address potential impacts to natural resources and public services, in conformance to  
30 MCZO Section 6.020.C. These exhibits are evaluated in Sections IV.H (Fish and Wildlife  
31 Habitat), IV.I (Threatened and Endangered Species), IV.K (Historic, Cultural, and Archaeological  
32 Resources), and IV.M (Public Services) of this document, respectively.

33 Exhibit P of the Final ASC addresses habitat types present in the project area and potential  
34 impacts to fish and wildlife species, including state and federally listed threatened, endangered,  
35 candidate, and proposed species, which occur or may occur in the project area. The Applicant  
36 proposes measures to mitigate impacts to fish and wildlife species and to habitat, in conformance  
37 with Oregon Department of Fish and Wildlife (ODFW) mitigation standards.<sup>162</sup> These mitigation  
38 measures are addressed in detail in Section IV.H of this Order (Fish and Wildlife Habitat).  
39 Exhibit Q of the Final ASC includes queries from the Oregon Biodiversity Information Center  
40 [ORBIC, formerly the Oregon Natural Heritage Information Center (ORNHC)], which indicate  
41 that the Washington ground squirrel, a federally listed species, has potential to exist within or

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<sup>161</sup> Final ASC, Appendix U-1

<sup>162</sup> Final ASC, Section K.5.1.1, p. K-14

1 near the project boundary. The query also shows five state listed or candidate plant species with  
2 potential to exist within the project boundary.<sup>163</sup>

3 The Applicant proposes to avoid impacts to Washington ground squirrels by establishing a  
4 speed limit within the site boundary and avoiding all impacts to Washington ground squirrel  
5 habitat.<sup>164</sup> The sensitive plant species identified are expected to occur primarily in the area of the  
6 proposed transmission line; to mitigate potential impacts on identified plant species, the  
7 Applicant proposes additional surveys to establish sensitive areas, followed by avoidance of those  
8 areas in placement of the proposed transmission towers.<sup>165</sup> A detailed discussion of the sensitive  
9 species present and the Applicant's proposed mitigation measures is included in Section IV.I of  
10 this Order (Threatened and Endangered Species).

11 Exhibit S of the Final ASC also discusses the cultural and archaeological resources present  
12 within the site boundary. The Applicant's consultant, Archaeological Investigations Northwest  
13 Inc. (AINW), performed a pedestrian survey of the project area and excavated 90 shovel tests to  
14 identify these resources. AINW identified four archeological resources within the project  
15 boundary, including two archaeological sites and two archaeological isolates. The Applicant does  
16 not propose any further archaeological work because AINW did not identify any of the identified  
17 resources as eligible for listing with the National Register of Historic Places.<sup>166</sup> A more detailed  
18 discussion of these resources and their significance is contained in Section IV.K of this Order  
19 (Cultural Resources).

20 Exhibit U of the Final ASC discusses potential impacts to public services. The Applicant  
21 proposes to utilize existing transportation infrastructure as well as existing water and sewer  
22 facilities located at the adjacent Boardman Coal Plant.<sup>167</sup> The facility's potential impacts to  
23 sewage collection and treatment, water supply, stormwater facilities, solid waste disposal, police  
24 and fire safety services, health care, public education, housing, and traffic are discussed in detail  
25 in Section IV.M of this Order (Public Services). Based on the analysis in the Public Services  
26 section, no significant impacts to these services are anticipated.<sup>168</sup>

27 Based on this analysis, and subject to compliance with Condition IV.E.4.3 and conditions  
28 contained elsewhere in this Order, the Council finds that the facility meets the requirements of  
29 MCZO Section 6.020.

### 30 **MCZO Section 6.030: General Conditions**

31 *In addition to the standards and conditions set forth in a specific zone, this article, and other*  
32 *applicable regulations; in permitting a new conditional use or the alteration of an existing*  
33 *conditional use, the Commission may impose conditions which it finds necessary to avoid a*  
34 *detrimental impact and to otherwise protect the best interests of the surrounding area or the*  
35 *County as a whole. These conditions may include the following:*

- 36 A. *Limiting the manner in which the use is conducted including limiting the time an activity may*  
37 *take place and restraints to minimize such environmental effects as noise, vibration, glare*  
38 *and odor.*

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<sup>163</sup> Final ASC, Table Q-1, p. Q-2

<sup>164</sup> Final ASC, Section Q.6, pp. Q-14-15

<sup>165</sup> Final ASC, Section K.5.1.1, p. K-14

<sup>166</sup> Final ASC, Section K.5.1.1, pp. K-14-15

<sup>167</sup> Final ASC, Section K.5.1.1, K-15

<sup>168</sup> Final ASC, Section K.5.1.1, p. K-15

1 Section 6.030.A of the MCZO allows the inclusion of conditions related to limiting hours of  
2 operation and environmental effects such as noise, vibration, glare, and odor. With the exception  
3 of hours of operation and odor, these issues are addressed in Section V.A of this Order (Noise  
4 Control Regulations), Section IV.C (Structural Standard), and Section IV.J (Scenic Resources),  
5 respectively. The Council has not identified any reasons to require conditions of approval  
6 limiting hours of operation or the need for any conditions addressing odor and believes that issues  
7 regarding noise, vibration and glare have been adequately addressed elsewhere in this Order.

8 *B. Establishing a special yard or other open space or lot area or dimension.*

9 Section 6.030.B of the MCZO allows the inclusion of conditions requiring special setbacks or  
10 other open space. The Council has previously adopted Condition IV.E.5 requiring the certificate  
11 holder to comply with the setback requirements of the MCZO. The Council has not identified a  
12 need for any additional setback or open space.

13 *C. Limiting the height, size, or location of a building or other structure.*

14 Section 6.030.C of the MCZO allows the inclusion of conditions limiting the height, size, or  
15 location of the proposed buildings or other structures. The Council has not identified a need for  
16 any restrictions on the height, size, or location of the proposed facility and does not adopt any  
17 additional conditions of approval.

18 *D. Designating the size, number, location and nature of vehicle access points.*

- 19 1. *Where access to a county road is needed, a permit from Morrow County Public*  
20 *Works department is required. Where access to a state highway is needed, a permit*  
21 *from ODOT is required.*
- 22 2. *In addition to the other standards and conditions set forth in this section, a Traffic*  
23 *Impact Analysis (TIA) will be required for all projects generating more than 400*  
24 *passenger car equivalent trips per day. A TIA will include trips generated by the*  
25 *project, trip distribution for the project, identification of intersections for which the*  
26 *project adds 30 or more peak hour passenger car equivalent trips, and level of service*  
27 *assessment, impacts of the project, and mitigation of the impacts. If the corridor is a*  
28 *State Highway, use ODOT standards.*

29 As discussed previously (see compliance with MCZO Section 3.010.I) the Applicant has  
30 provided a Traffic Impact Analysis (TIA)<sup>169</sup> in accordance with the requirements of MCZO  
31 Sections 3.010.I, 3.070.E, and 6.030.D. Based on the analysis of the information in the TIA, the  
32 Council finds that the facility satisfies the requirements of MCZO Section 6.030.D to provide a  
33 TIA and that there is no need for additional traffic analysis or the adoption of additional  
34 conditions.

35 *E. Increasing the amount of street dedication, roadway width, or improvements within the street*  
36 *right-of-way.*

- 37 1. *It is the responsibility of the landowner to provide appropriate access for emergency*  
38 *vehicles at the time of development.*

39 Section 6.030.E of the MCZO allows the inclusion of conditions related to roadway  
40 improvements and ensuring appropriate access to emergency vehicles. The Applicant proposes to  
41 provide sufficient emergency vehicle turnaround areas and there are two primary access points to  
42 the property that would allow emergency vehicle access.<sup>170</sup> The Council has not identified a need

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<sup>169</sup> Final ASC, Appendix U-1

<sup>170</sup> Final ASC, Section K.5.1.1, p. K-17, and Figure B-3

1 for any additional roadway improvements or access points and does not adopt any additional  
2 conditions of approval.

3 *F. Designating the size, location, screening, drainage, surfacing, or other improvement of a*  
4 *parking area or loading area.*

5 Section 6.030.F of the MCZO allows the inclusion of conditions related to parking or loading  
6 areas. The Council has adopted Condition IV.E.4.2, which requires the certificate holder to  
7 comply with all parking lot design requirements of the MCZO. The Council has not identified a  
8 need for any additional requirements related to parking or loading areas and does not adopt any  
9 additional conditions of approval.

10 *G. Limiting or otherwise designating the number, size, height, and lighting of signs.*

11 Section 6.030.G of the MCZO allows the inclusion of conditions related to signage. The  
12 Applicant proposes to limit signage to that necessary for deliveries and site circulation, and states  
13 that it will install the signage in conformance with the requirements of MCZO Section 4.070  
14 (discussed further below). The Council adopts Condition IV.E.4.5 requiring the certificate holder  
15 to install signage in accordance with the requirements of the MCZO Section 4.070.

16 *H. Limiting the location and intensity of outdoor lighting and requiring its shielding.*

17 Section 6.030.H of the MCZO allows the inclusion of conditions related to outdoor lighting.  
18 The Applicant proposes to limit exterior lighting to lighting necessary for site safety, and  
19 proposes to limit the impacts of that lighting through shielding or other mechanisms. Section  
20 IV.J of this Order (Scenic Resources) discusses shielding of exterior lighting in further detail and  
21 includes the adoption of Condition V.10.2, which requires the certificate holder to limit and  
22 shield exterior lighting. The Council has not identified a need for any additional requirements  
23 related to lighting.

24 *I. Requiring diking, screening, landscaping or another facility to protect adjacent or nearby*  
25 *property and designating standards for its installation and maintenance.*

26 Section 6.030.I of the MCZO allows the inclusion of conditions related to landscaping  
27 requirements. Adjacent uses to the proposed facility include Carty Reservoir (a wastewater pond)  
28 and the Boardman Power Plant, which are similar and compatible uses to the proposed facility.<sup>171</sup>  
29 The Council has not identified a need for any additional requirements related to landscaping.

30 *J. Designating the size, height, location and materials for a fence.*

31 Section 6.030.J of the MCZO allows the inclusion of conditions related to facility fencing.  
32 The Applicant proposes a chain link fence topped with three strands of barbed wire along the  
33 perimeter of the proposed facility.<sup>172</sup> This proposed fence complies with the requirements of the  
34 MCZO. The Council has not identified a need for any additional requirements related to fencing.

35 *K. Protecting and preserving existing trees, vegetation, water resources, wildlife habitat, or*  
36 *other significant natural resources.*

37 Section 6.030.K of the MCZO allows the inclusion of conditions related to protection and  
38 preservation of surrounding natural resources. Natural resources in and near the site boundary are  
39 discussed in depth in Sections IV.H of this Order (Fish and Wildlife Habitat), IV.I (Threatened  
40 and Endangered Species), V.B (Removal-Fill Law), and V.C (Groundwater Act). Each section  
41 includes the adoption of conditions to protect natural resources in the vicinity of the proposed

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<sup>171</sup> Final ASC< Section K.5.1.1, p. K-17

<sup>172</sup> Final ASC, Section K.5.1.1, p. K-18

1 facility, including mitigation requirements when impacts cannot be avoided. The Council has not  
2 identified any reason to adopt additional conditions of approval and believes that issues regarding  
3 protection of natural resources have been adequately addressed elsewhere in this Order.

4 *L. Other conditions necessary to permit the development of the County in conformity with the*  
5 *intent and purpose of this Ordinance and the policies of the Comprehensive Plan.*

6 Section 6.030.L of the MCZO allows the inclusion of other conditions related to the proposed  
7 facility's conformance with the MCZO and the Comprehensive Plan. Subsection L requires that  
8 the proposal conform to the policies of the MCCP. The Council has not identified any reason to  
9 adopt additional conditions of approval beyond those already included in this Order.

10 For the reasons discussed above, the Council finds that adoption of conditions related to the issues  
11 described in MCZO Section 6.030A. through 6.030.L, beyond those already discussed above and  
12 elsewhere in this Order, are not necessary to avoid a detrimental impact and to otherwise protect the best  
13 interests of the surrounding area or the County.

#### 14 **MCZO Section 6.040: Permit and Improvements Assurance**

15 *The Commission may require an applicant to furnish the County with a performance bond or*  
16 *such other form of assurance that the Commission deems necessary to guarantee development in*  
17 *accordance with the standards established and the conditions attached in granting a conditional*  
18 *use permit.*

19 The Council's Retirement and Financial Assurance standard, addressed in Section IV.G of  
20 this Order (Retirement and Financial Assurance), requires the Applicant to provide financial  
21 surety for the restoration of the facility site to a useful, non-hazardous state in the event of facility  
22 closure or cessation of construction. The Applicant does not propose to construct any  
23 infrastructure that would be owned by the public, and Morrow County has not requested any  
24 additional financial surety. The Applicant's compliance with the requirement of financial  
25 assurances, in accordance with EFSC standards, will also establish compliance with this Section.  
26 The Council finds that, subject to compliance with the conditions listed in Section IV.G of this  
27 Order, additional financial assurance as described in MCZO Section 6.040 is not necessary for the  
28 facility.

#### 29 **MCZO Article 4: Supplementary Provisions**

##### 30 **MCZO Section 4.010: Access**

##### 31 **MCZO Section 4.010.A: Minimum Lot Frontage Requirement**

32 *Every lot shall abut a street, other than an alley, for at least 50 feet, except on cul-de-sacs*  
33 *where the frontage may be reduced to 30 feet.*

##### 34 **MCZO Section 4.010.C: Emergency Vehicle Access**

35 *It is the responsibility of the landowner to provide appropriate access for emergency vehicles*  
36 *at the time of development. A dead-end private street exceeding one hundred-fifty (150) feet in*  
37 *length shall have an adequate turn around facility approved by the appropriate Fire Marshal or,*  
38 *if the Fire Marshal fails to review the private street, approval by the Building Official or his*  
39 *designee.*

##### 40 **MCZO Section 4.010.D: Easements and Legal Access**

41 *All lots must have access onto a public right of way. This may be provided via direct frontage*  
42 *onto an existing public road, a private roadway, or an easement. Minimum easement*



1 requirements to provide legal access shall be as follows: 1. 1000' or less, a minimum easement  
2 width of 20' 2. More than 1000', a minimum easement width of 40' 3. Parcels where 3 or more  
3 lots share an access (current or potential), a minimum easement of 60'.

4 The proposed facility site has approximately 5,000 feet of frontage on the private portion of  
5 Tower Road, and proposes to gain access to the facility site at two access points on Tower Road.  
6 The Applicant has provided a preliminary layout for the Carty facility, showing that sufficient  
7 turnaround area can be provided for emergency vehicles.<sup>173</sup> In addition, based on the parking lot  
8 design standards in MCZO Section 4.060, the Council has adopted Condition IV.E.4.2, which  
9 requires the certificate holder to provide emergency vehicle turnarounds in compliance with  
10 MCZO Section 4.060. The Applicant proposes to access the subject site via Tower Road;  
11 portions of this road are public and portions of the road are private. The Applicant proposes to  
12 access the public portions of Tower Road via the private portions of Tower Road.<sup>174</sup> The Final  
13 ASC includes a copy of the 150-foot wide access easement for the private portions of Tower  
14 road.<sup>175</sup>

15 Based on the review of the information in the ASC, and subject to compliance with the  
16 conditions discussed above, the Council finds that the facility complies with the requirements of  
17 MCZO Sections 4.010.A (Minimum Lot Frontage), 4.010.C (Emergency Vehicle Access), and  
18 4.010.D (Easements and Legal Access).

#### 19 **MCZO Section 4.040: Off-Street Vehicle Parking Requirements**

20 *Because vehicle parking facilities can occupy large amounts of land, they must be planned*  
21 *and designed carefully to use the land efficiently while maintaining the visual character of the*  
22 *community. At the time of construction, reconstruction, or enlargement of a structure, or at the*  
23 *time a use is changed in any zone, off-street parking space shall be provided as follows unless*  
24 *greater requirements are otherwise established. When the requirements are based on the number*  
25 *of employees, the number counted shall be those working on the premises during the largest shift*  
26 *at peak season. Fractional space requirements shall be counted as a whole space. Off-street*  
27 *parking spaces may include spaces in garages, carports, parking lots, and/or driveways if*  
28 *vehicles are not parked in a vehicle travel lane (including emergency or fire access lanes), public*  
29 *right-of-way, pathway or landscape area. The County may allow credit for "on-street parking",*  
30 *as provided in Section 4.050. For uses not specified in Table 4.040-1, parking requirements shall*  
31 *be determined by the use in Table 4.040-1 found to be most similar in terms of parking needs.*

32 Because a utility facility is not a listed use in the MG zoning district, a utility facility is not  
33 listed in the parking requirements table provided in the MCZO. The Department reviewed the  
34 uses listed in Table 4.040-1 and determined that the most similar use listed is "Industrial- Storage  
35 warehouse, manufacturing establishment, rail or trucking freight terminal." The Department  
36 identified this use as most similar because the proposed facility is an industrial-type use, and the  
37 two uses listed in the Industrial category in Table 4.040-1 are "Storage warehouse, manufacturing  
38 establishment, rail or trucking freight terminal," and "Wholesale establishment." The proposed  
39 facility would not involve wholesale activities, which generally generate more demand for  
40 parking than industrial uses not involving sales. Therefore the Council finds that the Carty  
41 facility is more similar to the industrial use not involving wholesale activities.

42 The "storage warehouse, manufacturing establishment, rail or trucking freight terminal" use  
43 requires a minimum of one space per employee on the largest shift. The Applicant expects to

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<sup>173</sup> Final ASC, Section K.5.1.3, pp. K-21-22

<sup>174</sup> Final ASC, Section K.5.1.3, p. K-22

<sup>175</sup> Final ASC, Appendix K-1

1 employ approximately 20-30 permanent staff, with approximately 20 employees on the day shift  
2 and five on the evening shift.<sup>176</sup> The Applicant proposes to provide 22 standard parking spaces  
3 and one Americans with Disabilities Act (ADA) parking space.<sup>177</sup> This amount of parking is  
4 sufficient to satisfy the parking standards because the MCZO would require 20 spaces and the  
5 Applicant proposes 22. The Council adopts Condition IV.E.4.2 requiring that the certificate  
6 holder provide the required parking spaces. The Council finds that, subject to compliance with the  
7 condition, the facility will meet the parking requirements of the MCZO Industrial-Storage  
8 warehouse category.

9 **MCZO Section 4.045: Bicycle Parking Requirement**

10 *This chapter also provides standards for bicycle parking, because children as well as adults*  
11 *need safe and adequate spaces to park their bicycles throughout the community. All uses subject*  
12 *to Design Review that are located within an Urban Growth Boundary shall provide bicycle*  
13 *parking in conformance with the following guidelines. Uses outside an Urban Growth Boundary*  
14 *are encouraged to provide bicycle parking based on these guidelines.*

15 **MCZO Section 4.045.A: Number of Parking Spaces**

16 *A minimum of two bicycle parking spaces is recommended for each use with greater than 10*  
17 *vehicle parking spaces.*

18 MCZO Section 4.045 does not require any bicycle parking, because the subject site is located  
19 outside of an urban growth boundary, but does encourage the Applicant to provide bicycle  
20 parking. The Applicant states that PGE has an internal policy to support alternative  
21 transportation and provide opportunities for employees to bicycle to work, and therefore expects  
22 to provide some bicycle parking.<sup>178</sup>

23 **MCZO Section 4.060: Design and Improvement Standards - Parking Lots**

24 This section requires that parking areas have durable and dustless surfaces, that lighting not  
25 shine or create glare affecting any residential dwelling or zone, that parking spaces along the  
26 outer boundaries of parking areas maintain a five foot setback from property lines, and be  
27 contained by a curb a minimum of four inches high; this section also provides minimum  
28 dimensions for parking spaces and drive aisles. The Applicant states that these standards can be  
29 met and that the detailed design of the parking lot would be submitted to Morrow County for  
30 review and approval at the time of construction.<sup>179</sup> The Council adopts Condition IV.E.4.2,  
31 which would require that the certificate holder comply with the parking lot standards provided by  
32 MCZO section 4.060.

33 **MCZO Section 4.070: Sign Limitations and Regulations**

34 *In addition to sign limitations and regulations set forth in a specific zone, the following*  
35 *limitations and regulations shall apply to any sign hereafter erected, moved or structurally*  
36 *altered within the jurisdiction of the County. In addition to the standards and limitations set forth*  
37 *in this Ordinance, signs shall be installed in accordance with applicable regulations of state and*  
38 *federal agencies. No sign will hereafter be erected, moved or structurally altered without being in*  
39 *conformity with the provisions of this Ordinance. Official traffic control signs and instruments of*  
40 *the state, county or municipality are exempt from all provisions of this Ordinance.*

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<sup>176</sup> Final ASC, Appendix U-1, p. 13

<sup>177</sup> Final ASC, Section K.5.1.3, p. K-23

<sup>178</sup> Final ASC, Section K.5.1.3, p. K-24

<sup>179</sup> Final ASC, Section K.5.1.3, p. K-24

1 This section provides standards for signage; signage would be limited to wayfinding signage  
2 for deliveries and site circulation.<sup>180</sup> The Applicant proposes to submit details of needed signage  
3 to Morrow County prior to construction of the proposed facility for approval, and states that all  
4 signage would meet the standards of this code. The Council adopts Condition IV.E.4.5, which  
5 requires the certificate holder to comply with the standards provided by Morrow County Zoning  
6 Ordinance Section 4.070.

7 **Morrow County Solid Waste Management Ordinance (MCSWMO)**

8 **MCSWMO Section 3.000: Purpose and Policy**

9 *To protect the health, safety and welfare of the people of Morrow County...it is declared to be the*  
10 *policy of the County to regulate solid waste management by:*

11 *2. Providing for the safe and sanitary accumulation, storage, collection, transportation and*  
12 *disposal of solid waste;*

13 *5. Prohibiting accumulation of waste or solid waste on private property in such manner as to*  
14 *create a public nuisance, a hazard to health or a condition of unsightliness, and to provide for the*  
15 *abatement of such conditions where found.*

16 **MCSWMO Section 5.000: Public Responsibilities**

17 *Public responsibility requires the citizens of Morrow County comply with items two and five of*  
18 *Section 3.000 Purpose and Policy of this Ordinance.*

19 **MCSWMO Section 5.010: Transportation of Solid Waste**

20 *No person shall transport or self-haul, as defined in the Solid Waste Management Plan, solid*  
21 *waste on a public road unless such waste or solid waste is covered and secured. "Covered and*  
22 *Secured" includes...*

23 **MCSWMO Section 5.020: Accumulation, Littering and Disturbance of Solid Waste Prohibited**

24 *No person shall accumulate or store wastes in violation of the Morrow County Nuisance*  
25 *Ordinance or in violation of regulations of the Oregon Littering Provisions (ORS 164.775 - 805). No*  
26 *unauthorized person shall remove the lid from any solid waste container or collect, disturb or scatter*  
27 *solid waste stored in the container or deposit solid waste into the container.*

28 These criteria require a waste generator to employ a third-party waste removal service or to cover  
29 and secure all loads of solid waste during transport. During construction and operation of the Carty  
30 facility, all solid waste generated would be transported from the site by a waste removal contractor or  
31 construction subcontractor. On June 24, 2011, Morrow County submitted comments to the  
32 Department requesting that the Council adopt a condition of approval requiring the Applicant to  
33 comply with Section 5.000 of the Morrow County Solid Waste Management Ordinance and to engage  
34 a licensed waste hauler to facilitate timely removal of waste from the Carty energy facility site, or  
35 otherwise comply with the requirements of the Waste Management Ordinance.<sup>181</sup>

36 The Applicant's proposal is consistent with both the requirements of the Morrow County Solid  
37 Waste Management Ordinance and condition of approval requested by Morrow County. The Council  
38 adopts Condition IV.E.4.7, which requires the certificate holder to comply with Section 5.000 of the  
39 Morrow County Solid Waste Management Ordinance and to engage a licensed waste hauler to

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<sup>180</sup> Final ASC, Section K.5.1.3, p. K-24

<sup>181</sup> CGS-0087, Morrow County Comment on Carty Generating Station Application for Site Certificate - Comments Exhibit V Solid Waste and Wastewater (June 30, 2011)

1 facilitate timely removal of waste from the Carty facility site or otherwise comply with the provisions  
2 of the Solid Waste Management Ordinance.

3 The proposed facility would produce both liquid and solid waste. The Applicant proposes to send  
4 all process wastewater to Carty Reservoir or to an evaporation pond. Project construction and  
5 retirement would produce larger quantities of solid waste than facility operation. Solid waste would  
6 be recycled or reused as much as practicable with the balance disposed in a solid waste landfill. The  
7 Applicant does not propose to allow waste to accumulate on the subject property or to dispose of  
8 waste in containers which the Applicant is not authorized to use. The Council finds that, subject to  
9 compliance with the Condition IV.E.4.7, the facility meets the requirements of Morrow County Solid  
10 Waste Management Ordinance, Sections 5.000, 5.010, and 5.020.

11 **MCSWMO Section 5.030: Responsibility for Proper Disposal of Hazardous Waste**

12 *The owner, operator, or occupant of any premise, business, establishment, or industry shall be*  
13 *responsible for the satisfactory and legal disposal of all hazardous solid waste generated or*  
14 *accumulated by them on the property. All hazardous solid wastes shall be disposed of at an*  
15 *appropriate solid waste disposal site licensed to receive such waste, or in a manner consistent with*  
16 *Department of Environmental Quality regulations. It shall be unlawful for any person to dump,*  
17 *deposit, bury, or allow the dumping, depositing or burying of any hazardous solid waste onto or*  
18 *under the surface of the ground or into the waters of the state, except at a State permitted solid or*  
19 *hazardous waste disposal site.*

20 The application states that hazardous waste generated at the proposed facility could include oil  
21 rags, spent batteries, and equipment and vehicle maintenance solvents and oils. Chemicals used to  
22 clean piping systems and the heat recovery steam generators (HRSGs) are also proposed to be  
23 managed as hazardous waste. All hazardous solid wastes would be disposed of at an appropriate  
24 disposal site licensed to receive such waste and in a manner consistent with DEQ regulations. The  
25 Applicant proposes to obtain all applicable permits or registrations associated with hazardous waste  
26 generated on-site.<sup>182</sup> The Council adopts the conditions in Section IV.D (Soil Protection) and  
27 Section IV.N (Waste Minimization) regarding storage and management of solid and hazardous  
28 wastes. The Council finds that, subject to compliance with the conditions in Section IV.D and IV.N  
29 of this Order, the facility meets the requirements of Morrow County Solid Waste Management  
30 Ordinance, Section 5.030.

31 **MCSWMO Section 5.040: Open Burning**

32 *Open burning of any waste materials, including on agricultural lands, that normally emit dense*  
33 *smoke, noxious odors, or that create a public nuisance is prohibited.*

34 The Applicant does not propose any open burning during construction or operation.<sup>183</sup>

35 **Morrow County Code Enforcement Ordinance (MCCEO)**

36 **MCCEO Section 7: Noise as a Public Nuisance**

37 This section of the Morrow County code refers to OAR Chapter 340, Division 035, which is  
38 discussed in detail in Section V.A, Noise Control Regulations, of this Order. The Applicant proposes  
39 to house the proposed generators within structures which provide noise attenuation. In addition, the  
40 distance between the proposed facility and the nearest sensitive receptors is sufficient that noise levels

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<sup>182</sup> Final ASC, Section K.5.1.3, p. K-31

<sup>183</sup> Final ASC, Section K.5.1.3, p. K-31

1 for the proposed facility fall within those established as acceptable by the Oregon DEQ.<sup>184</sup> The  
2 Council adopted several conditions of approval in Section V.A related to compliance with OAR  
3 chapter 340, division 035. Based on the noise analysis in Section V.A. and subject to compliance  
4 with the conditions in that section, the Council finds that the facility would comply with the  
5 requirements of Section 7 of the Morrow County Code Enforcement Ordinance.

## 6 **Morrow County Weed Control Ordinance (MCWCO)**

### 7 **MCWCO Section 7: Duties of Owners and Occupants**

8 *D. Any owner or occupant of land identified as having “A” list weed(s) on their property should*  
9 *submit a Weed Management Plan for their property within 45 days of identification of the existence of*  
10 *such weeds. The Weed Management Plan shall comply with requirements as established by the*  
11 *Morrow County Weed Control District Advisory Board.*

12 The Oregon Department of Agriculture (ODA) has identified noxious weeds occurring in Gilliam  
13 and Morrow Counties. ODA has designated two categories of noxious weeds, “A” list species and  
14 “B” list species. Weeds designated on the “A” list are species of known economic importance which  
15 occur in the state in small enough infestations to make eradication or containment possible or are rare  
16 species not known to occur in the state but which have a presence in neighboring states making future  
17 occurrence seem possible. Weeds on the “B” list are weeds of economic importance which are  
18 regionally abundant, but may have limited distribution in some areas.<sup>185</sup>

19 The Carty Field Survey Report identifies noxious weeds observed at the Carty facility site, which  
20 include yellow star thistle and broadleaf pepperweed, both of which are on the ODA B list. No “A”  
21 list weeds were observed.<sup>186</sup> The Applicant has prepared a Revegetation and Noxious Weed Control  
22 Plan which includes revegetation methods for disturbed areas, monitoring procedures, and remedial  
23 actions, and would submit the Plan to the Morrow County Weed Control Board and Gilliam County  
24 Weed Control Officer for review and approval prior to construction.<sup>187</sup> Morrow County submitted  
25 comments on the ASC requesting that the Council adopt a condition of approval requiring the  
26 Applicant to comply with all provisions of the Morrow County Weed Control Ordinance and consult  
27 with the Weed Control Supervisor, as proposed.<sup>188</sup>

28 Implementation of the requirements of the Revegetation and Noxious Weed Control Plan are  
29 discussed in Section IV.D (Soil Protection). The Council has adopted Condition IV.D.2.6, which  
30 requires that the certificate holder consult with the Morrow County Weed Control Supervisor and  
31 obtain approval of a final Revegetation and Noxious Weed Control Plan prior to construction.

32 Because the Applicant has not identified any “A” list weeds on the subject property the  
33 requirements of the Weed Control Ordinance, Section 7.D, do not currently apply; however, because  
34 the Applicant has prepared a Revegetation and Noxious Weed Control Plan, and proposes to

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184 Final ASC, Section K.5.1.3, p. K-32

185 Oregon Department of Agriculture Noxious Weed Classification System, 2011, p. 6

186 Final ASC, Appendix P-1, p. 4-7

187 Final ASC, Section K.5.1.3, p. K-32

188 CGS-0088, Morrow County Comment on Carty Generating Station Application for Site Certificate – Comments Exhibit K Land Use (June 30, 2011). In its comments on the DPO (CGS-0115), Morrow County pointed out that the condition proposed in the DPO (IV.E.4.4) requiring compliance with Morrow County’s Weed Control Ordinance was very similar to recommended Condition IV.D.2.6 in the Soil Protection section of this Order. The Department recommends that the Council concur with Morrow County that the two conditions were similar and had the same intent. Recommended Condition IV.E.4.4 as presented in the DPO has been deleted and recommended Condition IV.D.2.6 has been revised to incorporate Morrow County’s comments.

1 coordinate with the Morrow County Weed Control Board for approval of such plan, these  
2 requirements have been met. For these reasons, and subject to compliance with Condition IV.D.2.6,  
3 the Council finds that the requirements of the Morrow County Weed Control Ordinance, Section 7,  
4 are met.

5 ***IV.E.1.a.ii. Morrow County Comprehensive Plan (MCCP)***

6 **Citizen Involvement**

7 *1. To provide a citizen involvement program that insures opportunity for citizens to participate in*  
8 *all phases of the planning process.*

9 Through the EFSC Application for Site Certificate process, citizens have the opportunity to comment  
10 on the proposed project and to present written and/or oral testimony on the Draft Proposed Order at a  
11 public hearing. Notification of nearby property owners and the public at large is provided at various  
12 stages of the EFSC review process through direct mailings, newspaper notices, public information  
13 meetings, and website updates. Citizens who participate in the public hearing process also have the  
14 opportunity to request a contested case on the Proposed Order. This process promotes public involvement  
15 and is consistent with this provision of the MCCP.

16 *2. To conduct period community and county-wide surveys to ascertain public opinion and collect*  
17 *information; with distribution of findings to affected citizens.*

18 This policy requires the local governing body to periodically survey residents to ascertain public  
19 opinion; it does not provide project-specific survey requirements of a specific survey schedule, and is not  
20 directly applicable to this proposal.

21 **General Land Use Policies**

22 *3. To continue efforts to identify lands suitable for development and areas where development*  
23 *should be restricted.*

24 This is a general policy requiring that the governing body identify areas where development is  
25 appropriate and areas where development is not appropriate; this is not a criterion of approval for the  
26 proposed project. Morrow County has done this by establishing zoning districts which guide development  
27 on lands within the county. The Applicant has provided an assessment of the suitability of the proposed  
28 site for development of an energy facility; this assessment is evaluated throughout this document.

29 *4. To continually monitor the land requirements and locations for projected economic*  
30 *development and population growth.*

31 This policy requires Morrow County to plan for economic development. This policy does not provide  
32 a criterion of approval for the proposed project; however, the proposed project is consistent with this  
33 policy and with an overall goal of economic development. The proposed Carty Generating Station would  
34 provide employment opportunities in the short term as a result of increased construction activity and also  
35 in the long term through permanent operations positions.<sup>189</sup>

36 **Agricultural Policies**

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

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<sup>189</sup> Final ASC, Section K.5.1.4, p. K-33

1 The proposed energy facility would impact agricultural lands. The lands that would be impacted are  
2 only considered high-value farmland if irrigated, and for much of the subject area irrigation is not  
3 available.<sup>190</sup> However, because approximately 66 acres of land zoned EFU would be impacted, a Goal 3  
4 exception is required. Impacts to agricultural lands and a Goal Exception Analysis are below, in Section  
5 IV.E.2, Applicable Statewide Planning Goals, Rules, and Statutes.

6 **Economic Policies**

7 *1. To diversify, stabilize and improve the economy of the County.*

8 The proposed project would likely have a positive effect on the economy in Morrow County. The  
9 proposed energy facility would employ up to 350 individuals during the busiest construction phase.<sup>191</sup>  
10 During construction the proposed energy facility would create direct employment and would also have  
11 secondary economic effects due to workers spending income in the area. After construction is complete,  
12 the energy facility would employ between 20 and 30 workers throughout the 30-year life of the proposed  
13 facility.<sup>192</sup> This is consistent with M CCP Economic Policy 1.

14 *2. To coordinate all planning programs and decisions concerning economical base resources in*  
15 *the County and to maintain an economic-environmental balance in all resource management and*  
16 *allocation decisions.*

17 This policy emphasizes the importance of balancing resource management with economic  
18 development. Development of the proposed Carty facility is consistent with this policy because it would  
19 bring a new economic generator to the area, and this development would be located to take advantage of  
20 existing infrastructure and thereby minimize impacts from new development. This policy particularly  
21 emphasizes the importance of considering both economic and environmental concerns in the decision-  
22 making process; because the Applicant has sought land use approval through the EFSC process, the  
23 Applicant is subject to the Council's rules, which require significant consideration of environmental  
24 concerns in the siting process.

25 *3. To require that development plans are based on the best economic information available and*  
26 *to take into account effects on the existing economy, available resources, labor market factors,*  
27 *transportation and livability.*

28 The Applicant has provided an assessment of economic factors, the local labor market, transportation  
29 impacts and other impacts to public services in the Final ASC, Exhibit U. The Applicant expects that the  
30 proposed energy facility would not have significant adverse impacts on public services including public  
31 education, medical care, police, fire, or transportation. The Applicant does expect that the proposed  
32 facility would have a positive impact on employment and the local economy.<sup>193</sup>

33 *9. To minimize high noise levels, heavy traffic volumes and other undesirable effects of heavy*  
34 *commercial and industrial developments.*

35 The Applicant submitted analyses of projected noise levels and of expected traffic impacts. The  
36 Applicant expects limited, short-term traffic effects to arise from the construction of the proposed Carty  
37 Generating Station. The Applicant proposes to employ several traffic demand management strategies  
38 during construction to alleviate overall traffic to the project site.<sup>194</sup> The Applicant expects the proposed

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<sup>190</sup> Final ASC, Table K-2, p. K-8

<sup>191</sup> Final ASC, Section U.4.1.9, p. U-20

<sup>192</sup> Final ASC, Section U.4.1.9, p. U-20

<sup>193</sup> Final ASC, Section U.1, p. U-1

<sup>194</sup> Final ASC, Section K.5.1.4, p. K-34

1 energy facility to comply with the applicable noise limits set by the Oregon DEQ.<sup>195</sup> Compliance with site  
2 certificate conditions and DEQ noise limits are consistent with the MCCP policy to minimize high noise  
3 levels and traffic impacts from industrial developments.

4 *10. To expand job opportunities and reduce unemployment, reduce outmigration of youth, and*  
5 *accommodate the growth of the County labor force.*

6 *11. To maximize the utilization of local manpower as job opportunities increase.*

7 The labor force associated with the development of the proposed Carty Generating Station is expected  
8 to average approximately 245 workers over the course of construction. The Applicant proposes to utilize  
9 the local employment base to the extent practical. In addition, the work force associated with the on-going  
10 operation of the Station would provide for approximately 20-30 daily shift jobs.<sup>196</sup> This projected job  
11 creation is consistent with this MCCP policy.

## 12 **Housing Policies**

13 *5. The County will encourage sponsors of major construction projects in the area to help the*  
14 *County plan for and handle temporary populations of construction employees.*

15 The Final ASC includes an analysis of projected housing needs for construction employees.<sup>197</sup> The  
16 Applicant proposes to employ a regional workforce, minimizing the amount of a transient workforce and  
17 therefore temporary housing demand. Where a local workforce is not sufficient for construction needs, the  
18 Applicant proposes to seek available rental housing in the surrounding communities.<sup>198</sup> This policy of the  
19 MCCP encourages the Applicant to coordinate with Morrow County in planning for employee housing  
20 but does not require such coordination, and therefore the Applicant's analysis of housing needs is  
21 consistent with this policy.

## 22 **Public Facilities and Services**

23 *A. Planning and implementation of public facilities and service programs necessary for the public*  
24 *health, safety and welfare shall guide and support development at levels of service appropriate for,*  
25 *but not limited to, the needs of the development to be served.*

26 *C. Public facilities and services for rural areas shall be provided at levels appropriate for rural*  
27 *use.*

28 The Final ASC includes an analysis of available public facilities and projected impacts to those  
29 facilities and services as a result of development of the proposed energy facility. This analysis, which is  
30 discussed in further detail in Section IV.M (Public Services) of this document, indicates that adequate  
31 public facilities and services would be available during and after construction of the proposed facility.<sup>199</sup>

32 *F. All utility lines and facilities shall be located on or adjacent to existing public or private right-*  
33 *of-way or through generally unproductive lands to avoid dividing existing farm units.*

34 The Applicant proposes to either locate the proposed transmission line entirely within the existing  
35 Boardman to Slatt transmission right-of-way, or to widen the existing right-of-way on the eastern and  
36 western ends and the transmission route. Both of these proposals would be consistent with this policy  
37 because areas incorporated into the right-of-way by widening would necessarily be adjacent to the

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<sup>195</sup> Final ASC, Section K.5.1.3, p. K-32

<sup>196</sup> Final ASC, Section U.4.1.9, p. U-20

<sup>197</sup> Final ASC, Section U.4.1.7, p. U-19

<sup>198</sup> Final ASC, Section K.5.1.4, p. K-35

<sup>199</sup> Final ASC, Section K.5.1.4, p. K-35



1 existing right-of-way as required by this policy. For this reason, the Council finds that the transmission  
2 line route would be consistent with this MCCP policy.<sup>200</sup>

3 *M. Morrow County should utilize development review processes to ascertain the impact of large*  
4 *projects on County and community services and should demand the sponsor to participate in meeting*  
5 *associated expenses.*

6 The Applicant has chosen to obtain land use approval through the EFSC approval process; therefore  
7 the Applicant would not be subject to the Morrow County development review process. The EFSC  
8 approval process includes review of the proposal using Morrow County policies and standards to  
9 ascertain the impact of the proposed energy facility on county and community services. Condition  
10 IV.E.4.6 would require the Applicant to obtain all local permits from Morrow and Umatilla counties, as  
11 applicable, and to pay all associated fees. By paying local permitting fees the Applicant will participate in  
12 meeting review expenses, as required by this policy.

### 13 **Schools**

14 *1. Morrow County will work with the school district and sponsors of future large scale*  
15 *developments to ensure adequate school facilities for present and potential residents.*

16 The Final ASC includes an analysis of the availability of public education in the project area and  
17 projected impacts to that service. This analysis shows that the three school districts located in the region  
18 of the proposed Carty Generating Station (the Boardman, Ione and Arlington School Districts) each have  
19 capacity to address the expected increase in student enrollment as a result of operational or construction-  
20 related employees.<sup>201</sup> Therefore, school facilities are expected to be adequate to accommodate the Carty  
21 facility, in accordance with this policy.

### 22 **Utilities**

23 *A. Programs should be continued to develop additional sources of electric and other power*  
24 *sources to assure adequate service to the County area and its projected growth.*

25 The Applicant states that the proposed Carty Generating Station would be developed to meet needs  
26 under PGE's Integrated Resources Plan, which is required by the Oregon Public Utility Commission  
27 (PUC) in order to ensure adequate future service.<sup>202</sup> This intent is consistent with this MCCP policy.

28 *B. Power substations should be centrally located to the service area and as much as possible to*  
29 *assure economic service and facilitate energy conservation.*

30 The Applicant proposes a substation for the purpose of connecting the Carty facility to the larger  
31 transmission system via the Boardman to Slatt transmission line. The proposed substation would be  
32 located to provide an efficient connection to the Boardman to Slatt transmission line.<sup>203</sup> This is consistent  
33 with this MCCP policy of locating substations to facilitate energy conservation.

34 *C. Power substations should be planned and designed in a manner which will minimize negative*  
35 *environmental impacts on nearby properties and the public as a whole.*

36 By locating the proposed facility adjacent to an existing utility facility and by using an existing  
37 transmission line or using existing or widened right-of-way (ROW) for a proposed new transmission line,  
38 the Applicant has designed the proposed facility, transmission line, and switchyard to minimize impacts,

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<sup>200</sup> Final ASC, Section K.5.1.4. p. K-35

<sup>201</sup> Final ASC, Section K.5.1.4, p. K-35

<sup>202</sup> Final ASC, Section K.5.1.4, p. K-36

<sup>203</sup> Final ASC, Section K.5.1.4, p. K-36

1 consistent with this MCCP policy.<sup>204</sup> The Applicant has prepared analyses of projected environmental  
2 impacts including impacts to habitat, fish and wildlife species, and water resources. Mitigation of these  
3 impacts is addressed throughout this document in Sections IV.H (Fish and Wildlife Habitat), IV.I  
4 (Threatened and Endangered Species), and V.B (Removal/Fill Law).

5 **Solid Waste**

6 *A. Solid waste disposal shall be accomplished in conformance with City and County solid waste*  
7 *management plans and applicable regulations.*

8 *B. No solid wastes shall be disposed of in the County without prior approval by the County. No*  
9 *such approval shall be granted until all environmental and economical considerations have been*  
10 *satisfied and the protection of the County, its' residents' and its' economy assured.*

11 *C. Recycling shall be encouraged.*

12 In Section IV.N of this Order (Waste Minimization), the Council discusses the Applicant's proposed  
13 solid waste management methods and adopts Conditions IV.N11 and IV.N.2.2, which require the  
14 certificate holder to dispose of solid waste in conformance to a waste management plan and to remove  
15 waste from the site for disposal in an approved landfill facility, in conformance to these policies.  
16 Condition IV.E.4.8 also would require the certificate holder to recycle in conformance with DEQ  
17 requirements and report this recycling to the benefit of the Morrow County watershed.<sup>205</sup> The Applicant  
18 proposes to recycle as much as possible, both during construction and operation of the proposed facility,  
19 as required by this policy and the conditions of approval.<sup>206</sup> Based on this reasoning, the reasoning  
20 contained in Section IV.N of this DPO, and compliance with the conditions in Section IV.N. of this  
21 Order, the Council finds that the facility meets the requirements of the MCCP Solid Waste Policies A-C.

22 **Energy Policies**

23 *1. To encourage renewable and/or efficient energy systems, design, siting and construction*  
24 *materials in all new development and improvements in the County.*

25 The proposed Carty Generating Station would be an efficient combined cycle combustion turbine  
26 generating facility, and would provide reliable base load electrical power using natural gas-fired turbines.  
27 The Applicant proposes to minimize internal energy use for the Carty Generating Station through building  
28 and mechanical operation design features, including heat and energy recovery. The Applicant also  
29 proposes to minimize energy use at the proposed facility by sharing resources with the existing Boardman  
30 Plant. Construction energy usage is proposed to be mitigated through the use of extensive on-site material  
31 recycling programs and careful use of resources.<sup>207</sup> For these reasons, the proposed Carty facility would  
32 comply with Energy Policy 1 from the MCCP, and the Council finds that this policy is met.

33 Based on the findings above in Section IV.E.1, the Council finds that the energy facility, switchyard,  
34 and transmission line comply with the substantive applicable criteria recommended to the Council by  
35 Morrow County with the exception of MCZO Sections 3.070 and 3.010.D. Morrow County Zoning  
36 Ordinance Section 3.070 provides permitted uses in the General Industrial (MG) zone; the proposed use is  
37 not listed. Section 3.010.D provides that a commercial utility facility for the purposes of generating power  
38 for public use by sale may not preclude more than 12 acres of high-value farmland from agricultural use  
39 or 20 acres of other farmland from agricultural use; the proposed facility layout would permanently  
40 impact roughly 66 acres of non-high-value farmland from agricultural use. For these reasons, the Council

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204 Final ASC, Section K.5.1.4, p. K-36

205 As defined in OAR 340-090-0100(41)

206 Final ASC, Section K.5.1.3, p. K-37

207 Final ASC, Section K.5.1.4, p. K-37

1 must evaluate the proposed facility for compliance with the statewide planning goals, including an  
2 exception to Goal 3. This analysis is below in section IV.E.2, Applicable Statewide Planning Goals,  
3 Rules, and Statutes.

4 **IV.E.1.b. Gilliam County’s Applicable Substantive Criteria**

5 The proposed Carty Generating Station and switchyard are located entirely within Morrow County;  
6 only a portion of the proposed new transmission line is located in Gilliam County. The proposed  
7 transmission line that is located in Gilliam County is located entirely on land zoned Exclusive Farm Use  
8 (EFU). The proposed new 500-kV transmission line would be located alongside the existing 500-kV  
9 Boardman to Slatt transmission line. The existing line is approximately 18 miles long, and is located in  
10 right-of-way that is approximately 700 feet wide for the first 15 miles of the portion in Gilliam County,  
11 and narrows to 525 feet for the last 1.5 miles before reaching the Slatt substation. The Applicant states  
12 that the right-of-way could be widened to 700 along the westernmost three miles of the route. The  
13 proposed transmission line would be located within that existing right-of-way on towers less than 200 feet  
14 in height.<sup>208</sup>

15 **IV.E.1.b.i. Gilliam County Zoning Ordinance (GCZO)**

16 **GCZO Section 4.020 EFU Exclusive Farm Use**

17 *Section 4.020.D. Conditional Uses Permitted*

18 *D. Conditional Uses Permitted. In the EFU Zone, the following uses and their accessory uses may be*  
19 *permitted if determined by the Planning Commission during a public hearing to satisfy the applicable*  
20 *criteria and procedures set forth in Section 7.040. The appropriate review criteria are identified for each*  
21 *use.*

22 *29. Utility facilities necessary for public service subject to the provisions of ORS 215.275 and OAR*  
23 *660-033-0130(16). No local legislative criteria shall be applied for consideration of establishing a utility*  
24 *facility necessary for public service.*

25 The proposed transmission line falls into this category, as discussed below in Section IV.E.3,  
26 Applicable Statewide Planning Goals, Rules and Statutes. Because Gilliam County specifically identifies  
27 in the GCZO that no local legislative criteria shall be applied to applications for utility facilities necessary  
28 for public service, local criteria of approval for conditional uses do not apply to this project, even though  
29 this use is identified as a conditional use.

30 Because the only part of the proposed project that is located in Gilliam County is the transmission  
31 line, which is considered a utility facility necessary for public service, and no local legislative criteria of  
32 approval apply to this use, no further provisions of the GCZO apply to this proposal. The proposed  
33 transmission line’s conformance to ORS 215.275 is discussed below. The Council finds that the proposed  
34 facility would comply with the requirements of the GCZO.

35 **IV.E.1.b.ii. Gilliam County Comprehensive Plan (GCCP)**

36 **GCCP Agricultural Land Use Comprehensive Plan Policies**

37 *1. It shall be the policy of Gilliam County to maximize the preservation and protection of Commercial*  
38 *Agriculture in the County, and to provide maximum incentives for such, through the application of zoning*  
39 *in compliance with ORS 215 to all lands identified as “Agricultural Lands”. However, this policy shall*  
40 *not be construed to, nor is it intended to exclude non-farm uses that are authorized by state statutes on*  
41 *Lands zoned as Exclusive Farm Use (EFU), and are otherwise consistent with the Plan.*

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<sup>208</sup> Final ASC, Section K.6.1, p. K-38

1 A) As defined by Statewide Planning Goal No. 3 and by OAR 660-033-0010, "Agricultural Lands"  
2 are those lands classified by the U.S. Natural Resource Conservation Service (NRCS) as predominantly  
3 Class I-VI soils and other lands in different soil classes, which are determined suitable for farm use,  
4 taking into consideration soil fertility, suitability for grazing, climatic conditions, and availability of  
5 water for irrigation, existing land use patterns, technological and energy inputs required, and accepted  
6 farming practices. Lands in other classes, which are necessary to permit farm practices to be undertaken  
7 on adjacent or nearby lands, shall be included as Agricultural Land in any event.

8 B) Commercial Agricultural enterprises shall consist of farm operations which will:

9 a) contribute in a substantial way to the area's existing agricultural economy, and

10 b) help maintain agricultural processors and established farm markets.

11 This policy emphasizes the importance of agricultural activities in Gilliam County and encourages  
12 uses that are not incompatible with agricultural uses. The proposed transmission is a permitted use on  
13 agricultural land, authorized by state statute, and would not be incompatible with agricultural uses.  
14 Gilliam County provided comments on the ASC which state that Gilliam County would consider the  
15 project consistent with this GCCP policy if it would help sustain or increase available power and keep it  
16 reasonably priced. The proposed transmission line would connect a new electrical generating facility (the  
17 Carty energy facility) to the electrical grid, and thereby provide a pathway for additional available power  
18 to reach consumers. There is not a method to ensure that the availability of this additional power would  
19 keep electricity prices reasonable; however, increased availability of a commodity reduces prices or keeps  
20 prices low.

21 2. With the exception of the General Industrial and future Rural Residential lands indicated on the  
22 Comprehensive Plan map and the lands included within Urban Growth Boundaries, all lands in Gilliam  
23 County are hereby defined as agricultural lands for purposes of applying policies adopted by this  
24 Comprehensive Plan.

25 The proposed transmission line would be located on lands that are considered agricultural lands as  
26 defined by this policy. As is discussed further in Section IV.E.3, Applicable Statewide Planning Goals,  
27 Rules and Statutes, below, the proposed transmission line would be located adjacent to an existing  
28 transmission line in existing right-of-way, which would minimize the proposed transmission line's  
29 impacts to agricultural lands, consistent with the above GCCP policy.<sup>209</sup>

30 3. In order to preserve the maximum level of agriculture in the County, all "Agricultural Lands"  
31 shall be so designated and shall be zoned in accordance with the provisions of ORS 215.283. Further,  
32 those non-farm uses permitted by ORS 215.283(1) shall be permitted uses, and those non-farm uses  
33 permitted by ORS 215.283(2) may be allowed as conditional uses subject to ORS 215.296.

34 This policy is generally advisory and Gilliam County has complied with this policy by establishing  
35 EFU zoning and a list of permitted and conditionally permitted uses for that zone.

36 For the reasons discussed above, the Council finds that the transmission line complies with the  
37 Agricultural Land Use Comprehensive Plan policies of Gilliam County.

#### 38 **IV.E.2. APPLICABLE STATEWIDE PLANNING GOALS, RULES AND STATUTES**

39 For the reasons discussed above, the Council finds that the facility complies with the applicable  
40 substantive criteria recommended to the Council by Morrow and Gilliam Counties with the exception of  
41 MCZO sections 3.010.D and 3.070, which provide a maximum acreage for non-farm development in an  
42 EFU zone, and permitted uses for the General Industrial (MG) zone, respectively. Because the proposed  
43 facility does not comply with all applicable local land use criteria, the Council must determine, under

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<sup>209</sup> Final ASC, Section K.6.1.3. p. K-43

1 ORS 469.504(1)(b)(B), whether the proposed facility “otherwise [complies] with the applicable statewide  
2 planning goals.”

3 **IV.E.2.a. Statewide Planning Goal 3 Exception**

4 MCZO Sections 3.010.D and 3.070 pertain to uses located in an EFU zone. For a use located within  
5 an Exclusive Farm Use zone, the applicable statewide planning goal is Goal 3, which is the State’s  
6 Agricultural Lands goal. Goal 3 states:

7 ***To preserve and maintain agricultural lands.***

8 *Agricultural lands shall be preserved and maintained for farm use, consistent with existing and future*  
9 *needs for agricultural products, forest and open space and with the state's agricultural land use policy*  
10 *expressed in ORS 215.243 and 215.700.<sup>210</sup>*

11 Consistent with Goal 3, Morrow County has designated the Exclusive Farm Use zone to preserve  
12 agricultural lands. Under Goal 3, non-farm uses are permitted within a farm use zone as provided under  
13 ORS 215.283. To find compliance with ORS 215.283, the Council must determine whether the proposed  
14 energy facility and its related and supporting facilities are uses that fit within the scope of the uses  
15 permitted on Exclusive Farm Use land described in ORS 215.283(1), (2) or (3).

16 The Council finds that the proposed Carty Generating Station’s principal use is a “commercial utility  
17 facility for the purpose of generating power for public use by sale” that is allowable under ORS  
18 215.283(2)(g). The Council also finds that the principal use includes the combined-cycle generating  
19 plant, evaporating ponds, and proposed switchyard and that the 500-kV transmission line is a utility  
20 facility necessary for public service that is allowable under ORS 215.283(1)(d), as discussed below.

21 ORS 215.283(2)(g) authorizes “commercial utility facilities for the purpose of generating power for  
22 public use by sale” on land in an Exclusive Farm Use zone. OAR Chapter 660, Division 33, contains the  
23 Land Conservation and Development Commission (LCDC) administrative rules for implementing the  
24 requirements for agricultural land as defined by Goal 3. OAR 660-033-0120 (Table 1) lists the  
25 “commercial utility facility” use as a type “R” use (“use may be approved, after required review”), subject  
26 to additional requirements provided by OAR 660-033-0130. If the proposed use is located on high-value  
27 farmland, OAR 660-033-0130(5) and (17) apply; if the proposed use is located on other agricultural land  
28 OAR 660-033-0130(5) and (22) apply. As discussed above in Section IV.E.1, the agricultural land on  
29 which the proposed Carty Generating Station would be located is non-high-value farmland that would be  
30 high-value farmland if irrigated, which it is not; therefore, OAR 660-033-0130(5) and (22) apply. OAR  
31 660-033-0130 (5) states:

32 *(5) Approval requires review by the governing body or its designate under ORS 215.296. Uses may*  
33 *be approved only where such uses:*

34 *(a) Will not force a significant change in accepted farm or forest practices on surrounding lands*  
35 *devoted to farm or forest use; and*

36 *(b) Will not significantly increase the cost of accepted farm or forest practices on lands devoted to*  
37 *farm or forest use.*

38 The proposed project is not likely to increase the cost of inputs to farming practices in the area,  
39 including labor, fertilizer, water, and electricity. In addition, the Applicant does not propose any changes  
40 to road networks in the area or to parcel configurations, both of which could have potentially significant  
41 impacts to farming practices if changed. The contained nature of the proposed energy facility makes it  
42 unlikely to negatively impact activities on adjacent parcels; activity related to the proposed facility would

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<sup>210</sup> *Oregon’s Statewide Planning Goals and Guidelines*, Oregon Department of Land Conservation and  
Development, March 12, 2010

1 be concentrated onsite and would not encroach onto neighboring parcels or areas where agricultural  
2 activity would continue to occur. For these reasons, the proposed energy facility likely would not force a  
3 significant change in farm practices or increase the cost of such practices. No forest uses are present in the  
4 area, so forest practices would not be affected.<sup>211</sup>

5 OAR 660-033-0130(22) states:

6 *(22) A power generation facility may include on-site and off-site facilities for temporary*  
7 *workforce housing for workers constructing a power generation facility. Such facilities must be*  
8 *removed or converted to an allowed use under OAR 660-033-0130(19) or other statute or rule when*  
9 *project construction is complete. Temporary workforce housing facilities not included in the initial*  
10 *approval may be considered through a minor amendment request. A minor amendment request shall*  
11 *be subject to OAR 660-033-0130(5) and shall have no effect on the original approval. Permanent*  
12 *features of a power generation facility shall not preclude more than 20 acres from use as a*  
13 *commercial agricultural enterprise unless an exception is taken pursuant to ORS 197.732 and OAR*  
14 *chapter 660, division 4.*

15 The proposed Carty facility layout would occupy approximately 66 acres of EFU land at full buildout.  
16 Approximately 46.6 acres of the permanent impact on EFU land would be evaporation ponds, with the  
17 balance of the land occupied by the generating units, cooling towers, and other components of the energy  
18 facility. None of the land that would be occupied by the Carty facility is currently cultivated. In the area  
19 of the project site, irrigation is necessary for productive cultivation of the land and cultivation of crops  
20 occurs within “center pivot” irrigation circles. The land that would be occupied by the energy facility is  
21 not within any irrigation circles and does not have water rights.<sup>212</sup>

22 For these reasons, the proposed energy facility would not comply with Statewide Planning Goal 3.  
23 OAR 660-033-0130(22) refers to OAR Chapter 660, Division 4, for an exception process, but ORS  
24 469.504(2), which provides the Council’s rules for goal exceptions, provides standards specifically for the  
25 Council to use in determining whether a goal exception is warranted for a proposed energy facility, and is  
26 the appropriate standard to apply in this case. ORS 469.504(2) states the following:

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

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

34 *(b) The land subject to the exception is irrevocably committed as described by the rules of the*  
35 *Land Conservation and Development Commission to uses not allowed by the applicable goal ...; or*

36 *(c) The following standards are met:*

37 *(A) Reasons justify why the state policy embodied in the applicable goal should not apply;*

38 *(B) The significant environmental, economic, social and energy consequences anticipated as a*  
39 *result of the proposed facility have been identified and adverse impacts will be mitigated in accordance*  
40 *with rules of the council applicable to the siting of the proposed facility; and*

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

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<sup>211</sup> Final ASC, Section K.7.1.1, p. K-48

<sup>212</sup> Final ASC, Section K.7.3, p. K-52

1 Subsection (a) and (b) do not apply in this case, because the subject site is undeveloped and is not  
2 committed to any use. Therefore subsection (c) provides the criteria of approval for a goal exception for  
3 the proposed Carty Generating Station.

4 Subsection (A) requires that reasons justify the proposed goal exception. The Applicant states that the  
5 proposed site is ideally suited for electrical generation. The site is adjacent to an existing generating  
6 facility, the Boardman Plant, and has access to a water supply (Carty Reservoir) and an existing  
7 transmission corridor. In addition, the EFU land on which the energy facility would be located is not  
8 under cultivation and does not have irrigation rights. Threemile Canyon Farms, from which the Applicant  
9 would acquire the property, uses center pivot irrigation on its approximately 35,000 irrigated acres.  
10 Threemile Canyon Farms does not cultivate unirrigated land because irrigation is necessary to produce  
11 crops in the Morrow County area due to the arid climate. The land where the proposed energy facility  
12 would be sited could be used for a commercial agricultural enterprise if irrigation rights were obtained or  
13 transferred to the land, and an irrigation system were constructed. The proposed energy facility would not  
14 remove any currently cultivated agricultural land from cultivation.<sup>213</sup>

15 The proposed Carty facility location would also offer a significant comparative advantage due to its  
16 location. The proposed location would allow the Carty facility to take advantage of the existing water  
17 supply at the Carty Reservoir as well as the Boardman to Slatt transmission line. The proximity of the  
18 Carty Reservoir to the Carty facility would be advantageous because no new pump stations or supply  
19 pipelines from the Columbia River would be needed. Location of the facility adjacent to an existing  
20 transmission corridor reduces the amount of agricultural land that would likely be impacted if the  
21 proposed energy facility were located where no transmission corridor exists, necessitating the  
22 development of new transmission right-of-way.<sup>214</sup> Based on the reasoning discussed here, the Council  
23 finds that reasons justify an exception to Statewide Planning Goal 3, and that the proposed Carty  
24 Generating Station meets the requirements of ORS469.504(2)(c)(A).

25 Subsection (B) requires that significant consequences expected as a result of the proposed facility be  
26 identified and adverse impacts mitigated in accordance with the Council's rules. The Final ASC addresses  
27 the significant environmental, economic, social and energy consequences anticipated as a result of the  
28 construction and operation of the proposed energy facility. The Applicant proposes mitigation for  
29 identified significant adverse impacts, and the Council has adopted conditions of approval to ensure that  
30 mitigation is provided as proposed.<sup>215</sup>

31 Expected environmental consequences including impacts on soils, fish and wildlife, threatened and  
32 endangered species, and wetlands, as well as impacts from noise emissions and cooling tower drift, have  
33 been evaluated by the Applicant in Exhibits I, J, P, Q, X and Z and are discussed in further detail in  
34 Sections V.4, V.6(a), V.8, V.9, and VI.1(b) of this Order. The expected impacts that require mitigation  
35 are: (1) wetland mitigation measures required by the Removal/Fill Law; (2) mitigation for impacts to  
36 wildlife habitat; and (3) control of cooling tower drift using high-efficiency drift eliminators.<sup>216</sup> The  
37 Applicant proposes mitigation measures for the impacts and the Council has adopted conditions of  
38 approval requiring such mitigation.

39 The Applicant has also evaluated the expected economic consequences of construction of the  
40 proposed facility. No adverse economic impacts resulting from the construction of the proposed facility  
41 have been identified. Expected economic outcomes from the construction of the proposed facility are

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<sup>213</sup> Final ASC, Section K.7.3, p. K-56

<sup>214</sup> Final ASC, Section K.7.3, p. K-55

<sup>215</sup> Final ASC, Section K.7.3, p. K-57

<sup>216</sup> Final ASC, Section K.7.3, p. K-57

1 generally positive.<sup>217</sup> The Applicant expects to employ up to 350 workers during construction and 20-30  
2 workers during operation of the proposed facility.<sup>218</sup> In addition, the proposed energy facility would  
3 provide base load electrical energy to support economic activity in the state. The energy facility would be  
4 expected to provide electricity to the region for at least 30 years.<sup>219</sup>

5 Social consequences of the construction of the proposed facility are discussed throughout this  
6 document in Sections IV.K (Historic, Cultural, and Archaeological Resources), IV.L (Recreation), IV.M  
7 (Public Services) and IV.N (Waste Minimization). There is one potential impact to a known archeological  
8 site, which the Applicant proposes to protect through avoidance. The Applicant also proposes measures to  
9 mitigate potential transportation system impacts during construction. There are no other expected  
10 significant social consequences requiring mitigation.<sup>220</sup>

11 There are no expected adverse energy consequences to the construction of the proposed facility. The  
12 proposed Carty Generating Station would provide base load energy to the electrical grid.<sup>221</sup> Based on the  
13 reasoning discussed here, the Council finds that the expected consequences of construction of the  
14 proposed facility have been identified and that adverse impacts would be mitigated in accordance with the  
15 Council's rules, and therefore the Carty Generating Station meets the requirements of  
16 ORS469.504(2)(c)(B).

17 Subsection (C) requires that the proposed use be compatible with adjacent uses or be made  
18 compatible through mitigation. The existing uses adjacent to the proposed Carty Generating Station site  
19 are the Boardman Plant (to the east), the Carty Reservoir (south and southeast), farming (northwest, west  
20 and southwest), and Nature Conservancy lands (north and northeast). As discussed below, the proposed  
21 energy facility is compatible with each of these adjacent uses.

22 Boardman Plant: The energy facility is compatible with the Boardman Plant because they are similar  
23 facilities, both used for power generation.

24 Carty Reservoir: The Applicant proposes to draw water from the Carty Reservoir under a secondary  
25 use permit for use in the energy facility. The reservoir would serve both the Boardman Plant and the  
26 proposed Carty Generating Station. The reservoir is not open to the public and is not open for recreational  
27 or other uses which could be incompatible with the proposed Carty facility.

28 Threemile Canyon Farms: Threemile Canyon Farms cultivates approximately 35,000 acres using  
29 center pivot irrigation; primary crops are potatoes, onions and specialty wheat. These farming operations  
30 have been conducted for many years in the vicinity of the Boardman Plant and the existing 500-kV  
31 Boardman to Slatt transmission line. The construction and operation of the proposed energy facility on  
32 land that is not currently cultivated is not expected to have any additional impacts on the cultivation and  
33 harvest of center pivot circles on land owned or leased by Threemile Canyon Farms.<sup>222</sup> The potential for  
34 cooling tower drift to adversely impact crops has been evaluated and the Applicant has proposed  
35 mitigation measures, which are discussed further in Section IV.D (Soil Protection) of this document.

36 The Nature Conservancy: The Nature Conservancy (TNC) manages conservation areas under the  
37 terms of an ODFW conservation easement, a sublease with Threemile Canyon Farms, and a management  
38 plan approved by the U.S. Fish & Wildlife Service. TNC's management activities are designed to  
39 maintain and improve habitat of four species in particular: Washington ground squirrel, ferruginous hawk,

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<sup>217</sup> Final ASC, Section K.7.3, p. K-57

<sup>218</sup> Final ASC, Section U.4.1.9, p. U-20

<sup>219</sup> Final ASC, Section K.7.3, p. K-57

<sup>220</sup> Final ASC, Section K.7.3, p. K-57

<sup>221</sup> Final ASC, Section K.7.3, p. K-57

<sup>222</sup> Final ASC, Section K.7.3, p. K-58



1 loggerhead shrike, and sage sparrow. The proposed site of the Carty Generating Station is not within the  
2 area managed by TNC. The construction and operation of the energy facility would not physically impact  
3 TNC lands and is not expected to interfere with TNC’s ability to manage vegetation, control soil  
4 disturbance, or manage hunting or similar activities within the conservation areas for the benefit of the  
5 four identified species.<sup>223</sup>

6 Based on the reasoning discussed here, the Council finds that the proposed use is compatible with the  
7 adjacent uses, and also that expected impact on adjacent uses can be mitigated, and that the proposed  
8 Carty Generating Station meets the requirements of ORS469.504(2)(c)(C). Because the proposed energy  
9 facility appears to comply with all provisions of ORS 469.504(2)(c), the Council finds that an exception  
10 to Statewide Planning Goal 3, Agricultural Lands, is warranted to permit the proposed Carty Generating  
11 Station to preclude more than 20 acres of non-high-value agricultural land from commercial agricultural  
12 use.

13 **IV.E.2.b. Other Statewide Planning Goals**

14 The proposed Carty Generating Station does not comply with Morrow County Zoning Ordinance  
15 section 3.070, which provides the outright and conditionally permitted use for the General Industrial  
16 (MG) zoning district. Because the proposed facility does not comply with all applicable local land use  
17 criteria, the Council must determine, under ORS 469.504(1)(b)(B), whether the proposed facility  
18 “otherwise [complies] with the applicable statewide planning goals.” In this case, the Council finds that  
19 the applicable Statewide Planning Goals are Goals 5 (Natural Resources), 6 (Air, Water and Land  
20 Resource Quality), 7 (Areas Subject to Natural Hazards), 8 (Recreational Needs), 9 (Economic  
21 Development), 10 (Housing), 11 (Public Facilities and Services), 12 (Transportation), 13 (Energy  
22 Conservation), and 14 (Urbanization). Goals 1 and 2 do not apply because they are process-oriented goals  
23 that do not apply to individual proposals, and Goals 3 and 4 do not apply because they apply to  
24 agricultural and forest lands, respectively, and not to industrial lands. Goals 15-19 apply to the Willamette  
25 River Greenway and ocean and coastal resources, and are not applicable to this application. The  
26 applicable goals are addressed below.

27 **Goal 5: Natural Resources, Scenic and Historic Areas, and Open Spaces**

28 *To protect natural resources and conserve scenic and historic areas and open spaces. Local*  
29 *governments shall adopt programs that will protect natural resources and conserve scenic, historic, and*  
30 *open space resources for present and future generations. These resources promote a healthy environment*  
31 *and natural landscape that contributes to Oregon's livability.*

32 The purpose of Goal 5 is to protect natural, scenic and historic resources and open spaces. The  
33 Applicant has evaluated potential impacts of the proposed energy facility to these types of resources,  
34 which are discussed in more detail below.

35 Habitat

36 The Applicant evaluated potential habitat impacts resulting from the proposed Carty facility layout.  
37 Habitat types were identified based on Oregon Department of Fish and Wildlife (ODFW) standard. The  
38 Applicant also performed field surveys and literature searches to identify sensitive species present or  
39 potentially present at the site. Eight wildlife habitat types and 13 state sensitive and/or federal species of  
40 concern occur or potentially occur within the defined project analysis area. The Applicant proposes  
41 mitigation measures to avoid significant potential adverse impacts on the species and habitat, which are  
42 discussed in detail in Sections IV.H (Fish and Wildlife Habitat) and IV.I (Threatened and Endangered  
43 Species). The proposed mitigation measures comply with ODFW's fish and wildlife habitat mitigation  
44 goals.

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<sup>223</sup> Final ASC, Section K.7.3, p. K-58

1        Natural Areas

2        There are 11 protected natural areas within the 20-mile analysis area for the proposed project; the  
3 proposed site boundary would cross one of those areas, the Horn Butte Area of Critical Environmental  
4 Concern, which is managed by the Bureau of Land Management (BLM). However, the transmission line  
5 is permitted to cross this area by OAR 345-022-0040(3), which provides that a new transmission line  
6 routed within 500 feet of an existing utility right-of-way containing at least one transmission line with a  
7 voltage rating of 115-kV or higher is permitted to encroach upon a protected natural area. The proposed  
8 transmission line would be located approximately 250 feet south of the existing 500-kV line, within the  
9 same right-of-way.<sup>224</sup> No other impacts to protected natural areas have been identified.<sup>225</sup> Further  
10 discussion of protected natural areas can be found in Section IV.F, Protected Areas.

11        Wetlands

12        There are nine wetland sites located within the Carty facility site area. In addition, there are three  
13 drainage areas identified as Fourmile Canyon, Willow Creek and Eightmile Canyon. No fill or removal is  
14 proposed in wetland areas; the proposed Carty facility layout would avoid all impacts to wetlands and  
15 drainage areas.<sup>226</sup> Further discussion of potential wetland impacts can be found in Section V.B,  
16 Removal/Fill Law.

17        Historic and Cultural Areas

18        There are no existing significant historic or cultural resources listed on the National Register of  
19 Historic Places (NRHP) located on the site.<sup>227</sup> The Final ASC includes an archaeological survey of the  
20 proposed project site, which identifies two archaeological isolates and three archaeological sites, as  
21 defined by the Oregon State Historic Preservation Office (SHPO).<sup>228</sup> One of the archeological sites had  
22 been previously identified and recorded.<sup>229</sup> The Applicant did not find any previously unrecorded  
23 archaeological resources that are eligible for listing on the NRHP. The previously recorded archaeological  
24 resource identified on the site has not been evaluated for eligibility for listing. The Applicant proposes to  
25 avoid the previously recorded site and a 30-meter buffer area surrounding the boundary of the site. No  
26 other mitigation has been proposed for historic or cultural resources.<sup>230</sup>

27        Scenic Resources/Open Space

28        The proposed Carty Generating Station is not expected to have any significant adverse impacts on  
29 documented important scenic and aesthetic values. The visual impact of the Carty Generating facility  
30 would be moderate; the immediate area in which the proposed facility would be sited is already developed  
31 with the Boardman Plant. In addition, the proposed energy facility would be located at least 13 miles from  
32 any population center. The Carty Generating Station Site Boundary would be set back approximately 8  
33 miles from the Columbia River in an area currently utilized for energy generation and transmission.  
34 Public access is not permitted on Portland General Electric (PGE) land or Carty Reservoir for recreational  
35 activities.<sup>231</sup> A more detailed discussion of potential impacts to scenic and visual resources can be found  
36 in Section IV.J, Scenic Resources.

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224 Final ASC, Section L.1, p. L-1

225 Final ASC, Section K.7.4, p. K-60

226 Final ASC, Section K.7.4, p. K-60

227 Final ASC, Section S.2, p. S-1

228 Final ASC, Section S.3, p. S-2

229 Final ASC, Section S.5.2, p. S-4

230 Final ASC, Section S.5.3, p. S-6

231 Final ASC, Section K.7.4, p. K-61

1       **Goal 6: Air, Water and Land Resources Quality**

2       *To maintain and improve the quality of the air, water and land resources of the state.*

3       The proposed energy facility is not expected to have a significant adverse impact the air, water or  
4 land quality in the proposed project area.

5       The Applicant proposes to meet applicable requirements under the Clean Air Act through a separate  
6 permitting process with the Oregon Department of Environmental Quality. The Applicant would meet  
7 the Council’s carbon dioxide emissions standards through compliance with the monetary path provided  
8 by OAR 345-024-0710.<sup>232</sup> Further discussion of Carty facility emissions can be found in Section IV.P.  
9 Carbon Dioxide Standard for Base Load Gas Plants.

10       The Final ASC categorizes water use by construction and operation uses. During construction, the  
11 Applicant expects to use approximately 10,000,000 gallons of water from Carty Reservoir for each  
12 proposed block (total of 20,000,000 gallons of water). During operation the proposed Carty Generating  
13 Station, under annual average conditions, would use approximately 2,300 gallons per minute (gpm) from  
14 the adjacent Carty Reservoir and approximately 1 gpm from an existing well. Water would be withdrawn  
15 from Carty Reservoir under a secondary use permit.<sup>233</sup>

16       Potential adverse impacts related to water use would be mitigated by reusing wastewater from the  
17 Carty Generating Station internally, and by filling Carty Reservoir to a slightly higher pool level during  
18 the winter months.<sup>234</sup> Further discussion of potential impacts to water quality and mitigation measures can  
19 be found in Sections V.C, Ground Water Act, and V.E, Water Pollution Control Facility Permit.

20       Potential impacts to land resources have been addressed above with the discussion of Statewide  
21 Planning Goal 3. The Council finds that the proposed Carty Generating Station is consistent with  
22 Statewide Planning Goal 6.

23       **Goal 7: Areas Subject to Natural Hazards**

24       *To protect people and property from natural hazards.*

25       There are no identified natural hazards at the proposed Carty Generating Station site that would  
26 present risks to people or development at the proposed site.<sup>235</sup> For this reason, the Council finds that the  
27 proposed energy facility is consistent with Statewide Planning Goal 7.

28       **Goal 8: Recreational Needs**

29       *To satisfy the recreational needs of the citizens of the state and visitors and, where appropriate, to*  
30 *provide for the siting of necessary recreational facilities including destination resorts.*

31       There are several recreational resources within the project analysis area including the Columbia River  
32 waterfront, and the Lewis and Clark Historic Trail located along the Columbia River, approximately 5  
33 miles from the proposed transmission line. The trail also parallels the Columbia River in the vicinity of  
34 Arlington, Oregon. Parks include the Port of Arlington RV park and a marina, the Arlington State Park, a  
35 City of Boardman Park, Wilsons Willow Run Golf Course and the Crow Butte State Park located in  
36 Washington. However, due to the difference in elevation and steep canyon walls along the Columbia  
37 River, the Carty Generating Station and associated transmission line would not be visible from the river.  
38 The Carty facility would not directly impact any identified existing recreation facilities within the 5-mile  
39 analysis area and would not result in loss of recreational use of any identified recreational facility.

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232 Final ASC, Section K.7.4, p. K-61

233 Final ASC, Section K.7.4, p. K-62

234 Final ASC, Section K.7.4, p. K-62

235 Final ASC, Section K.7.4, p. K-62

1 Hunting and other recreational activities are not currently allowed in the project area.<sup>236</sup> For these reasons,  
2 the Council finds that the proposed energy facility is consistent with Statewide Planning Goal 8. More  
3 detailed discussion of recreational resources in the analysis area can be found in Section IV.L, Recreation.

4 **Goal 9: Economic Development**

5 *To provide adequate opportunities throughout the state for a variety of economic activities vital to the*  
6 *health, welfare, and prosperity of Oregon's citizens.*

7 The proposed energy facility is expected to have a positive effect on economic development in the  
8 region. The project would provide a number of employment opportunities during construction of the  
9 facility as well as permanent full time staffing over the life of the facility. The energy facility is expected  
10 to operate for at least 30 years, providing a stable contribution to the County's economy.<sup>237</sup> For these  
11 reasons, the Council finds that the proposed Carty Generating Facility is consistent with Statewide  
12 Planning Goal 9.

13 **Goal 10: Housing**

14 *To provide for the housing needs of citizens of the state.*

15 The Applicant expects to hire a regional workforce, to minimize the transient workforce which would  
16 need housing. Where regional workers are not available, the Applicant and subcontractors propose to seek  
17 available rental housing in the surrounding communities. The Applicant performed an assessment of  
18 housing availability, and found that sufficient housing is available in the area to meet the needs of the  
19 expected worker population.<sup>238</sup> The Council finds that the proposed Carty Generating Plant is consistent  
20 with Statewide Planning Goal 10. Detailed discussion of housing supply and demand related to the Carty  
21 facility can be found in Section IV.M, Public Services.

22 **Goal 11: Public Facilities and Services**

23 *To plan and develop a timely, orderly and efficient arrangement of public facilities and services to*  
24 *serve as a framework for urban and rural development.*

25 The Applicant proposes to take advantage of existing public facilities in the immediate vicinity of the  
26 site, including energy distribution facilities (the Boardman to Slatt Transmission line) and access to the  
27 site (via Tower Road and Interstate 84). The proposed energy facility will require minimal development  
28 of new public facilities; the Applicant has evaluated the availability of sewage collection and treatment  
29 facilities, water supplies, stormwater facilities, solid waste disposal services, and police and fire services,  
30 as well as health care, public education, housing and traffic. These facilities and services are sufficient to  
31 serve the additional demand represented by the proposed energy facility, and no adverse impacts are  
32 expected.<sup>239</sup> For these reasons, the Council finds that the proposed Carty Generating Station is consistent  
33 with Statewide Planning Goal 11.

34 **Goal 12: Transportation**

35 *To provide and encourage a safe, convenient and economic transportation system.*

36 The Applicant provided a traffic impact analysis for the proposed Carty Generating Station site.  
37 Based on the findings from this report, the proposed energy facility is not expected to have a significant  
38 impact on the adjacent roadway traffic operations upon buildout and normal daily operations. During the  
39 construction phase, the traffic impacts from the daily construction worker morning commute period is

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<sup>236</sup> Final ASC, Section K.7.4, pp. K-62-63

<sup>237</sup> Final ASC, Section K.7.4, p. K-63

<sup>238</sup> Final ASC, Section U.4.1.7, p. U-19

<sup>239</sup> Final ASC, Section K.7.4, p. K-63

1 forecasted to have an impact on the I-84/Tower Road westbound ramp terminal. Travel demand  
2 management measures such as carpooling, construction worker shift staggering or the use of temporary  
3 traffic control measures are proposed to be used to mitigate these impacts.<sup>240</sup> No other impacts to the  
4 transportation system in the area are expected. The Council finds that the proposed Carty Generating  
5 Station is consistent with Statewide Planning Goal 12. More detailed discussion of the project's potential  
6 impacts and proposed mitigation measures can be found in Section IV.M, Public Services.

7 **Goal 13: Energy Conservation**

8 *To conserve energy.*

9 The proposed energy facility would generate power for use by industrial, municipal, commercial, and  
10 residential users. The purpose of the project is to help ensure the region has sufficient base load capacity  
11 and to accommodate future growth. The proposed Carty Generating Station would be an efficient natural  
12 gas-fired combined cycle combustion-turbine generating facility, using state of the art equipment. By  
13 using efficient equipment, the Applicant proposes to minimize the energy used in the generation of  
14 electrical power.<sup>241</sup> For these reasons, the Council finds that the proposed Carty Generating Station is  
15 consistent with Statewide Planning Goal 13.

16 **Goal 14: Urbanization**

17 *To provide for an orderly and efficient transition from rural to urban land use, to accommodate*  
18 *urban population and urban employment inside urban growth boundaries, to ensure efficient use of land,*  
19 *and to provide for livable communities.*

20 The Carty Generating Station is located outside of an urban growth boundary. The development of  
21 the energy facility (as a utility) would not encourage additional residential or commercial developments  
22 outside of the urban growth boundary; the development of the facility is designed to provide for regional  
23 electrical provision, not local service in the surrounding rural area.<sup>242</sup> The proposal is also consistent with  
24 Goal 14 with regard to efficient use of land, because the proposed energy facility transmission line would  
25 take advantage of existing ROW. For these reasons, the Council finds that the proposed Carty Generating  
26 Station is consistent with Statewide Planning Goal 14.

27 Goals 15-19 are specific to the Willamette River Greenway and coastal and estuarine resources, and  
28 therefore do not apply to the proposed energy facility, switchyard and transmission line.

29 **IV.E.2.c. ORS 215.275**

30 *(1) A utility facility established under ORS 215.213 (1)(c) or 215.283 (1)(c) is necessary for*  
31 *public service if the facility must be sited in an exclusive farm use zone in order to provide the*  
32 *service.*

33 *(2) To demonstrate that a utility facility is necessary, an applicant for approval under ORS*  
34 *215.213 (1)(c) or 215.283 (1)(c) must show that reasonable alternatives have been considered and*  
35 *that the facility must be sited in an exclusive farm use zone due to one or more of the following*  
36 *factors:*

37 *(a) Technical and engineering feasibility;*

38 *(b) The proposed facility is locationally dependent. A utility facility is locationally dependent*  
39 *if it must cross land in one or more areas zoned for exclusive farm use in order to achieve a*

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<sup>240</sup> Final ASC, Section K.7.4, p. K-64

<sup>241</sup> Final ASC, Section K.7.4, p. K-64

<sup>242</sup> Final ASC, Section K.7.4, p. K-64

1 *reasonably direct route or to meet unique geographical needs that cannot be satisfied on other*  
2 *lands;*

3 *(c) Lack of available urban and nonresource lands;*

4 *(d) Availability of existing rights of way;*

5 *(e) Public health and safety; and*

6 *(f) Other requirements of state or federal agencies.*

7 *(3) Costs associated with any of the factors listed in subsection (2) of this section may be*  
8 *considered, but cost alone may not be the only consideration in determining that a utility facility is*  
9 *necessary for public service. Land costs shall not be included when considering alternative locations*  
10 *for substantially similar utility facilities. The Land Conservation and Development Commission shall*  
11 *determine by rule how land costs may be considered when evaluating the siting of utility facilities that*  
12 *are not substantially similar.*

13 *(4) The owner of a utility facility approved under ORS 215.213 (1)(c) or 215.283 (1)(c) shall be*  
14 *responsible for restoring, as nearly as possible, to its former condition any agricultural land and*  
15 *associated improvements that are damaged or otherwise disturbed by the siting, maintenance, repair*  
16 *or reconstruction of the facility. Nothing in this section shall prevent the owner of the utility facility*  
17 *from requiring a bond or other security from a contractor or otherwise imposing on a contractor the*  
18 *responsibility for restoration.*

19 *(5) The governing body of the county or its designee shall impose clear and objective conditions*  
20 *on an application for utility facility siting under ORS 215.213 (1)(c) or 215.283 (1)(c) to mitigate and*  
21 *minimize the impacts of the proposed facility, if any, on surrounding lands devoted to farm use in*  
22 *order to prevent a significant change in accepted farm practices or a significant increase in the cost*  
23 *of farm practices on the surrounding farmlands.*

24 *(6) The provisions of subsections (2) to (5) of this section do not apply to interstate natural gas*  
25 *pipelines and associated facilities authorized by and subject to regulation by the Federal Energy*  
26 *Regulatory Commission. [1999 c.816 §3; 2009 c.850 §9]*

27 The proposed 500-kV transmission line is proposed as a “utility facility necessary for public service.”  
28 According to ORS 215.275(1), a utility facility established under ORS 215.283(1)(d) is necessary for  
29 public service if the facility “must be sited in an exclusive farm use zone in order to provide the service.”  
30 To demonstrate that a utility facility is necessary, an Applicant must show that reasonable alternatives  
31 have been considered and that the facility must be sited in an EFU zone due to one or more of the factors  
32 identified in the statute. Only the proposed transmission line is subject to the requirements of this section;  
33 the remaining components of the proposed Carty Generating Station have been evaluated for compliance  
34 with the applicable standards for commercial utility facilities for the purpose of generating power for  
35 public use by sale.

36 ORS 215.275(2) provides acceptable reasons for siting a necessary utility facility in an EFU zone;  
37 one or more of these must apply in order for a proposed utility facility to be approved. Subsection (b)  
38 states that a facility may be located in an EFU zone if it is locationally dependent and must cross EFU  
39 lands to take a reasonably direct route. The proposed transmission line would utilize existing ROW along  
40 its length, within the Boardman to Slatt corridor, and in this respect is locationally dependent. In addition,  
41 the transmission line corridor is surrounded by EFU zoning and therefore must cross EFU land to reach  
42 the Slatt Substation, which is also located on EFU land.<sup>243</sup>

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<sup>243</sup> Final ASC, Section K.7.2, p. K-49

1 Subsection (c) states that lack of available urban and non-resource lands is justification for siting a  
2 utility facility on EFU land. The majority of the land in Morrow and Gilliam counties consists of rural  
3 resource land. To avoid impacts to resource land, a transmission line would likely have to be located  
4 within an urban growth boundary. However, because regional transmission and substation facilities are  
5 located outside of urban growth boundaries, a transmission line must extend across rural land to connect  
6 to such facilities.<sup>244</sup>

7 Subsection (d) permits availability of existing right-of-way as a justification for locating a utility  
8 facility on EFU land. The Applicant states that availability of existing right-of-way was a key  
9 consideration in placement of the proposed transmission line. The use of an existing corridor greatly  
10 limits the need for additional right-of-way, and therefore limits impacts to agricultural lands.<sup>245</sup> For these  
11 reasons, the Council finds that the standard provided by ORS 215.275(2) is met.

12 ORS 215.275(3) provides that cost may be a consideration in the siting of a proposed transmission  
13 corridor, but that it may not be the only consideration. The Applicant expects the cost of developing new  
14 transmission facilities along the proposed route to be significantly lower than any alternative alignment.  
15 The cost savings, however, result from the proposed alignment being direct and within or adjacent to an  
16 existing transmission right-of-way, not from the fact that the corridor is on land zoned for Exclusive Farm  
17 Use;<sup>246</sup> therefore cost is not the only consideration. For this reason, the proposed alignment complies with  
18 the provisions of ORS 215.275(3).

19 ORS 215.275(4) states that the owners of a utility facility shall be responsible for restoring, as nearly  
20 as possible, to its former condition any agricultural land and associated improvements that are damaged or  
21 otherwise disturbed by the siting, maintenance, repair or reconstruction of the facility. The Applicant  
22 provided plans for such restoration in Exhibit W of the Final ASC, and the Council has adopted  
23 conditions of approval to ensure that such restoration is completed as required by this statute.

24 ORS 215.275(5) states that the review body shall impose clear and objective conditions of approval  
25 on an application for utility facility siting to mitigate the impacts of the proposed facility on surrounding  
26 lands devoted to farm use and on accepted farming practices on those lands. The Council adopts  
27 conditions of approval throughout this Order in conformance to this requirement.

28 The provisions of ORS 215.275(6) do not apply to the proposed transmission line associated with the  
29 proposed Carty Generating Station. For the reasons stated throughout this section, the Council finds that  
30 the standards provided by ORS 215.275 are met.

31 **IV.E.3. FEDERAL LAND MANAGEMENT PLANS**

32 *OAR 345-021-0010(1)(k)(D) If the proposed facility will be located on federal land:*

33 *(i) Identify the applicable land management plan adopted by the federal agency with jurisdiction over*  
34 *the federal land.*

35 *(ii) Explain any differences between state or local land use requirements and federal land*  
36 *management requirements;*

37 *(iii) Describe how the proposed facility complies with the applicable federal land management plan;*

38 *(iv) Describe any federal land use approvals required for the proposed facility and the status of*  
39 *application for each required federal land use approval;*

40 *(v) Provide an estimate of time for issuance of federal land use approvals; and*

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<sup>244</sup> Final ASC, Section K.7.2, p. K-49

<sup>245</sup> Final ASC, Section K.7.2, p. K-50

<sup>246</sup> Final ASC, Section K.7.2, p. K-50

1 (vi) If federal law or the land management plan conflicts with any applicable state or local land use  
2 requirements, explain the differences in the conflicting requirements, state whether the applicant requests  
3 Council waiver of the land use standard described under OAR 345-021-0010(1)(k)(B) and (C) of this  
4 subsection and explain the basis for the waiver.

5 A portion of the existing Boardman to Slatt transmission line right-of-way is on land controlled  
6 by the Bonneville Power Administration (BPA), which is a federal agency. The proposed new  
7 transmission line would be located in this BPA-controlled land but within existing right-of-way controlled  
8 by the Applicant. BPA does not have a land management plan that provides land use requirements beyond  
9 those already discussed throughout this section. Therefore, the Council finds that the proposal complies  
10 with OAR 345-021-0010(1)(k)(D).

11 **IV.E.4. LAND USE: SITE CERTIFICATE CONDITIONS**

12  
13 IV.E.4.1 The certificate holder shall design and construct the facility using the minimum land area  
14 necessary for safe construction and operation. The certificate holder shall locate access roads  
15 and temporary construction staging areas to minimize disturbance of farming practices.  
16 [Site Certificate Condition 6.9]

17 IV.E.4.2 Before beginning construction of the energy facility, the certificate holder shall submit a final  
18 parking lot plan to Morrow County for approval as part of the certificate holder's building  
19 permit application for the energy facility. This parking lot plan shall comply with Section  
20 4.040 and 4.060 of the Morrow County Zoning Ordinance and with Americans with  
21 Disabilities Act (ADA) requirements. This plan shall provide a minimum of 22 parking  
22 spaces and one ADA-accessible space, or the minimum number of parking spaces required by  
23 MCZO Section 4.040 based on the number of employees on the largest shift, whichever is  
24 greater. The certificate holder shall construct on-site parking in conformance with the  
25 approved parking lot plan.  
26 [Site Certificate Condition 5.3]

27 IV.E.4.3 The certificate holder shall construct all facility components in compliance with the following  
28 setback requirements. The transmission lines, connecting the Carty Generating Station, the  
29 Grassland Switchyard and the Slatt Substation are exempt from this condition.

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

32 i. The minimum setback between a structure and the right-of-way of an arterial street  
33 shall be 50 feet. The minimum setback of a structure from the right-of-way of a  
34 collector shall be 30 feet, and from all lower class streets the minimum setback shall  
35 be 20 feet.

36 ii. Any sewage disposal installations such as outhouses, septic tank and drainfield  
37 systems shall be set back from the high-water line or mark along all streams and  
38 lakes a minimum of 100 feet, measured at right angles to the high-water line or mark.  
39 All structures, buildings, or similar permanent fixtures shall be set back from the  
40 high-water line or mark along all streams or lakes a minimum of 100 feet measured at  
41 right angles to the high-water line or mark.

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

44 i. The front yard setback from the property line shall be a minimum of 100 feet if the  
45 property line is adjacent to an intensive agricultural use; otherwise, front yards shall



1 be 20 feet for property fronting on a local minor collector or marginal access street  
2 right-of-way, 30 feet from a property line fronting on a major collector right-of-way,  
3 and 80 feet from an arterial right-of-way.

4 ii. Each side yard shall be a minimum of 20 feet except that for parcels or lots with side  
5 yards adjacent to an intensive agricultural use the adjacent side yard shall be a  
6 minimum of 100 feet.

7 iii. Rear yards shall be a minimum of 25 feet, except for parcels or lots with rear yards  
8 adjacent to an intensive agricultural use, where rear yards shall be a minimum of 100  
9 feet.

10 iv. Any sewage disposal installations such as outhouses, septic tank and drainfield  
11 systems shall be set back from the high-water line or mark along all streams and  
12 lakes a minimum of 100 feet, measured at right angles to the high-water line or mark.  
13 All structures, buildings, or similar permanent fixtures shall be set back from the  
14 high-water line or mark along all streams or lakes a minimum of 100 feet measured at  
15 right angles to the high-water line or mark.

16 [Site Certificate Condition 6.22]

17 IV.E.4.4 [DELETED. The requirements of this condition as recommended in the Draft Proposed  
18 Order have been incorporated into Condition IV.D.2.6.]

19 IV.E.4.5 The certificate holder must limit signage to directional signs necessary for deliveries and  
20 general site circulation. No sign may be placed so as to interfere with visibility or  
21 effectiveness of any permanent traffic control device. No sign may be placed so as to impede  
22 the sight distance triangle at any access point or intersection as specified in Section 4.020 of  
23 the Morrow County Zoning Code. No sign shall cause glare, distraction or other driving  
24 hazards within a street or road right-of-way.

25 [Site Certificate Condition 6.23]

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

30 [Site Certificate Condition 4.6]

31 IV.E.4.7 The certificate holder shall comply with Section 5, Public Responsibilities, of the Morrow  
32 County Solid Waste Management Ordinance. Any hauling of solid waste from the Carty  
33 facility during construction, operation, or retirement shall be performed by a franchised solid  
34 waste hauler or otherwise comply with the Morrow County Solid Waste Management  
35 Ordinance.

36 [Site Certificate Condition 6.24]

37 IV.E.4.8 Recycling by the certificate holder and certificate holder's contractors during construction,  
38 operation, and retirement of the Carty facility shall be done in accordance with Oregon  
39 Department of Environmental Quality regulations and shall be reported as part of the Morrow  
40 County wasteshed.

41 [Site Certificate Condition 6.25]

42 **IV.E.5. LAND USE: CONCLUSIONS OF LAW**

43 Based on the foregoing findings of fact, and subject to compliance with the site certificate conditions,  
44 the Council finds that the proposed facility complies with all applicable substantive criteria from Morrow  
45 and Gilliam Counties, with the exception of Sections 3.010.D and 3.070 of the Morrow County Zoning

1 Ordinance (MCZO). The proposed facility exceeds the maximum acreage for non-farm development in  
2 an Exclusive Farm Use zone established by MCZO Sections 3.010.D, and is not listed as an outright or a  
3 conditionally permitted use in a General Industrial zone in MCZO Section 3.070. The Council finds that  
4 the proposed facility otherwise complies with the applicable provisions of the statewide planning goals,  
5 in accordance with ORS 469.504(1)(b)(B) and that the proposed facility complies with OAR 660-033-  
6 0130(16), ORS 215.275, and with all applicable state statutes.  
7

1 **IV.F. PROTECTED AREAS [OAR 345-022-0040]**

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

- 9 (a) *National parks, including but not limited to Crater Lake National Park and Fort Clatsop*  
10 *National Memorial;*
- 11 (b) *National monuments, including but not limited to John Day Fossil Bed National*  
12 *Monument, Newberry National Volcanic Monument and Oregon Caves National*  
13 *Monument;*
- 14 (c) *Wilderness areas established pursuant to The Wilderness Act, 16 U.S.C. 1131 et seq. and*  
15 *areas recommended for designation as wilderness areas pursuant to 43 U.S.C. 1782;*
- 16 (d) *National and state wildlife refuges, including but not limited to Ankeny, Bandon Marsh,*  
17 *Baskett Slough, Bear Valley, Cape Meares, Cold Springs, Deer Flat, Hart Mountain,*  
18 *Julia Butler Hansen, Klamath Forest, Lewis and Clark, Lower Klamath, Malheur,*  
19 *McKay Creek, Oregon Islands, Sheldon, Three Arch Rocks, Umatilla, Upper Klamath,*  
20 *and William L. Finley;*
- 21 (e) *National coordination areas, including but not limited to Government Island, Ochoco*  
22 *and Summer Lake;*
- 23 (f) *National and state fish hatcheries, including but not limited to Eagle Creek and Warm*  
24 *Springs;*
- 25 (g) *National recreation and scenic areas, including but not limited to Oregon Dunes*  
26 *National Recreation Area, Hell’s Canyon National Recreation Area, and the Oregon*  
27 *Cascades Recreation Area, and Columbia River Gorge National Scenic Area;*
- 28 (h) *State parks and waysides as listed by the Oregon Department of Parks and Recreation*  
29 *and the Willamette River Greenway;*
- 30 (i) *State natural heritage areas listed in the Oregon Register of Natural Heritage Areas*  
31 *pursuant to ORS 273.581;*
- 32 (j) *State estuarine sanctuaries, including but not limited to South Slough Estuarine*  
33 *Sanctuary, OAR Chapter 142;*
- 34 (k) *Scenic waterways designated pursuant to ORS 390.826, wild or scenic rivers designated*  
35 *pursuant to 16 U.S.C. 1271 et seq., and those waterways and rivers listed as potentials*  
36 *for designation;*
- 37 (l) *Experimental areas established by the Rangeland Resources Program, College of*  
38 *Agriculture, Oregon State University: the Prineville site, the Burns (Squaw Butte) site,*  
39 *the Starkey site and the Union site;*
- 40 (m) *Agricultural experimental stations established by the College of Agriculture, Oregon*  
41 *State University, including but not limited to:*
- 42 *Coastal Oregon Marine Experiment Station, Astoria*  
43 *Mid-Columbia Agriculture Research and Extension Center, Hood River*  
44 *Agriculture Research and Extension Center, Hermiston*  
45 *Columbia Basin Agriculture Research Center, Pendleton*  
46 *Columbia Basin Agriculture Research Center, Moro*  
47 *North Willamette Research and Extension Center, Aurora*  
48 *East Oregon Agriculture Research Center, Union*  
49 *Malheur Experiment Station, Ontario*

1 Eastern Oregon Agriculture Research Center, Burns  
2 Eastern Oregon Agriculture Research Center, Squaw Butte  
3 Central Oregon Experiment Station, Madras  
4 Central Oregon Experiment Station, Powell Butte  
5 Central Oregon Experiment Station, Redmond  
6 Central Station, Corvallis  
7 Coastal Oregon Marine Experiment Station, Newport  
8 Southern Oregon Experiment Station, Medford  
9 Klamath Experiment Station, Klamath Falls;

- 10 (n) Research forests established by the College of Forestry, Oregon State University,  
11 including but not limited to McDonald Forest, Paul M. Dunn Forest, the Blodgett Tract  
12 in Columbia County, the Spaulding Tract in the Mary's Peak area and the Marchel  
13 Tract;  
14 (o) Bureau of Land Management areas of critical environmental concern, outstanding  
15 natural areas and research natural areas;  
16 (p) State wildlife areas and management areas identified in OAR chapter 635, Division 8.

- 17 (2) Notwithstanding section (1), the Council may issue a site certificate for a transmission line or  
18 a natural gas pipeline or for a facility located outside a protected area that includes a  
19 transmission line or natural gas or water pipeline as a related or supporting facility located  
20 in a protected area identified in section (1), if other alternative routes or sites have been  
21 studied and determined by the Council to have greater impacts. Notwithstanding section (1),  
22 the Council may issue a site certificate for surface facilities related to an underground gas  
23 storage reservoir that have pipelines and injection, withdrawal or monitoring wells and  
24 individual wellhead equipment and pumps located in a protected area, if other alternative  
25 routes or sites have been studied and determined by the Council to be unsuitable.  
26 (3) The provisions of section (1) do not apply to transmission lines or natural gas pipelines  
27 routed within 500 feet of an existing utility right-of-way containing at least one transmission  
28 line with a voltage rating of 115 kilovolts or higher or containing at least one natural gas  
29 pipeline of 8 inches or greater diameter that is operated at a pressure of 125 psig.

30 **IV.F.1. PROTECTED AREAS: FINDINGS OF FACT**

31 The analysis area for protected areas is the area within the site boundary and 20 miles from the site  
32 boundary, including areas outside the state.<sup>247</sup> The applicant provided information about potential  
33 impacts to protected areas in Exhibit L of the Application for Site Certificate (ASC), and states that the  
34 proposed facility would not be located within any protected areas. OAR 345-022-0040(2) and (3) do not  
35 apply because the proposed facility is not a transmission line or a natural gas pipeline, nor does it have as  
36 a related or supporting facility a transmission line or natural gas pipeline that is located in a protected  
37 area. Therefore, the criteria specified in OAR 345-022-0110(1) apply to the proposed facility, and the  
38 Council must make findings regarding the applicant's compliance with Section (1) of the Protected Areas  
39 Standard.

40 The applicant lists 11 protected areas within 20 miles of the proposed facility site in Table L-1 of  
41 Exhibit L of the ASC. The table, reproduced below, includes a reference to the applicable subparagraph  
42 of OAR 345-022-0040(1), the approximate distance from the site boundary, the direction of the protected  
43 area from the proposed facility, and the state in which each area is located.

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<sup>247</sup> CGS-0042, 11-03-09, Oregon Department of Energy Project Order for the Carty Generating Station

PROTECTED AREAS WITHIN 20 MILES OF THE FACILITY				
Protected Area	345-022-0040(1) Subparagraph Reference	Distance (Miles)	Direction from the Facility	State
Umatilla National Wildlife Refuge	(d)	8.1	NE	OR
Crow Butte State Park	(h)	8.5	N	OR
Lindsay Prairie Preserve	(i)	10	SE	OR
John Day River (certain sections)	(k)	14.5	SW	OR
Boardman Research Natural Area	(o)	2	E	OR
Horn Butte ACEC	(o)	540 feet	S	OR
Coyote Springs Wildlife Area	(p)	11.3	NE	OR
Irrigon Hatchery	(p)	17.5	NE	OR
Irrigon Wildlife Area	(p)	19	NE	OR
Umatilla Hatchery	(p)	17.5	NE	OR
Willow Creek Wildlife Area	(p)	4.3	NW	OR

\*ACEC = Area of Critical Environmental Concern

The Applicant assessed the potential impacts to protected areas from noise, traffic, water use, wastewater disposal, and visibility of the facility components.

The proposed transmission line, a related or supporting facility, would pass near the Horn Butte Area of Critical Environmental Concern (ACEC) noted as a Bureau of Land Management ACEC. However, pursuant to Oregon Administrative Rule (OAR) 345-022-0040 (3), the transmission corridor (where the Horn Butte ACEC is located) is exempt from the OAR 345-022-0040 (1) because it would be “routed within 500 feet of an existing utility right-of-way containing at least one transmission line with a voltage rating of 155 kilovolts or higher . . .” The existing transmission line is 500 kilovolts, and the proposed new transmission line would be located approximately 250 feet south of the existing line. Based on the foregoing findings of fact, the Council finds that the transmission line corridor may be located within the Horn Butte ACEC protected area and is not subject to analysis under OAR 345-022-0040 (1).

The proposed site for the structures and buildings associated with the energy facility do not fall within a protected area. Potential adverse impacts to protected areas from construction and operation of the Carty Generating Facility are described below.

**IV.F.1.a. Noise Impacts**

Noise generated by operation of the facility is analyzed in Exhibit X of the application and is expected to comply with the DEQ noise control regulations, (see Section V.A of this DPO for discussion of noise). Based on the noise modeling provided in Exhibit X of the ASC, noise from facility operations is not expected to exceed the 45-dBA standard for “quiet areas.”<sup>248</sup>

Noise produced during construction is exempt from regulations for quiet areas under OAR 340-035-0035(5)(g). Except for the Horn Butte ACEC discussed above, the nearest protected area is over two

<sup>248</sup> The standard for “quiet areas” (defined in OAR 340-035-0015) is the lowest allowable statistical noise level shown on Table 9, incorporated by reference in OAR 340-035-0035(1)(C).

1 miles from the proposed facility.<sup>249</sup> Due to this distance, construction noise is unlikely to affect those  
2 other protected areas.

3 For the reasons described above, the Council finds that noise generated during construction and  
4 operation of the proposed facility would not result in a significant adverse impact to any protected area.

5 **IV.F.1.b. Traffic Impacts**

6 The proposed transportation routes for construction and operational traffic are described in Exhibit U  
7 of the ASC. The proposed transportation routes do not pass through any protected areas. Temporary  
8 impacts such as short term traffic delays on I-84 at the Tower Road ramp are not expected to impact  
9 access to any protected areas. Protected areas within the analysis area are located at sufficient distances  
10 from the Carty facility to prevent impacts due to increased traffic.

11 Traffic demands on local roads and highways in the vicinity of the facility are low, and any effects  
12 during construction of the proposed facility are expected to be temporary and negligible, and would not  
13 adversely affect protected areas. The facility would have up to 30 daily employees upon operation,  
14 resulting in negligible traffic impacts.

15 For the reasons explained in this section, the Council finds that facility-related road use during  
16 construction and operation of the proposed facility would not result in a significant adverse impact to any  
17 protected area.

18 **IV.F.1.c. Water Use and Wastewater Disposal**

19 During operation, the proposed Carty Generating Station would obtain water from the Carty  
20 Reservoir currently serving the Boardman Plant. The Applicant proposes to obtain a secondary water  
21 right authorizing use of stored water from the Carty Reservoir at the Carty Generating Station. The water  
22 for the proposed Carty Generating Station would be drawn from an existing intake structure in Carty  
23 Reservoir, located at least two miles from the nearest protected area.<sup>250</sup> Potable water for the operations  
24 phase of the proposed Carty facility is proposed to come from the water system associated with the  
25 existing Boardman Plant; expected usage is approximately 800-1,440 gallons per day.<sup>251</sup> There would be  
26 no significant potential impact on protected areas.

27 Stormwater from roofs and paved areas would be routed to pervious areas to infiltrate. Wastewater  
28 generated during operations would be reused in facility processes at the Carty Generating Station or  
29 Boardman Plant, or discharged to Carty Reservoir or evaporation ponds under a Water Pollution Control  
30 Facility permit.<sup>252</sup> Sanitary wastewater is proposed to be disposed of using the existing sewerage facilities  
31 serving the Boardman Plant. These facilities have adequate capacity to treat the amount of sanitary  
32 wastewater that it expected to be generated by the proposed Carty facility, and would be tested for leaks  
33 and possibly reconditioned prior to use by the Carty facility.<sup>253</sup> No water used on the site would be  
34 discharged into wetlands or other adjacent resources and no impact to protected areas is expected.

35 The Council finds that water use and disposal during construction and operation of the proposed  
36 facility would not result in a significant adverse impact on water quantity or water quality within any  
37 protected area.  
38

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<sup>249</sup> Final ASC, Section L.4, p. L-4. Final ASC, Table L-1, Footnote \*\*. As noted above, the portion of the facility located within the protected area is exempt from OAR 345-022-0040 (1).

<sup>250</sup> Final ASC, Section L.4, p. L-4

<sup>251</sup> Final ASC, Section O.2.2, p. O-3

<sup>252</sup> Final ASC, Section L.4, p. L-4

<sup>253</sup> Final ASC, Section V.4.2, p. V-8

1 **IV.F.1.d. Visual Impacts**

2 There are no federal, tribal, state, or county land management plans that identify any significant  
3 visual or aesthetic sites within the analysis area. An analysis was conducted to determine whether any  
4 scenic or aesthetic resources would be affected by the proposed facility. The most prominent visible  
5 features of the proposed facility would be the two approximately 200-foot tall exhaust stacks. The two  
6 exhaust towers would be in high contrast to the natural flat sagebrush landscape, but would be painted  
7 with low-glare paint and colors would be chosen to best complement the surrounding landscape  
8 foreground and background colors.

9 The Applicant provided a plume visual impact analysis in Exhibit R of the ASC, which shows that  
10 there would not be any visual impacts to protected areas within the analysis area.<sup>254</sup> The nearest Oregon  
11 Class I visual resource to the subject site is the Mt. Hood Wilderness, which is approximately 75 miles  
12 from the project site.<sup>255</sup>

13 The Friends of the Columbia Gorge (FOCG) provided comments on the Draft Proposed Order<sup>256</sup> and  
14 assert that “Additional sources of air pollution, such as the Carty Generating Station, have the potential to  
15 further impair air quality and harm scenic, natural, cultural, and recreational resources of the Columbia  
16 River Gorge” and that “DEQ and EFSC have a responsibility to ensure that Gorge air quality is protected  
17 from new sources of air pollution that are subject to their permitting authority. See ORS 196-155.3 Thus,  
18 EFSC or DEQ must ensure that the evaluation of air quality impacts for the Carty Generating Station  
19 includes modeling of impacts to the Gorge and that permits include provisions that would prevent adverse  
20 impacts to Gorge air quality and the scenic, natural, cultural, and recreational resources of the Gorge.”

21 The Oregon Department of Environmental Quality (DEQ) issued an Air Contaminant Discharge  
22 Permit (ACDP) for the proposed facility on December 29, 2010.<sup>257</sup> In its ACDP Review Report<sup>258</sup> the  
23 DEQ noted that PGE had submitted the results of its air quality modeling in its “Prevention of Significant  
24 Deterioration (PSD) Application” for the proposed facility,<sup>259</sup> and had subsequently provided an  
25 independent third party analysis of the modeling results. The PSD application included analysis of  
26 potential air quality impacts on Class I and Class II areas, in addition to an analysis of impacts to the  
27 Columbia River Gorge National Scenic Area. The DEQ states in its Review Report that “Based on the air  
28 quality analysis, DEQ has determined that the proposed Carty Plant will not have an adverse impact on air  
29 quality in Class I and Class II areas. Impacts on the Columbia River Gorge National Scenic Area were  
30 also evaluated and determined to be slightly higher than the impacts in the Mt. Hood Wilderness Area,  
31 but still not significant.”

32 To minimize any potential impact that would result from the development of the facility, the proposed  
33 structures would be painted with low-glare paint, and colors would be chosen to best complement the  
34 surrounding landscape foreground and background colors.<sup>260</sup> Except for safety and Federal Aviation  
35 Administration warning lighting, night lighting fixtures and mounting would be selected to guide light

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<sup>254</sup> Final ASC, Section R.6, p. R-7

<sup>255</sup> Final ASC, Section L.4, p. L-4

<sup>256</sup> CGS-0116, 04-13-12, Comment from Richard Till, Friends of the Columbia River Gorge

<sup>257</sup> CGS-0058, 12-29-10, Standard Air Contaminant Discharge Permit No. 25-0016-ST-02, Department of Environmental Quality

<sup>258</sup> CGS-0059, 12-29-10, Review Report for Standard Air Contaminant Discharge Permit No. 25-0016-ST-02, Department of Environmental Quality

<sup>259</sup> CGS-0038, 12-01-2009, Carty Power Plant Prevention of Significant Deterioration Application, Portland General Electric

<sup>260</sup> Final ASC, Section L.4, p. L-4

1 downward, helping to minimize lighting and illumination seen from off site.<sup>261</sup> In section IV.J.2, the  
2 Council has adopted Conditions IV.J.2.2 and IV.J.2.3, to incorporate these mitigation measures.

3 Based on this reasoning, and subject to compliance with the conditions, the Council finds that  
4 construction and operation of the Carty facility would not have significant adverse visual impacts on any  
5 protected area.

6 **IV.F.2. PROTECTED AREAS: SITE CERTIFICATE CONDITIONS**

7 Beyond those elsewhere in this Order, the Council is not adopting any conditions specifically related  
8 to compliance with the Protected Areas standard.

9 **IV.F.3. PROTECTED AREAS: CONCLUSIONS OF LAW**

10 Based on the foregoing findings of fact and conclusions, the Council finds that, except for the  
11 transmission corridor located in the Horn Butte ACEC, the proposed facility is not located in any  
12 protected area listed in OAR 345-022-0040 and that the design, construction, and operation of the  
13 proposed facility, taking into account mitigation, are not likely to result in significant adverse impact to  
14 any protected area. Based on these findings, and subject to the site certificate conditions described herein,  
15 the Council concludes that the proposed facility complies with the Protected Areas Standard.  
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<sup>261</sup> Final ASC, Section L.4, p. L-5



1 **IV.G. RETIREMENT AND FINANCIAL ASSURANCE [OAR 345-022-0050]**

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

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

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

9 **IV.G.1. RETIREMENT AND FINANCIAL ASSURANCE: FINDINGS OF FACT**

10 The Applicant provided information regarding the Council’s Retirement and Financial Assurance  
11 standard in Exhibits M and W of the application.

12 **IV.G.1.a. Restoration of Site Following Cessation of Construction or Operations**

13 OAR 345-022-0050(1) requires the Council to find that the facility site can be restored to a useful,  
14 non-hazardous condition at the end of the facility’s useful life. For the purpose of the standard, a “useful,  
15 non-hazardous condition” is a condition consistent with the applicable local comprehensive land use plan  
16 and land use regulations. The proposed Carty Generating Facility is located on land zoned General  
17 Industrial (MG) and Exclusive Farm Use (EFU).<sup>262</sup> To satisfy the standard, the Applicant must show that  
18 the site can be restored to a non-hazardous condition suitable for agricultural use or industrial use, based  
19 on the zoning. The useful life of the proposed energy facility is 30 years.<sup>263</sup>

20 Restoring the site to a useful, non-hazardous condition upon retirement would involve removing  
21 equipment, dismantling buildings, demolishing foundations to a depth of at least three feet and regrading  
22 the surface soil. Demolition waste material would be transported for disposal at authorized sites. Related  
23 or supporting pipelines for gas, water and wastewater could be left in place to serve future industrial uses,  
24 consistent with the goal of restoring the site to a condition suitable for heavy industrial use. However, if  
25 necessary under the retirement plan, removal of such facilities could be accomplished along with the  
26 removal of other structures and equipment on the site.

27 Hazardous materials would be stored and used at the Carty Generating Station. The applicant states  
28 that hazardous materials would be used and stored in a manner that would minimize the chance of  
29 accidental release to the environment and be consistent with a site-specific materials management and  
30 monitoring plan that PGE proposes to develop and implement. Hazardous materials would be disposed of  
31 through an appropriate waste disposal service provider.<sup>264</sup>

32 Exhibit G of the ASC indicates that the facility will include above-ground storage tanks ranging in  
33 size from 100 to 12,000 gallons for the storage of diesel fuel, sulphuric acid, sodium hypochlorite, and  
34 anhydrous ammonia, and silos for the storage of lime and soda ash.<sup>265</sup> Leaks and spills, failure of  
35 secondary containment systems, or poor waste management can result in contamination of soils. In the  
36 absence of an effective materials management and monitoring plan, site remediation costs can be  
37 significant.

38 To prevent contamination of waterways, the U.S. Environmental Protection Agency (EPA)  
39 administers the Spill Prevention, Control, and Countermeasure (SPCC) program, which requires facilities  
40 with over 1,320 gallons of aboveground oil storage capacity to develop and implement an SPCC Plan.

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<sup>262</sup> Final ASC, Section K.5.1, p. K-6 and Figure K-1

<sup>263</sup> Final ASC, Section W.2, p. W-1

<sup>264</sup> Final ASC, Section W.6, p. W-6

<sup>265</sup> Final ASC, Exhibit G, Table G-1

1 An SPCC Plan includes operating procedures to prevent oil spills (including site inspections), control  
2 measures such as secondary containment to contain spills, and countermeasures to contain, clean up, and  
3 mitigate the effects of an oil spill. The applicant has represented in the ASC that it will implement an  
4 SPCC Plan during construction and operation of the Carty Generating Station.<sup>266</sup> Therefore, the Council  
5 adopts Condition IV.G.2.1 requiring the applicant to prepare and implement an SPCC Plan.

6 An SPCC Plan is only required to address potential spills of oil products and does not apply to  
7 hazardous materials or other chemicals. In the past, to address potential spills of hazardous chemicals, the  
8 Council has required certificate holders to perform periodic Phase I Environmental Site Assessments  
9 (ESAs) in accordance with industry-accepted standards. The intent of this requirement was to identify  
10 any chemical spills early to minimize remediation costs. The Phase I ESA process, however, is  
11 prescribed by ASTM Standard E 1527, and has an emphasis on examination of historical site conditions  
12 to assess the likelihood of contamination on-site. Given the intent of the requirement to identify releases  
13 and site conditions that could lead to contamination, a Phase I ESA does not appear to meet the Council's  
14 intent to periodically monitor the facility for evidence of environmental contamination from the handling  
15 of hazardous substances.

16 Therefore, in addition to the SPCC Plan required by Condition IV.G.2.1, the Council adopts  
17 Condition IV.G.2.2, requiring the certificate holder to prepare and implement a Hazardous Substance  
18 Management Plan which addresses potential spills or releases of hazardous substances other than oil. In  
19 addition, the Council adopts Condition IV.G.2.3 requiring the certificate holder to remedy any release of  
20 hazardous substances and to correct any deficiencies identified in the course of site inspections required  
21 by the Hazardous Substance Management Plan, and Condition IV.G.2.4 requiring the certificate holder to  
22 report any releases to the Department. Both conditions also require the amount of the decommissioning  
23 financial assurance bond or letter of credit be increased if necessary to cover the cost of corrective  
24 action.<sup>267</sup>

25 The Council also adopts Conditions IV.G.2.5, IV.G.2.6, IV.G.2.7, and IV.G.2.8,<sup>268</sup> which are  
26 conditions required by Council rule to be included in all site certificates. This set of conditions requires  
27 the applicant to prevent the development of any conditions on the site that would preclude restoration of  
28 the site and to submit a retirement plan to the Council for review and approval upon cessation of  
29 construction or operations at the site. The retirement plan would describe the activities necessary to retire  
30 the site. After Council approval of the retirement plan, the certificate holder would obtain the necessary  
31 authorization from the appropriate regulatory agencies to proceed with restoration of the site.

32 For the reasons discussed above and subject to compliance with the adopted and mandatory  
33 conditions of approval discussed here, the Council finds that the actions necessary to restore the site as  
34 described above are feasible and that restoration of the site to a useful, non-hazardous condition could be  
35 achieved.

#### 36 37 **IV.G.1.b. Estimated Cost of Site Restoration**

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<sup>266</sup> Final ASC, Exhibit I, Section I.6 (Mitigation Measures for soil protection)

<sup>267</sup> In its comments on the DPO (CGS-0114), PGE stated that it “believes it should not be required to increase the bond or letter of credit in response to a release of hazardous substance if it hasn’t been remedied within six months of discovery as long as PGE has commenced remedial actions in consultation with [DEQ].” The Department is not recommending any change in response to this comment.

<sup>268</sup> Recommended Condition IV.G.2.8 was slightly revised in response to PGE’s comment on the DPO (CGS-0114) that the condition as worded in the DPO indicated that the Council would draw on the financial assurance instrument even if the Applicant had submitted the required retirement plan.

1 OAR 345-022-0050(2) addresses the possibility that the certificate holder is unable or unwilling to  
2 restore the site upon permanent cessation of construction or operation of the facility. A bond or letter of  
3 credit provides a site restoration remedy to protect the State of Oregon and its citizens if the certificate  
4 holder fails to perform its obligation to restore the site. The bond or letter of credit must remain in force  
5 until the certificate holder has fully restored the site. To estimate the applicable site restoration cost, PGE  
6 used a modified version of the Department’s Facility Retirement Cost Estimating Guide. The Applicant  
7 estimated that the cost of site restoration in 1<sup>st</sup> quarter 2009 dollars, assuming no allowance for scrap  
8 value, would be approximately \$10.402 million. This estimate was based on the dismantling and removal  
9 of most equipment and structures for Block 1 and Block 2 of the facility.

10 To assess the reasonableness of the Applicant’s cost estimate, the Department conducted an  
11 independent cost estimate, following the procedure outlined in the draft “Facility Retirement Cost  
12 Estimating Guide.” The Cost Estimating Guide assumes a facility configuration that would result in the  
13 highest site restoration cost consistent with the maximum design flexibility requested by the Applicant.

14 The applicant did not include the standard overhead, profit and insurance charges, as well as several  
15 contingency costs within their cost estimate, but these costs were included in the Department’s cost  
16 estimate. For example, a demolition contractor’s bid is likely to include overhead charges, profit and  
17 insurance costs, which is accounted for in the site restoration cost. The Cost Estimating Guide  
18 recommends 10 percent for overhead, 10 percent for profit and 3 percent for insurance costs.

19 The Applicant did not include several contingency costs within their cost estimate, but these costs  
20 have been included in the Department’s cost estimate. Site remediation (removal of potentially hazardous  
21 materials, including fuel oil, motor oils, water treatment chemicals and solvents and associated soil  
22 restoration efforts) represents an important step in the restoration of the energy facility site. The extent  
23 and prospective cost of site remediation is highly dependent on operating practices throughout the life of  
24 the energy facility. The Department also includes in its cost estimate a contingency amount for Additional  
25 Hazardous Materials Disposal.<sup>269</sup> Based on the materials to be used at the facility as described in Exhibit  
26 G, the Department used \$500,000 as a reasonable amount for performance of Environmental Site  
27 Assessments and for clean-up of minor spills and contamination at closure.

28 In addition to the direct costs for retirement, the Council includes in the financial assurance  
29 requirement a contingency amount of 20 percent to account for uncertainty in the decommissioning cost  
30 estimate (Uncertainty of Future Regulatory and Disposal Costs).<sup>270</sup> A site restoration estimate is similar  
31 to preliminary engineering estimates, which may have an accuracy range of plus-or-minus 20 percent. If  
32 site restoration becomes necessary, it might be many years in the future. Other factors contribute to  
33 uncertainty; for example, different environmental standards or other legal requirements might be in place  
34 in the future, new disposal sites might need to be found for demolition debris, and the cost of labor and  
35 equipment available might increase at a rate exceeding the standard inflation adjustment.

36 A contingency for administrative and management expenses (Administration and Project  
37 Management) of 10 percent is also added in the Department’s cost estimate.<sup>271</sup> These are the anticipated  
38 direct costs borne by the state in the course of managing site restoration and would include the  
39 preparation and approval of a final retirement plan, obtaining legal permission to proceed with the  
40 demolition of the facility, legal expenses for protecting the State’s interests, preparing specifications, bid  
41 documents and contracts for demolition work, managing the bidding process, the negotiation of contracts,  
42 and other tasks.

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<sup>269</sup> Cost Estimating Guide, p. 13

<sup>270</sup> Cost Estimating Guide, p. 12

<sup>271</sup> Cost Estimating Guide, p. 12

1 Using these cost assumptions, the Department estimated the total site restoration cost to be \$9.304  
2 million in mid-2004 dollars, or \$10.769 million in 3<sup>rd</sup> quarter 2011 dollars.<sup>272</sup> The Department estimated  
3 the total gross cost, including administration, project management, future developments, and hazardous  
4 material contingency adjustments, to be \$14.5 million in 3<sup>rd</sup> quarter 2011 dollars.

5 In its comments on the Retirement and Financial Assurance section in the Draft Proposed Order  
6 (DPO), PGE pointed out that the DPO did not reflect the intent of the applicant to build the Carty  
7 Generating Station in two phases (Block 1 and Block 2).<sup>273</sup> PGE requested that "...the estimated costs of  
8 restoration be calculated on a per block basis and that the per block costs be added to the text and  
9 conditions." PGE provided a table that broke out the site restoration costs on a per block basis, with the  
10 addition of the contingency factors (discussed above) for each block. Based on the table provided (and  
11 reproduced below), the site restoration costs for Block 1 (inclusive of contingency factors and calculated  
12 in 3<sup>rd</sup> quarter 2011 dollars) is \$7.884 million and for Block 2 is \$6.670 million, for a total cost of \$14.554  
13 million.

14 The Council agrees that the certificate holder should not have to provide the site restoration financial  
15 assurance for Block 2 until such time that the certificate holder is ready to begin construction. The  
16 Council also finds that \$7.884 million and \$6.670 million for Blocks 1 and 2, respectively, are reasonable  
17 estimates to restore the Carty site to a useful, non-hazardous condition. The Council adopts Condition  
18 IV.G.2.9 which requires the certificate holder to submit a bond or letter of credit for Department review  
19 and approval prior to the start of construction of each block in the amounts described above, and adjusted  
20 as required by Condition IV.G.2.9.

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<sup>272</sup> The Facility Retirement Cost Estimating Guide computes the retirement and site restoration cost in terms of mid-2004 dollars. The computation has been adjusted to reflect 3<sup>rd</sup> Quarter 2011 dollars by application of the Gross Domestic Product (GDP) Implicit Price Deflator for the 3<sup>rd</sup> Quarter 2011 divided by the average of the quarterly GDP Implicit Price Deflator for the second quarter 2004 and third quarter 2004, or 112.8025/96.7935.

<sup>273</sup> CGS-0114, 04-13-12, Comments from Portland General Electric Company on the Carty Generating Station Draft Proposed Order

### Site Restoration Cost Estimate<sup>274</sup>

Cost Estimate Component	Block 1 Cost	Block 2 Cost	Total Cost
Concrete Wrecking -Remove reinforced and non-reinforced concrete	\$230,768	\$216,094	\$446,862
Building Wrecking -Dismantle administration, water treatment, turbine and boiler feed buildings	\$173,347	\$114,372	\$287,719
Steel Wrecking -Dismantle superstructure, miscellaneous metals, soft interior, and sort/clean	\$206,541	\$196,821	\$403,362
Thermal Protection/Liner Wrecking -Remove pond liners and insulation	\$130,435	\$130,435	\$260,870
Equipment Wrecking -Dismantle combustion turbines, coolers, heaters, HRSG, stacks, steam turbine, pumps, compressors, tanks, and catalyst	\$142,288	\$128,628	\$270,916
Mechanical Wrecking -Dismantle cooling water, gas, steam, raw water, and fresh water piping	\$105,733	\$105,733	\$211,466
Electrical Wrecking -Dismantle transformers, Motor Control Center (MCC), wiring, switch yard, towers, and transmission line wiring	\$371,120	\$66,410	\$437,530
Load and Haul -Load, haul, and disposal of debris and scrap steel	\$1,378,000	\$1,348,000	\$2,726,000
Site Construction -Utility disconnects, preliminary work, and site grading	\$574,666	\$561,604	\$1,136,270
General Costs -Permits, mobilization, engineering, overhead, hazardous material inspections, and site protection	\$506,760	\$309,780	\$816,540
<b>Subtotal</b>	<b>\$3,819,658</b>	<b>\$3,177,877</b>	<b>\$6,997,535</b>
Overhead -10%	\$381,966	\$317,788	\$699,754
Profit -10%	\$420,162	\$349,566	\$769,729
Insurance -3%	\$138,654	\$115,357	\$254,011
Subcontractor	\$220,000	\$220,000	\$440,000
<b>Subtotal</b>	<b>\$4,980,440</b>	<b>\$4,180,588</b>	<b>\$9,161,028</b>
Bond -1%	\$49,804	\$41,806	\$91,610
Adjusted to 2011 \$ -factor 0.1157	\$5,814,460	\$4,880,666	\$10,695,126
Contingency: Additional Hazardous Materials Disposal	\$250,000	\$250,000	\$500,000
Contingency: Uncertainty of Future Regulatory and Disposal Costs	\$1,212,892	\$1,026,133	\$2,239,025
Contingency: Administration and Project Management	\$606,446	\$513,066	\$1,119,513
<b>Total</b>	<b>\$7,883,798</b>	<b>\$6,669,866</b>	<b>\$14,553,664</b>
<b>Total Rounded to Nearest \$1,000</b>	<b>\$7,884,000</b>	<b>\$6,670,000</b>	<b>\$14,554,000</b>

<sup>274</sup> CGS-0114, 04-13-12, Comments from Portland General Electric Company on the Carty Generating Station Draft Proposed Order

1 **IV.G.1.c. Ability of the Applicant to Obtain a Bond or Letter of Credit**

2 OAR 345-022-0050(2) requires the Council to decide whether the Applicant has a reasonable  
3 likelihood of obtaining a bond or letter of credit in a form and amount satisfactory to the Council to  
4 restore the site to a useful, non-hazardous condition. Based on the Department’s estimate described in the  
5 previous section, the Council finds the value of the financial assurance bond or letter of credit for  
6 restoring the site of the proposed Carty Generating Facility would not exceed \$7.884 million for Block 1  
7 (inclusive of contingency factors and calculated in 3<sup>rd</sup> quarter 2011 dollars) and \$6.670 million for Block  
8 2, for a total cost of \$14.554 million, adjusted annually as described in Condition IV.G.2.9.

9 The Applicant provided information about its financial capability in Exhibit M of the application.  
10 PGE proposes to provide a financial assurance bond or letter of credit in a form approved by the Council  
11 before beginning construction of the facility. A letter is provided in Exhibit M the application from J.P.  
12 Morgan Chase Bank stating that Portland General Electric is a client in good standing and has a sufficient  
13 credit profile that J.P Morgan Chase Bank would be willing to furnish a letter of credit in the amount of  
14 \$12 million for a period not to exceed three years and six months.<sup>275</sup> Because the Department’s estimate  
15 of decommissioning and restoration costs was higher than that calculated by the Applicant, the  
16 Department requested that the Applicant submit additional evidence of its ability to obtain a letter of  
17 credit. The Applicant provided the Department a new letter from J.P. Morgan Chase Bank, dated March  
18 1, 2012 indicating that J.P Morgan Chase Bank would be willing to furnish a letter of credit in the amount  
19 of \$15 million to the Applicant.<sup>276</sup> The letter does not constitute a firm commitment from the bank to  
20 issue the letter of credit, but it is evidence of a reasonable likelihood that the Applicant could obtain the  
21 necessary financial assurance.

22 It is customary for a performance bond to contain provisions allowing the surety to complete  
23 construction of a project in order to reduce its potential liability. Accordingly, when the certificate holder  
24 elects to use a bond to meet the financial assurance requirements and the surety retains the right to  
25 complete construction, operate, or retire the energy facility, the Council requires the certificate holder to  
26 ensure that the surety has agreed to comply with all applicable statutes, Council rules and site certificate  
27 conditions. In addition, the Council requires that the surety seek Council approval before commencing  
28 construction, operation or retirement activities. These requirements are included in Condition IV.G.2.10.

29 For the reasons discussed above and subject to compliance with the adopted and mandatory  
30 conditions of approval discussed here, the Council finds that PGE has demonstrated a reasonable  
31 likelihood of obtaining a bond or letter of credit in an amount sufficient to cover the estimated site  
32 restoration costs.

33 **IV.G.2. RETIREMENT AND FINANCIAL ASSURANCE: SITE CERTIFICATE CONDITIONS**

34 IV.G.2.1 The certificate holder shall develop and implement a Spill Prevention, Control and  
35 Countermeasure (SPCC) Plan in accordance with 40 CFR 112. A copy of this plan shall be  
36 provided to the Department prior to the commencement of construction of the Carty  
37 Generating Station.  
38 [Site Certificate Condition 5.9]

39 IV.G.2.2 The certificate holder must prepare and implement a Hazardous Materials Management and  
40 Monitoring plan approved by the Department. The plan must address the handling of  
41 potentially hazardous substances (as defined by ORS 465.200) during construction and  
42 operation of the facility, measures to prevent on- and off-site contamination and  
43 documentation of plan implementation. The certificate holder must use hazardous materials

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<sup>275</sup> Final ASC, Attachment M-2 (Letter from J.P. Morgan Chase Bank, December 15, 2009).

<sup>276</sup> CGS-0111, 03-01-12, Letter from J.P. Morgan Chase Bank

1 in a manner that protects public health, safety and the environment and must comply with all  
2 applicable local, state and federal environmental laws and regulations.

3 The Hazardous Materials Management and Monitoring Plan shall contain the same  
4 information required for a Spill Prevention, Control and Countermeasure Plan (40 CFR  
5 112). Whereas the SPCC Plan addresses spill prevention for oil products, the materials  
6 management and monitoring plan shall address hazardous substances. The Plan shall  
7 include operating procedures to prevent hazardous substances releases, control measures to  
8 contain hazardous substance releases, countermeasures to contain, cleanup, and mitigate  
9 hazardous substance releases, and procedures for required inspections and testing. This Plan  
10 must be submitted to the Department for review and approval prior to commencement of  
11 construction of the Carty Generating Facility.  
12 [Site Certificate Condition 10.36]

13 IV.G.2.3 If any inspection performed in accordance with the Hazardous Materials Management and  
14 Monitoring Plan identifies improper handling or storage of hazardous substances (as defined  
15 by ORS 465.200) or improper record keeping procedures, the certificate holder must correct  
16 such deficiencies promptly and must report the corrective actions to the Department. If the  
17 certificate holder has not corrected such deficiencies within six months after the date of the  
18 inspection report, the certificate holder shall submit to the Council an independently  
19 prepared estimate of cost of correction. Upon approval of the estimate by the Council, the  
20 certificate holder shall increase the amount of the bond or letter of credit required under  
21 Condition IV.G.2.9 by the approved amount of the estimate. In no event, however, shall the  
22 certificate holder be relieved of its obligation to exercise all due diligence in correcting  
23 deficiencies identified in the course of a site inspection.  
24 [Site Certificate Condition 10.37]

25 IV.G.2.4 The certificate holder shall report any release (as defined by ORS 465.200) of hazardous  
26 substances to the Department within 72 hours after the discovery of such release, in addition  
27 to any other reporting requirements under applicable law. If the certificate holder has not  
28 remedied a release consistent with applicable Oregon Department of Environmental Quality  
29 standards within six months after the date of the release, the certificate holder shall submit to  
30 the Council an independently prepared estimate of the cost to complete necessary  
31 remediation. Upon approval of the estimate by the Council, the certificate holder shall  
32 increase the amount of its bond or letter of credit by the approved amount of the estimate. In  
33 no event, however, shall the certificate holder be relieved of its obligation to exercise all due  
34 diligence in remedying a release of hazardous substances.  
35 [Site Certificate Condition 10.38]

36 IV.G.2.5 The certificate holder shall prevent the development of any conditions on the site that would  
37 preclude restoration of the site to a useful, non-hazardous condition to the extent that  
38 prevention of such site conditions is within the control of the certificate holder.  
39 [Site Certificate Condition 15.3] [Mandatory Condition OAR 345-027-0020(7)]

40 IV.G.2.6 The certificate holder must retire the facility in accordance with a retirement plan approved  
41 by the Council if the certificate holder permanently ceases construction or operation of the  
42 facility. The retirement plan must describe the activities necessary to restore the site to a  
43 useful, non-hazardous condition, as described in OAR 345-027-0110(5). After Council  
44 approval of the plan, the certificate holder must obtain the necessary authorization from the  
45 appropriate regulatory agencies to proceed with restoration of the site.  
46 [Site Certificate Condition 15.4] [Mandatory Condition OAR 345-027-0020(9)]

47 IV.G.2.7 The certificate holder is obligated to retire the facility upon permanent cessation of  
48 construction or operation. If the Council finds that the certificate holder has permanently

1 ceased construction or operation of the facility without retiring the facility according to a  
2 final retirement plan approved by the Council, as described in OAR 345-027-0110, the  
3 Council shall notify the certificate holder and request that the certificate holder submit a  
4 proposed final retirement plan to the Department within a reasonable time not to exceed 90  
5 days. If the certificate holder does not submit a proposed final retirement plan by the  
6 specified date, the Council may direct the Department to prepare a proposed final retirement  
7 plan for the Council's approval.

8 [Site Certificate Condition 15.5] [Mandatory Condition OAR 345-027-0020(16)]

9 IV.G.2.8 Upon the Council's approval of a final retirement plan prepared per Condition IV.G.2.7, the  
10 Council may draw on the bond or letter of credit submitted per the requirements of  
11 Condition IV.G.2.9 to restore the site to a useful, non-hazardous condition according to the  
12 final retirement plan, in addition to any penalties the Council may impose under OAR  
13 Chapter 345, Division 29. If the amount of the bond or letter of credit is insufficient to pay  
14 the actual cost of retirement, the certificate holder shall pay any additional cost necessary to  
15 restore the site to a useful, non-hazardous condition. After completion of site restoration,  
16 the Council shall issue an order to terminate the site certificate if the Council finds that the  
17 facility has been retired according to the approved final retirement plan.

18 [Site Certificate Condition 15.6] [Mandatory Condition OAR 345-027-0020(16)]

19 IV.G.2.9 Before beginning construction of each generating block, the certificate holder shall submit to  
20 the State of Oregon through the Council a bond or letter of credit naming the State of  
21 Oregon, acting by and through the Council, as beneficiary or payee. The initial bond or  
22 letter of credit amount for Block 1 is \$7.884 million (in 3<sup>rd</sup> Quarter 2011 dollars), to be  
23 adjusted to the date of issuance, and adjusted on an annual basis thereafter, as described in  
24 sub-paragraph (a) of this condition. The initial bond or letter of credit amount for Block 2 is  
25 \$6.670 million (in 3<sup>rd</sup> Quarter 2011 dollars), to be adjusted to the date of issuance, and  
26 adjusted on an annual basis thereafter, as described in sub-paragraph (a) of this condition.

27 a. The certificate holder may adjust the amount of the bond or letter of credit based on the  
28 final design configuration of the facility and turbine types selected. Any revision to the  
29 restoration costs should be adjusted to the date of issuance as described in (b), and is  
30 subject to review and approval by the Department.

31 b. The certificate holder shall adjust the amount of the bond or letter of credit, using the  
32 following calculation and subject to approval by the Department.

33 i. Adjust the amount of the bond or letter of credit amount (expressed in 3<sup>rd</sup> Quarter  
34 2011 dollars) to present value, using the U.S. Gross Domestic Product Implicit  
35 Price Deflator, Chain-Weight, as published in the Oregon Department of  
36 Administrative Services' "Oregon Economic and Revenue Forecast" or by any  
37 successor agency (the "Index") and using the 3<sup>rd</sup> Quarter 2011 index value and  
38 the quarterly index value for the date of issuance of the new bond or letter of  
39 credit. If at any time the Index is no longer published, the Council shall select a  
40 comparable calculation to adjust 3<sup>rd</sup> Quarter 2011 dollars to present value.

41 ii. Round the resulting total to the nearest \$1,000 to determine the financial  
42 assurance amount.

43 c. The certificate holder shall use a form of bond or letter of credit approved by the  
44 Council.

45 d. The certificate holder shall use an issuer of the bond or letter of credit approved by the  
46 Council.



1 e. The certificate holder shall describe the status of the bond or letter of credit in the annual  
2 report submitted to the Council under Condition VI.4.

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

5 [Site Certificate Condition 15.1] [Mandatory Condition OAR 345-027-0020(8)]

6 IV.G.2.10 If the certificate holder elects to use a bond to meet the requirements of Condition IV.G.2.9,  
7 the certificate holder shall ensure that the surety is obligated to comply with the requirements  
8 of applicable statutes, Council rules and this site certificate when the surety exercises any  
9 legal or contractual right it may have to assume construction, operation or retirement of the  
10 energy facility. The certificate holder shall also ensure that the surety is obligated to notify  
11 the Council that it is exercising such rights and to obtain any Council approvals required by  
12 applicable statutes, Council rules and this site certificate before the surety commences any  
13 activity to complete construction, operate or retire the energy facility.

14 [Site Certificate Condition 15.2]

15 **IV.G.3. RETIREMENT AND FINANCIAL ASSURANCE: CONCLUSIONS OF LAW**

16 Based on the foregoing findings of fact and conclusions, and subject to compliance with the  
17 conditions listed in Section IV.G.2, the Council finds that the Carty Generating Facility site can be  
18 restored adequately to a useful, non-hazardous condition following permanent cessation of construction or  
19 operation of the facility.

20 The Council also finds that the applicant has a reasonable likelihood of obtaining a bond or letter of  
21 credit in a form and amount satisfactory to the Council to restore the site to a useful, non-hazardous  
22 condition.

23 Based on these findings and subject to compliance with the site certificate conditions, the Council  
24 concludes that the proposed facility complies with the Retirement and Financial Assurance Standard.

1 **IV.H. FISH AND WILDLIFE HABITAT [OAR 345-022-0060]**

2 *To issue a site certificate, the Council must find that the design, construction and operation of the*  
3 *facility, taking into account mitigation, are consistent with the fish and wildlife habitat mitigation*  
4 *goals and standards of OAR 635-415-0025 in effect as of September 1, 2000.*

5 In OAR 635-415-0025, ODFW has defined six categories of habitat in order of value to wildlife.  
6 The rule establishes mitigation goals and corresponding implementation standards for each habitat  
7 category.<sup>277</sup>

8 Habitat Category 1 is “*irreplaceable, essential habitat for a fish or wildlife species, population,*  
9 *or a unique assemblage of species and is limited on either a physiographic province or site-specific*  
10 *basis, depending on the individual species, population or unique assemblage.*” The mitigation goal  
11 for Category 1 habitat is no loss of either habitat quantity or quality. This goal requires avoidance of  
12 impacts.

13 Habitat Category 2 is “*essential habitat for a fish or wildlife species, population, or unique*  
14 *assemblage of species and is limited either on a physiographic province or site-specific basis*  
15 *depending on the individual species, population or unique assemblage.*” If impacts are unavoidable,  
16 the mitigation goal for Category 2 habitat is no net loss of either habitat quantity or quality *and*  
17 *provision of a net benefit of habitat quantity or quality.* To achieve this goal, impacts must be  
18 avoided or unavoidable impacts must be mitigated through “reliable in-kind, in-proximity” habitat  
19 mitigation to achieve no net loss of either pre-development habitat quantity or quality.<sup>278</sup> In addition,  
20 a net benefit of habitat quantity or quality must be provided.

21 Habitat Category 3 is “*essential habitat for fish and wildlife, or important habitat for fish and*  
22 *wildlife that is limited either on a physiographic province or site-specific basis, depending on the*  
23 *individual species or population.*” The mitigation goal for Category 3 habitat is no net loss of either  
24 habitat quantity or quality. The goal is achieved by avoidance of impacts or by mitigation of  
25 unavoidable impacts through “reliable in-kind, in-proximity” habitat mitigation to achieve no net loss  
26 in either pre-development habitat quantity or quality.

27 Habitat Category 4 is “*important habitat for fish and wildlife species.*” The mitigation goal for  
28 Category 4 habitat is no net loss in either existing habitat quantity or quality. The goal is achieved by  
29 avoidance of impacts or by mitigation of unavoidable impacts. In contrast to Category 3, mitigation  
30 options for Category 4 habitat are less constrained and may involve “reliable in-kind or out-of-kind,

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<sup>277</sup> The ODFW rules define habitat under two broad classifications: “essential” and “important.” OAR 635-415-0005 defines “essential habitat” as “any habitat condition or set of habitat conditions which, if diminished in quality or quantity, would result in depletion of a fish or wildlife species.” The rule defines “important habitat” as “any habitat recognized as a contributor to sustaining fish and wildlife populations on a physiographic province basis over time.”

<sup>278</sup> OAR 635-415-0005 defines “in-kind habitat mitigation” as habitat mitigation measures that “recreate similar habitat structure and function to that existing prior to the development action.” OAR 635-415-0005 defines “in-proximity habitat mitigation” as follows: “habitat mitigation measures undertaken within or in proximity to areas affected by a development action. For the purposes of this policy, ‘in proximity to’ means within the same home range, or watershed (depending on the species or population being considered) whichever will have the highest likelihood of benefiting fish and wildlife populations directly affected by the development.” OAR 635-415-0005 defines “reliable method” as “a mitigation method that has been tested in areas with site factors similar to those affected by a development action and the area in which the mitigation action is being proposed and that has been found (e.g., through field trials, demonstration projects or scientific studies) to produce the habitat effects required to meet the mitigation goal for that action.”

1 in-proximity or off-proximity” habitat mitigation to achieve no net loss in either pre-development  
2 habitat quantity or quality.

3 Habitat Category 5 is “*habitat for fish and wildlife having high potential to become either*  
4 *essential or important habitat.*” The mitigation goal for Category 5 habitat is to provide a “net  
5 benefit in habitat quantity or quality.” ODFW interprets the “net benefit” goal in the context of  
6 Category 5 as requiring “some improvement in habitat quantity or quality.” To clarify the “net  
7 benefit” goal, ODFW has provided the following explanation: “The improvement in habitat quantity  
8 or quality achieved need not rise to the level of improvement required to meet a goal of ‘no net loss’  
9 (i.e., the level required or recommended in the Mitigation Policy for Habitat Categories 2, 3, and  
10 4).”<sup>279</sup> The goal is achieved by avoidance of impacts or by mitigation of unavoidable impacts through  
11 “actions that contribute to essential or important habitat.”<sup>280</sup>

12 Habitat Category 6 is “*habitat that has low potential to become essential or important habitat for*  
13 *fish and wildlife.*” The mitigation goal for Category 6 habitat is to minimize impacts. The goal is  
14 achieved by actions that minimize direct habitat loss and avoid impacts to off-site habitat.

#### 15 **IV.H.1. FISH AND WILDLIFE HABITAT: FINDINGS OF FACT**

16 The Applicant addresses the Council’s Fish and Wildlife Habitat standard in Exhibit P of the  
17 application, which included the Carty Wildlife and Habitat Mitigation and Monitoring Plan as Appendix  
18 P-3.<sup>281</sup> The Plan was subsequently modified in consultation with ODFW in November 2011.<sup>282</sup> On  
19 December 6, 2011, ODFW documented the revised Plan meets the requirements of ODFW’s Fish and  
20 Wildlife Mitigation Policy.<sup>283</sup> The analysis are for fish and wildlife habitat impacts is the area within the  
21 site boundary and the area within ½-mile of all ground-disturbing activities that would occur during  
22 construction.<sup>284</sup> The Applicant also relies on Exhibit D of the application to provide additional evidence  
23 of the Applicant’s ability to meet mitigation compliance requirements. The following sections describe  
24 the habitat categories and wildlife species that occur (or have the potential to occur) within the analysis  
25 area for the proposed facility (IV.H.1.a), the potential fish and wildlife impacts of construction and  
26 operation of the facility (IV.H.1.b), the mitigation and monitoring plan proposed by the Applicant  
27 (IV.H.1.c), and consistency with ODFW goals and standards (IV.H.1.d).

#### 28 **IV.H.1.a. Habitat Categories and Wildlife Species within the Project Analysis Area**

##### 29 ***IV.H.1.a.i. Habitat Categories in and near the Project Analysis Area***

30 To identify the habitat characteristics of the proposed Carty site, the Applicant used aerial photos and  
31 GAP analysis data and conducted habitat surveys of both the proposed energy facility site and the  
32 proposed transmission line corridor during May and June 2009.<sup>285</sup> The eastern portion of the project area  
33 contains shrub-steppe habitat, agricultural cropland, and some riparian areas. Approximately one-fifth of  
34 this area in the eastern portion, including the Boardman conservation area, was burned by a fire that  
35 occurred in 2008. Areas of the shrub-steppe that were not impacted by fire are dominated by big  
36 sagebrush, bluebunch wheatgrass, cheat grass, and rabbit brush. The western portion of this area consists

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<sup>279</sup> Letter from Jon Germond, ODFW, January 24, 2008.

<sup>280</sup> OAR 635-415-0025(5)(b).

<sup>281</sup> The applicant also included the 2009 Biological Survey Report as Appendix P-1 to Exhibit P and the 2010 Biological Survey report as Appendix P-2

<sup>282</sup> CGS-0112, 11-29-11, Wildlife and Habitat Monitoring and Mitigation Plan, Ecology and Environment, Inc.

<sup>283</sup> CGS-0113, 12-06-11, Letter from ODFW concurring with revised November 2011 WHMMP for Carty Generating Station

<sup>284</sup> CGS-0042, 11-03-09, Oregon Department of Energy Project Order for the Carty Generating Station, p. 16

<sup>285</sup> Final ASC, Section P.4.1, p. P-4

1 of irrigated agriculture crops and a riparian zone with mixed upland and water tolerant plants. Wetland  
2 areas are dominated by Russian olive, Pacific willow, Canada goldenrod and Amaranth.<sup>286</sup>

3 **Category 1 Habitat**

4 **Upland – Shrub-Steppe (Washington Ground Squirrel)**

5 Category 1 designations are made for habitat that is considered “irreplaceable, essential, and limited”  
6 and includes any habitat containing active Washington ground squirrel burrows and active sensitive raptor  
7 nest sites. By applying a 785-foot buffer to the Washington ground squirrel survey data collected in 2009  
8 and 2010, an area within the project boundary was designated Category 1, where the Washington ground  
9 squirrel is likely to occur. The buffer was reduced to 630 feet for the habitat area adjacent to Tower Road,  
10 after consultation with ODFW which resulted in a determination that Tower Road limits the extent of  
11 Washington ground squirrel habitat. Approximately 90 acres of Category 1 habitat were identified within  
12 the site boundary. No Category 1 habitat was identified in the proposed transmission line ROW. The  
13 Applicant has proposed to avoid any Category 1 habitat,<sup>287</sup> and the Council adopts Condition IV.H.2.9  
14 that requires the certificate holder to avoid any disturbance of Category 1 habitat. Based on the evidence  
15 provided by the Applicant and subject to compliance with the Condition IV.H.2.9, the Council finds that  
16 no impacts to Category 1 habitat would occur during construction or operation of the Carty facility.

17 **Category 2 Habitat**

18 **Upland – Shrub-Steppe (Potential Washington Ground Squirrel)**

19 Category 2 habitat was identified within the project analysis area. This habitat type is defined as  
20 habitat adjacent to a previously-occupied Washington ground squirrel colony, but not currently occupied  
21 by any squirrels either for burrowing or foraging. This habitat is also of a similar habitat type and quality  
22 to the area currently occupied by squirrels. A 785-foot buffer was placed around point locations of active  
23 Washington ground squirrel burrows recorded over the past 8 years by the Nature Conservancy to  
24 delineate Category 2 habitat areas. Approximately 16 acres of Category 2 habitat was identified within the  
25 site boundary. No proposed components of the energy facility would be built near the Category 2 habitat.  
26 This habitat type was not found in the proposed transmission line ROW.<sup>288</sup> The Council finds that no  
27 impacts to Category 2 habitat would occur as a result of construction or operation of the Carty facility.

28 **Category 3 Habitat**

29 **Perennial Stream (Willow Creek)**

30 Category 3 perennial/intermittent stream habitat is essential habitat for fish and wildlife, or important  
31 habitat for fish and wildlife that is limited either on a physiographic province or site-specific basis,  
32 depending on the individual species or population. The proposed transmission line ROW would cross  
33 Willow Creek at one location. Willow Creek is a perennial stream located in the Willow watershed, which  
34 provides habitat for the ODFW-listed vulnerable inland Columbia redband trout. The Applicant stated  
35 that no poles or equipment would be placed within the creek and construction and maintenance vehicles  
36 would cross using an existing bridge. Using these methods, the Applicant proposes to avoid impacts to  
37 Willow Creek and the Columbia redband trout.<sup>289</sup> As discussed in Section V.B, Removal-Fill Law, below,  
38 the Council adopts Condition V.B.2.2, which requires the certificate holder to avoid these impacts. Based  
39 on the evidence provided by the Applicant and subject to compliance with Condition V.B.2.2, the Council  
40 finds that there would be no impacts to Willow Creek and the Columbia redband trout.

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<sup>286</sup> Final ASC, Section P.5, p. P-7

<sup>287</sup> Final ASC, Section P.5.1, p. P-8

<sup>288</sup> Final ASC, Section P.5.2, p. P-8

<sup>289</sup> Final ASC, Section P.5.3, p. P-12

1 Three classes of wetlands were observed in the project analysis area: palustrine forested, palustrine  
2 scrub-shrub, and palustrine emergent. Four wetlands were located within the Carty facility site, including  
3 2.2 acres of palustrine forested; 0.5 acre of palustrine scrub-shrub; and 0.2 acre of palustrine emergent.  
4 Impacts to wetlands within the Carty facility site would be avoided. Two palustrine emergent wetlands  
5 comprising approximately 1.1 acres were identified within the analysis area for the transmission line  
6 ROW. The Applicant proposes to conduct clearing and construction using existing roads where possible,  
7 and new roads and transmission line towers would be located outside of wetland areas to avoid impacts.<sup>290</sup>  
8 Wetlands are addressed in further detail in Section V.B of this Order (Removal/Fill Law). As discussed in  
9 Section V.B, the Council adopts Condition V.B.2.2, which would require the certificate holder to avoid  
10 any disturbance to delineated wetlands and construct support structures for aboveground transmission  
11 lines outside of delineated stream channels.

#### 12 **Category 4 Habitat**

13 Category 4 habitats include a variety of intermittent streams, and developed/disturbed habitat mixed  
14 with shrub-steppe and agricultural cropland. Though many Category 4 habitat types display evidence of  
15 previous disturbance, most are important habitat for a variety of fish and wildlife species. Species  
16 observed in these habitats during field surveys include red-tailed hawk, coyote, burrowing owl, long-  
17 billed curlew, golden eagle, and white-tailed jackrabbit.<sup>291</sup>

#### 18 **Shrub-steppe**

19 Category 4 shrub-steppe habitat is comprised of the existing transmission line and dirt access road  
20 with portions of agricultural cropland and weed dominated shrub-steppe, as well as a paved access road.  
21 This habitat type is important to some wildlife species, but is not considered limited in availability.  
22 Approximately 884 acres of this habitat type occur in the proposed transmission line ROW. The proposed  
23 Carty facility site includes approximately 420 acres of Category 4 disturbed habitat. Installation of lattice  
24 transmission towers and line stringing would temporarily impact approximately 82 acres and permanently  
25 impact approximately 0.1 acres of this habitat type. Construction of new access roads would temporarily  
26 impact approximately 32 acres and permanently impact approximately one acre of this habitat type.  
27 Construction of the Carty facility, including the evaporation ponds and Grassland Switchyard, would  
28 temporarily impact approximately 40 acres of Category 4 shrub-steppe habitat and permanently impact 90  
29 acres of such habitat.<sup>292</sup>

#### 30 **Intermittent Streams**

31 Category 4 intermittent/ephemeral streams include the Sixmile Canyon and Eightmile Canyon  
32 Drainages. Eightmile Canyon Creek is an ephemeral drainage that is highly disturbed as a result of cattle  
33 grazing. Eightmile Canyon is located along the proposed transmission line ROW and west of Willow  
34 Creek. An existing crossing would be used for Eightmile Canyon Creek and the existing Rhea Road  
35 bridge would be used to cross Willow Creek. Sixmile Canyon drainage is located within the proposed  
36 Carty facility site. This feature appears to have been artificially altered and is crossed by an existing  
37 access road. The Applicant proposes to avoid new impacts to Sixmile Canyon by avoiding placement of  
38 facility structures in that area and using the existing access road for vehicle crossing only during the dry  
39 season. Impacts to both the Eightmile Canyon and Sixmile Canyon Drainages would be avoided.<sup>293</sup>  
40 Based on the Applicant's representation in the ASC, Council adopts Condition IV.H.2.15 requiring the  
41 certificate holder to avoid impacts to these drainages.

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<sup>290</sup> Final ASC, Section P.5.3, p. P-12

<sup>291</sup> Final ASC, Section P.5.4, p. P-12

<sup>292</sup> Final ASC, Section P.5.4, p. P-13

<sup>293</sup> Final ASC, Section P.5.4, p. P-13

1 The Applicant has proposed mitigation of impacts to Category 4 habitat in its Wildlife and Habitat  
2 Mitigation and Monitoring plan, which is discussed below in section IV.H.1.b.

3 **Category 5 Habitat**

4 No Category 5 habitat was identified within the analysis area for the proposed Carty facility or  
5 transmission line.<sup>294</sup>

6 **Category 6 Habitat**

7 **Agricultural Cropland**

8 Category 6 agriculture cropland habitat within the analysis area includes the existing transmission line  
9 and dirt access road, with portions of agricultural cropland and weed dominated shrub-steppe. Areas of  
10 this habitat type are important to some wildlife species, but this habitat is not considered limited. Two  
11 raptor species and one raptor nest (occupied by a corvid) were observed in Category 6 habitat on-site. No  
12 rare species were observed within the habitat. Approximately 444 acres of agriculture cropland habitat is  
13 located within the transmission line ROW, and approximately 429 acres of Category 6 habitat is located  
14 within the Carty facility site. Construction of lattice transmission towers and transmission line stringing  
15 would temporarily impact approximately 52.2 acres and permanently impact approximately 0.1 acres of  
16 Category 6 agricultural cropland.<sup>295</sup>

17 ***IV.H.1.a.ii. Plants and Wildlife within the Project Analysis Area***

18 The Applicant gathered information from the ODFW, the US Fish and Wildlife Service (USFWS)  
19 and the Oregon Biodiversity Information Center [ORBIC, formally Oregon Natural History Information  
20 Center (ORNHC)] to identify plant and wildlife species listed or considered as special status species that  
21 may occur within the analysis area.<sup>296</sup> ORBIC provided the Applicant with a list of known locations of  
22 listed and rare plant occurrences within a 5-mile radius of the proposed facility and transmission line.  
23 This information and a review of the current habitats within the project analysis area were used to develop  
24 a list of target species for field surveys. Sensitive plant surveys were conducted in May and June 2009.  
25 Habitat-specific sensitive plant species surveys were conducted in areas where suitable conditions existed  
26 to support any of the target sensitive plant species. No sensitive plant species were observed in the project  
27 analysis area.<sup>297</sup>

28 USFWS, ODFW, and ORBIC provided the Applicant with information on threatened, endangered,  
29 rare, and other special-status fish and wildlife species known to occur or potentially occur in the analysis  
30 area. Field surveys were conducted in the project analysis area from May 4 to June 26, 2009, and from  
31 May 4 to May 28, 2010. Ground surveys were conducted over the entire analysis area for sensitive  
32 species, avian species, and raptor nests. All surveys were conducted using protocols developed in  
33 coordination with ODFW. Field biologists documented all wildlife observed in the analysis area, and  
34 recorded all sensitive species and wildlife breeding sites using a Global Positioning System (GPS) unit.<sup>298</sup>

35 At the request of ODFW, sensitive species surveys focused on the Washington ground squirrel  
36 (*Spermophilus washingtoni*), which is a candidate species for listing under the Endangered Species Act  
37 (ESA) and is a state-listed endangered species under the Oregon Endangered Species Act of 1987. Visual  
38 and aural surveys for the other sensitive species potentially occurring in the analysis area were conducted  
39 concurrently with the Washington ground squirrel surveys. Sensitive species identified during other

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<sup>294</sup> Final ASC, Section P.5.5, p. P-13

<sup>295</sup> Final ASC, Section P.5.6, pp. P-13-14

<sup>296</sup> Final ASC, Section P.4, p. P-4

<sup>297</sup> Final ASC, Section P.4.1, p. P-5

<sup>298</sup> Final ASC, Section P.4.1, p. P-5

1 wildlife surveys also were recorded. Surveys for Washington ground squirrels were conducted on May 4-  
2 9 and June 22-26, 2009, and May 4-28, 2010.<sup>299</sup>

3 Ground surveys for avian species and raptor nests occurring within the analysis area and within a one-  
4 mile buffer were conducted on May 5-8, 2009, June 22-25, 2009, and May 4-28, 2010. At the time of  
5 submittal of the Final ASC, the Applicant planned to conduct aerial raptor nest surveys encompassing a 2-  
6 mile radius of the proposed Carty facility and 1-mile radius of the transmission line ROW between April  
7 15 and June 15, 2011. These surveys would revisit nests recorded in 2009 to determine their activity level  
8 and species of occupancy. New nests documented during aerial surveys would be recorded in the same  
9 manner as nests documented during ground efforts.<sup>300</sup> The Applicant collected the additional survey data  
10 in 2011 and provided it to the Department and ODFW.<sup>301</sup>

11 ***IV.H.1.a.iii. Sensitive Wildlife Species in the Analysis Area***

12 ODFW has established a list of “Sensitive Species.” Under OAR 635-100-0040, a wildlife species is  
13 eligible to be included on the Sensitive Species list if “its numbers are declining at a rate such that it may  
14 become eligible for listing as a threatened species” or if “its habitat is threatened or declining in quantity  
15 or quality such that it may become eligible for listing as a threatened species.” There are four categories  
16 of Sensitive Species: “Critical” (species for which listing as Threatened or Endangered is pending or may  
17 be appropriate if immediate conservation actions are not taken), “Vulnerable” (species for which listing as  
18 Threatened or Endangered is not believed to be imminent and can be avoided through continued or  
19 expanded use of adequate protective measures and monitoring), “Peripheral or Naturally Rare”  
20 (peripheral species are species whose Oregon populations are on the edge of their range; naturally rare  
21 species have had low population numbers historically in Oregon because of naturally limiting factors) and  
22 “Undetermined Status” (scientific study is needed to determine if the species is susceptible to population  
23 decline and qualified for Threatened, Endangered, Sensitive - Critical or Sensitive - Vulnerable status).

24 During surveys performed at the proposed facility and transmission line site, 19 threatened,  
25 endangered, sensitive, or rare species were identified. Of these, 13 are listed as state sensitive or federal  
26 species of concern.<sup>302</sup> The table below (Sensitive Wildlife Species Observed) lists sensitive species that  
27 are known to occur or potentially to occur within or near the proposed Carty site boundary, as well as  
28 whether those species were observed in the Carty facility vicinity.<sup>303</sup> State-listed threatened and  
29 endangered wildlife species are discussed further in Section IV.I, Threatened and Endangered Species.

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<sup>299</sup> Final ASC, Section P.4.1, pp. P-5-6

<sup>300</sup> Final ASC, Section P.4.1, pp. P-6-7

<sup>301</sup> CGS-0130, 11-29-11, Technical Memorandum from Ecology and Environment, Inc., PGE Carty Generating Station Project: 2011 Raptor Data

<sup>302</sup> Final ASC, Section P.7, p. P-15

<sup>303</sup> Based on Table P-3 (Final ASC, p. P-10). Federal “Species of Concern” are species whose conservation status is of concern to the USFWS but for which further information is needed. Such species have no legal protection. The term “Species of Concern” is not defined in the federal Endangered Species Act. “Birds of Conservation Concern” are species of migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act.

Sensitive Wildlife Species Observed			
Species	Federal Status*	State Status	Observed in vicinity
<b>Birds</b>			
Black-throated sparrow <i>Amphispiza bilineata</i>	none	SP	N
Burrowing owl <i>Athene cunicularia</i>	SOC	SC	Y
Ferruginous hawk <i>Buteo regalis</i>	SOC	SC	Y
Grasshopper sparrow <i>Ammodramus savannarum</i>	BCC	SV/SP	Y
Greater sage-grouse <i>Centrocercus urophasianus</i>	SOC	SV	N
Loggerhead shrike <i>Lanius ludovicianus</i>	none	SV	Y
Long-billed curlew <i>Numenius americanus</i>	BCC	SV	Y
Sage sparrow <i>Amphispiza belli</i>	none	SC	N
Swainson's hawk <i>Buteo swainsoni</i>	BCC	SV	Y
<b>Mammals</b>			
Washington ground squirrel <sup>304</sup> <i>Spermophilus washingtoni</i>	C	LE	Y
White-tailed jackrabbit <i>Lepus townsendii</i>	none	SU	Y
<b>Plants</b>			
Robinson's onion <i>Allium robinsonii</i>	SOC	none	N
Woven-spored lichen <i>Texosporium sancti-jacobi</i>	SOC	none	N
<b>Reptiles</b>			
Northern sagebrush lizard <i>Sceloporus graciosus</i>	SOC	SV	N

\*State and Federal Status Definitions

SOC - Species of Concern.

SC - State Sensitive-Critical.

SV – State Sensitive-Vulnerable.

SU – State Sensitive-Undetermined.

SP – State Sensitive-Peripheral.

BCC – Bird of Conservation Concern.<sup>305</sup>

C – Candidate

LE – Listed Endangered

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<sup>304</sup> Potential impacts, mitigation measures, and conditions of approval related to the Washington ground squirrel are discussed in Section IV.I, Threatened and Endangered Species.

<sup>305</sup> The USFWS lists species as “Birds of Conservation Concern” under a 1988 amendment to the Fish and Wildlife Conservation Act. Birds of Conservation Concern 2008, U.S. Fish and Wildlife Service, 2008



1 **IV.H.1.b. Fish and Wildlife Impacts**

2 The table below summarized habitat impacts based on the proposed layout of the Carty Generating  
 3 Station.<sup>306</sup> The table also shows the total acres of each habitat type within the site boundary. The  
 4 Applicant estimated the permanent and temporary impacts associated with other facility components,  
 5 including the generating facilities, substations, transmission lines and roads as well as staging areas.

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<b>Habitat Impacts</b>			
<b>Category and Habitat Description</b>	<b>Temporary Impact (Acres)</b>	<b>Permanent Impact (Acres)</b>	<b>Acres Within the Site Boundary</b>
<b>Category 1</b>			
Shrub-Steppe	0	0	90
<b>Subtotal</b>	<b>0</b>	<b>0</b>	<b>90</b>
<b>Category 2</b>			
Shrub-Steppe	0	0	16
<b>Subtotal</b>	<b>0</b>	<b>0</b>	<b>16</b>
<b>Category 3</b>			
Perennial Stream	-	-	-
Palustrine Emergent Wetland	0	0	1.3
Palustrine Forested Wetland	0	0	2.2
Palustrine Scrub-Shrub	0	0	0.5
Shrub-Steppe	-	-	-
<b>Subtotal</b>	<b>0</b>	<b>0</b>	<b>4</b>
<b>Category 4</b>			
Intermittent Stream	-	-	1 crossing
Shrub-Steppe	155	91	1,304
<b>Subtotal</b>	<b>155</b>	<b>91</b>	<b>1,304</b>
<b>Category 5</b>			
None detected	-	-	-
<b>Subtotal</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Category 6</b>			
Agricultural Cropland	52	0.1	873
<b>Subtotal</b>	<b>52</b>	<b>0.1</b>	<b>873</b>
<b>Total Area</b>			<b>2,287</b>

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<sup>306</sup> Based on Table P-2 (Final ASC, p. P-10)

1 **IV.H.1.b.i. Construction Impacts**

2 Construction of the proposed Carty Generating Station and transmission line would result in  
3 permanent loss of wildlife habitat for the areas that facility components would occupy. The Applicant has  
4 calculated the maximum impact of the proposed facility as a permanent loss of 91 acres of Category 4  
5 habitat, which is rated as “important” habitat for wildlife species. Permanent loss of Category 6 habitat  
6 would amount to approximately 0.1 acres. Altogether, the permanent footprint of the facility components  
7 would occupy 91.1 acres of habitat, nearly all of which would be Category 4 habitat. The project area is  
8 approximately 2,287 acres in size, and approximately four percent of the land within the site boundary  
9 would be permanently impacted.<sup>307</sup>

10 The temporary use of staging areas during construction, widening of roads, and other ground-  
11 disturbing construction activities would result in temporary impacts. These temporary impacts would  
12 affect approximately 155 acres of “important” wildlife habitat (Category 4). Temporary disturbance of  
13 Category 6 habitat (mostly cultivated fields) under the current layout would affect approximately 52  
14 acres.<sup>308</sup>

15 Some areas of temporary disturbance would be heavily affected by construction, resulting in loss of  
16 vegetation and heavy soil compaction. In other areas, the construction impacts would be lighter, resulting  
17 in crushed (but viable) vegetation and less soil compaction. Although the certificate holder would be  
18 required to restore the areas of temporary disturbance, the habitat would be in a degraded condition for  
19 the period after completion of construction activities until restoration success is achieved. The  
20 Department refers to this period as a “temporal impact” on habitat quality resulting from facility  
21 construction.

22 In addition to direct habitat disturbance, potential impacts to wildlife include wildlife fatalities or  
23 injuries as a result of incidental strikes by construction equipment. Because large construction equipment,  
24 such as cranes, would be stationary for much of the time or would move slowly across the site, there is  
25 likely to be a low risk of avian and bat fatalities from such equipment. There could be an increased risk of  
26 avian fatalities from destruction of nest sites for ground-nesting species, unless nesting habitat is avoided  
27 during construction. Construction would increase the volume of truck and small vehicle traffic on roads  
28 throughout the site, increasing the risk that vehicles could strike wildlife resulting in injuries or death.<sup>309</sup>

29 If construction activities are scheduled to occur during the sensitive breeding season for raptors,  
30 construction noise and human activity near active nests could adversely affect raptor nesting or fledging  
31 success. Baseline surveys identified 2 raptor nests, including one active red-tailed hawk nest and one  
32 active great horned owl nest, within one-half mile of the proposed Carty facility site. In addition, one  
33 inactive raptor nest, two common raven nests, and one burrowing owl colony were identified within the  
34 study area for the proposed transmission line. The burrowing owl colony is located approximately one-  
35 quarter mile north of the proposed transmission line and appeared to be unoccupied during 2010 surveys.  
36 If this colony is occupied, it could be disturbed during construction of the transmission line. One of the  
37 common raven nests, located in a transmission tower near the west end of the existing transmission line,  
38 has historically been used by golden eagles, and could be disturbed if occupied during construction.<sup>310</sup>  
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<sup>307</sup> Final ASC, Section P.5 and Table P-2

<sup>308</sup> Final ASC, Section P.5 and Table P-2

<sup>309</sup> Final ASC, Section P.9, pp. P-17-18

<sup>310</sup> Final ASC, Exhibit P, Section P.9, pp. P-17-18

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**IV.H.1.b.ii. Operation Impacts**

Operation of the proposed Carty Generating Station could have adverse impacts on wildlife species in the vicinity of the facility. The Applicant identified potential impacts to wildlife species from operation of the proposed facility, which include habitat loss and direct disturbance due to operation of the proposed facility.

**Raptors.** Impacts to raptors are not likely to occur as a result of operation of the proposed transmission line because it would be designed with sufficient distance between conductors and grounded hardware to prevent electrocution. PGE has an Avian Protection Plan in place which was developed in consultation with ODFW and USFWS and which was adopted in 2007.<sup>311</sup> The plan describes company practices and policies to minimize impacts to avian species from electrocutions and collisions with electric utility power lines and equipment. The plan includes a three-phase approach to address avian risks that would be applied to the proposed Carty facility and transmission line. The three phases are preventive (facility design and compliance), reactive (avian reporting system), and proactive (employee training and facility modification if necessary). This plan includes design parameters to assure that transmission lines are constructed in conformance to Avian Powerline Interaction Committee (APLIC) guidelines, and is included as a part of the *Wildlife and Habitat Monitoring and Mitigation Plan* which is incorporated as Exhibit 1 to this DPO and is discussed further in section IV.H.1.c, below.

The Council adopts Condition IV.H.2.12, which requires the certificate holder to design and install 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. The Council also adopts Condition IV.H.2.13, which requires the certificate holder to perform sensitive raptor nest monitoring, to be conducted by qualified biologists in year one, year three, and year five after operation has begun and then at least every five years after that for the life of the project, to ensure that sensitive raptor nests are not impacted by operation of the Carty facility and to allow mitigation if impacts caused by operation of the facility are detected.<sup>312</sup>

Raptor nests observed in the vicinity of the proposed transmission line are unlikely to be disturbed by operation of the line because the line would be constructed along an existing transmission corridor. The great horned owl nest observed near the Carty facility site could be disturbed by operation of the facility, but there is a large stand of trees and a portion of the Carty Reservoir between the facility site and the nest location, both of which would provide buffering.<sup>313</sup>

**Avian Species.** Field surveys identified 36 avian species near the transmission line and facility sites. Construction of the Carty facility would result in habitat loss for most of these species, although some species observed, such as the barn swallow, often nest in man-made structures. Most avian species observed at the proposed Carty site are relatively common and will likely utilize surrounding habitat areas and repopulate the transmission line areas after construction. The habitat types found in the proposed facility and transmission line areas are expected to revegetate quickly and to resemble surrounding habitat areas within three to five years.<sup>314</sup> Operation of the Carty facility would not impact greater sage grouse or sage sparrow because the Applicant’s review of the ORBIC data indicated that these species were

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<sup>311</sup> Final ASC, Appendix P-3

<sup>312</sup> Note that Condition IV.H.2.13 was modified from the Draft Proposed Order to be consistent with the analysis in the text and the buffers in Condition IV.H.2.10.

<sup>313</sup> Final ASC, Section P.9, p. P-17

<sup>314</sup> Final ASC, Section P.9, p. P-19

1 unlikely to be found within the analysis area, and no individuals of these species were identified during  
2 field surveys.

3 Operation of the proposed transmission line is not expected to result in any new adverse impacts to  
4 avian species because it will be located adjacent to an existing transmission line.<sup>315</sup> The transmission line  
5 would pass approximately 540 feet from the Horn Butte Area of Critical Environmental Concern  
6 (ACEC), and construction of this line could potentially impact the long-billed curlew, which was  
7 observed during site surveys, as identified in the Sensitive Wildlife Species Observed Table above. The  
8 Bureau of Land Management has designated the 6,000-acre Horn Butte Wildlife Area (also known as the  
9 Horn Butte Curlew Area) as an ACEC to protect nesting habitat for the long-billed curlew.<sup>316</sup> The Horn  
10 Butte Wildlife ACEC provides nesting habitat for long-billed curlews when they are present during the  
11 nesting season (approximately March 8 to June 15 each year).

12 The Council has previously found that operational noise from that the Shepherds Flat Wind Farm was  
13 “not expected to be a significant source of disturbance to nesting long-billed curlews or to other nesting  
14 avian species” in the Horn Butte Wildlife Area.<sup>317</sup> This finding was subject to a site certificate condition  
15 that prohibited construction activity within a half-mile of the area during the curlew nesting season.  
16 Because the construction of the transmission line could potentially impact nesting curlews, and because  
17 the Horn Butte ACEC was designated specifically to protect long-billed curlew nesting habitat, the  
18 Council adopts Condition IV.H.2.10, which limits construction activities within 0.5 mile of the Horn  
19 Butte ACEC during the sensitive period for nesting curlews.

20 The USFWS submitted comments to the Department requesting that the Applicant implement bird  
21 strike indicators on transmission lines and utilize line markers in areas near water bodies to protect  
22 waterfowl.<sup>318</sup> USFWS provided a separate comment requesting that the Applicant implement a waterfowl  
23 fatality/injury monitoring program to adaptively address water body crossings where waterfowl collisions  
24 occur with power lines. The use of line markers to prevent bird strikes is included in the existing Avian  
25 Protection Plan.<sup>319</sup> The existing Avian Protection Plan also includes provisions for recording and  
26 reporting avian fatalities, as well as for developing remedial actions when necessary.<sup>320</sup>

27 The Applicant provided a response to these USFWS comments indicating that bird strike indicators  
28 use technology that is still under development, and that these indicators are not in widespread use. The  
29 Department concurred that this is a new technology that has not been widely used. Because the Applicant  
30 proposes to implement the Avian Protection Plan, which was developed in cooperation with USFWS and  
31 based on the APLIC guidelines, as part of the *Wildlife and Habitat Mitigation and Monitoring Plan*  
32 discussed in Section IV.H.1.c of this Order, the Council finds that compliance with this plan is sufficient  
33 mitigation for avian bird strike hazards associated with transmission lines.

34 **Mammal species.** The white-tailed jackrabbit would be affected by loss of habitat due after  
35 construction of the Carty facility. The white-tailed rabbit has persisted in the vicinity of the existing  
36 Boardman facility, and would likely continue to persist in the vicinity of the Carty facility and associated

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<sup>315</sup> Final ASC, Section P.9, p. P-19

<sup>316</sup> *Two Rivers Resource Management Plan and Record of Decision* (June 1986), p. 28

<sup>317</sup> *Final Order on the Application for the Shepherds Flat Wind Farm* (July 25, 2008), p. 62

<sup>318</sup> CGS-0076, 06-09-11, USFWS Agency Comment on Application for Site Certificate for the Proposed Carty Generating Station

<sup>319</sup> Avian Protection Plan, Portland General Electric, April 2007, p. 8. The Avian Protection Plan is incorporated into the proposed Wildlife and Habitat Mitigation and Monitoring Plan, described in section IV.H.1.c. Included here as Appendix A to Exhibit 1.

<sup>320</sup> Avian Protection Plan, Portland General Electric, April 2007, p. 11

1 transmission line.<sup>321</sup> Potential impacts to Washington ground squirrel are address in Section IV.I,  
2 Threatened and Endangered Species.

3 **IV.H.1.c. Mitigation and Monitoring**

4 The ODFW goals and standards in OAR 635-415-0025 favor avoidance of impacts on habitat in  
5 Categories 1 through 5. The proposed Carty facility layout would result in impacts to Category 4 and  
6 Category 6 habitat. Category 1, 2, and 3 habitat would not be impacted.<sup>322</sup> As discussed in Section  
7 IV.H.1.a of this Order, Condition IV.H.2.9 requires the certificate holder to avoid any disturbance of  
8 Category 1 habitat and require the Applicant to implement design measures to minimize impacts to  
9 sensitive wildlife habitat. The Council also adopts Condition IV.H.2.14, which requires the certificate  
10 holder to utilize qualified professionals to provide environmental training to onsite staff during  
11 construction and operation of the proposed facility, including training on identifying and protecting  
12 sensitive species and habitat.

13 **IV.H.1.c.i. Mitigation of Permanent Impacts**

14 The permanent footprint of the proposed facility would affect habitat in Categories 4 and 6. Category  
15 4 habitat is considered “important” wildlife habitat, and the ODFW mitigation standard is “no net loss.”  
16 Category 6 habitat has “low potential to become essential or important wildlife habitat,” and the ODFW  
17 mitigation goal is to minimize impacts. The Applicant proposes to establish a habitat mitigation area  
18 (HMA) of approximately 150 acres to address the impacts to Category 4 habitat.<sup>323</sup> The HMA would be  
19 maintained, enhanced, and monitored throughout the life of the Carty Generating Facility. ODFW  
20 submitted comments in response to the Final ASC which state that ODFW is satisfied with the mitigation  
21 plan prepared by the Applicant for the Carty facility.<sup>324</sup> The ODFW noted that a final mitigation acreage  
22 has not been identified at this stage. The Council adopts Condition IV.H.2.3, which requires the  
23 certificate holder to work with ODFW to determine the final mitigation acreage required.

24 Reducing the impact on higher-value wildlife habitat would result in increased impacts to agricultural  
25 lands (Category 6 habitat). As discussed in Section IV.E (Land Use), the Council adopts Condition  
26 IV.E.4.1, which requires the certificate holder to design components of the facility to occupy the  
27 minimum area needed for safe operation and to locate components to minimize disturbance of farming  
28 practices.

29 **IV.H.1.c.ii. Mitigation of Temporary Impacts**

30 Habitat in Categories 4 and 6 would be temporarily disturbed during construction of the facility.<sup>325</sup> To  
31 mitigate temporary impacts, the Applicant proposes to locate staging areas in areas that are already  
32 developed or disturbed and prohibit construction equipment from entering perennial and intermittent  
33 streams.<sup>326</sup> Condition V.B.2.2, which is discussed in Section V.B, Removal-Fill Law, prohibits  
34 construction within delineated stream channels. The Council also adopts Condition IV.H.2.11, which  
35 requires the certificate holder to identify designated construction staging areas on maps to be provided to  
36 construction contractors.

37 The Applicant proposes to restore habitat temporarily affected by construction activities in  
38 accordance with the Revegetation and Noxious Weed Control Plan, incorporated herein as Exhibit 2. As

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<sup>321</sup> Final ASC, Section P.9, p. P-18

<sup>322</sup> Final ASC, Table P-2, p. P-10

<sup>323</sup> Exhibit P-3, p. 13

<sup>324</sup> CGS-0091, 06-06-11, Oregon Department of Fish and Wildlife Comment on Carty Generating Station ASC

<sup>325</sup> Final ASC, Table P-3, p. P-3

<sup>326</sup> Final ASC, Section P.10, p. P-21

1 discussed in Section IV.D, the Council adopts Condition IV.D.2.7, which requires the certificate holder to  
2 restore vegetation in temporarily disturbed areas according to the revised Revegetation and Noxious  
3 Weed Control Plan.<sup>327</sup> The Applicant also proposes to mitigate temporary impacts to Category 4 habitat at  
4 a 0.5:1 ratio. In accordance with OAR 345-027-0020(6), the Council adopts Condition IV.H.2.1,  
5 requiring the certificate holder to implement the mitigation as described in the Wildlife and Habitat  
6 Monitoring and Mitigation Plan (Exhibit 1 to this Order).<sup>328</sup> The Applicant proposes a mitigation area for  
7 the purposes of the Wildlife and Habitat Monitoring and Mitigation Plan, which is discussed below in  
8 Section IV.A.1.c.iii.

9 ***IV.H.1.c.iii. Habitat Mitigation Area***

10 The Applicant proposes to establish a Habitat Mitigation Area (HMA) to address the permanent  
11 impacts to habitat in Category 4. The protected mitigation area would replace wildlife habitat lost due to  
12 the footprint of permanent facility components within the facility site and offset the temporal loss of  
13 habitat quality due to construction disturbance. The HMA would include one acre of habitat for every  
14 acre of permanent impacts to Category 4 habitat (a 1:1 ratio).<sup>329</sup> The portion of the HMA designated as  
15 mitigation for Category 4 impacts must currently possess, or be capable of achieving, habitat quality  
16 matching the quality category of the land it is serving to mitigate. The Applicant does not propose, and is  
17 not required to provide, any mitigation for impacts to Category 6 land; ODFW does not require mitigation  
18 for this habitat category, but does require that impacts to Category 6 land be minimized.

19 The Applicant has identified a site for the HMA, east of the site boundary. The HMA site is owned by  
20 PGE and other co-owners of the Boardman Plant. This parcel abuts existing PGE conservation areas as  
21 well as a conservation area managed by The Nature Conservancy (TNC).<sup>330</sup> The Council finds that the  
22 proposed HMA site meets the requirement of OAR 635-415-0025 (4)(b)(B) to provide “in-kind or out of  
23 kind, in proximity or out of proximity” mitigation for Category 4 habitat. The Council adopts Condition  
24 IV.H.2.2, which requires the certificate holder to establish the HMA as described in the *Wildlife and*  
25 *Habitat Monitoring and Mitigation Plan*.

26 The draft *Wildlife and Habitat Monitoring and Mitigation Plan* is included as Exhibit 1 to this Order.  
27 In this Plan, the Applicant proposes three primary actions to protect and enhance habitat quality within  
28 the HMA:

- 29 1. Native Plant Revegetation and Noxious Weed Control. The Applicant would conduct noxious  
30 weed inventories within the HMA to identify patches of weed infestation during year one, year  
31 three and year five after construction, and then continue once every 5 years for the life of the  
32 project. Weeds would be controlled as needed to maintain and enhance habitat quality within the  
33 mitigation area, with the goal of working toward eradication of targeted noxious weeds or, if  
34 eradication is not practical, decreasing their abundance to minimize impacts to native plant  
35 communities. Weed management practices would be consistent with the *Revegetation and*  
36 *Noxious Weed Control Plan* and would include an integrated weed management approach, using  
37 an appropriate combination of prevention and control methods. The Applicant would obtain  
38 ODFW approval prior to the use of pesticides. If a substantial area of soil became bare from  
39 weed control activities, the area would be seeded using the appropriate methods as described in

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<sup>327</sup> The Draft Proposed Order recommended that the Council adopt Condition IV.H.2.8. Because Condition IV.H.2.8 duplicated the requirements of Condition IV.D.2.7, the Department recommends that proposed Condition IV.H.2.8 be deleted.

<sup>328</sup> The Draft Proposed Order included Condition IV.H.2.4, which duplicated the requirements of Condition IV.H.2.1. Condition IV.H.2.4 has been deleted from this Order.

<sup>329</sup> Final ASC, Appendix P-3, p. 13

<sup>330</sup> Final ASC, Appendix P-3, pp. 13-14

1 the *Revegetation and Noxious Weed Control Plan*. Weed inventories and control measures and  
2 revegetation activities would not occur during Washington ground squirrel breeding periods.

- 3 2. Fire Control Plan. The Applicant would implement a fire control plan for wildfire suppression  
4 within the HMA according to the existing Boardman Wildfire Control Plan. A copy of the fire  
5 control plan would be provided to the Department upon request. If vegetation in the HMA were  
6 damaged from fire or from fire suppression efforts (e.g., vehicular disturbance), the area would be  
7 seeded as necessary with the appropriate seed mix using the appropriate methods for the site, as  
8 described in the *Revegetation and Noxious Weed Control Plan*.
- 9 3. Access Control and Wildlife-Compatible Fencing. The Applicant would monitor and control  
10 access to the HMA and would post signs for the life of the facility designating the area as  
11 “protected” and including natural resources information. Access to the proposed area would be  
12 limited to Boardman Plant operational needs, conservation area monitoring, and noxious weed  
13 control efforts. The proposed area can be accessed from two points: a locked gate from Tower  
14 Road approximately 1 mile west (currently used by PGE and The Nature Conservancy), and a  
15 south entrance through the Boardman Plant, which is also gated. Any fences within or bordering  
16 the HMA would be modified to wildlife-friendly specifications. Livestock grazing would not be  
17 permitted within the HMA. Periodic monitoring (at least annually) would be conducted to  
18 evaluate effectiveness of access control measures and signage maintenance needs.

19 The Council adopts Conditions IV.H.2.5, IV.H.2.6, and IV.H.2.7, which specifically require the  
20 certificate holder to implement the actions described above to protect and enhance habitat quality in the  
21 HMA.

22 Before beginning construction, the certificate holder would calculate the size of the HMA according  
23 to the final design configuration of the facility and the estimated areas of habitat affected in each ODFW  
24 category, and would then create, enhance, maintain and protect the HMA for the life of the facility. This  
25 would include monitoring the mitigation area to assess progress toward meeting success criteria. The  
26 *Wildlife and Habitat Monitoring and Mitigation Plan* describes monitoring and reporting procedures and  
27 criteria for evaluating the success of habitat mitigation efforts.<sup>331</sup> The draft plan has been reviewed by  
28 ODFW<sup>332</sup> and Condition IV.H.2.1 requires the certificate holder to finalize the plan and obtain  
29 Department approval prior to construction. Condition IV.H.2.3 requires the certificate holder to consult  
30 with ODFW and agree upon the final mitigation acreage required. Based on the evidence presented by  
31 the Applicant and subject to compliance with the conditions, the Council finds that the Applicant can  
32 mitigate the impacts of the facility on habitat Categories 4 and 6.

#### 33 ***IV.H.1.c.iv. Monitoring***

34 The ODFW mitigation goals and standards require the protection of habitat quality as well as  
35 quantity. The *Wildlife and Habitat Monitoring and Mitigation Plan* described above includes wildlife  
36 monitoring components and data reporting practices that the certificate holder would implement during  
37 operation of the proposed facility. In accordance with the *Wildlife and Habitat Monitoring and*  
38 *Mitigation Plan*, the Department may require the certificate holder to implement additional monitoring or  
39 mitigation, subject to approval by the Council, if the monitoring results show significant adverse impact  
40 to raptor nesting or other significant loss of habitat quality.<sup>333</sup>

41 If analysis of monitoring data indicates significant unanticipated impacts, the Council may require  
42 additional monitoring or mitigation. Based on the representations in the ASC, and subject to compliance

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<sup>331</sup> Final ASC, Appendix P-3, pp. 17-18

<sup>332</sup> CGS-0091, 06-06-11, Oregon Department of Fish and Wildlife Comment on Carty Generating Station ASC

<sup>333</sup> Draft Wildlife and Habitat Mitigation and Monitoring Plan, February 2011, p. 18 (See Exhibit 1)

1 with the conditions discussed here, the Council finds that construction and operation of the facility would  
2 be consistent with ODFW regulations, OAR 635-415-0025.

3 **IV.H.2. FISH AND WILDLIFE HABITAT: SITE CERTIFICATE CONDITIONS**

4 IV.H.2.1 Prior to construction, the certificate holder must consult with the Oregon Department of Fish  
5 and Wildlife and prepare a final Wildlife and Habitat Monitoring Mitigation Plan and submit  
6 the plan to the Department for review and approval. The certificate holder must conduct all  
7 wildlife and habitat monitoring as described in the approved *Wildlife and Habitat Monitoring*  
8 *and Mitigation Plan*, as amended from time to time.

9 [Site Certificate Condition 10.1] [Mandatory Condition OAR 345-027-0020(6)]

10 IV.H.2.2 The certificate holder shall acquire the legal right to create, enhance, maintain and protect a  
11 habitat mitigation area as long as the site certificate is in effect by means of an outright  
12 purchase, conservation easement or similar conveyance and shall provide a copy of the  
13 documentation to the Department. Within the habitat mitigation area (HMA), the certificate  
14 holder shall improve and monitor the habitat quality in accordance with the Wildlife and  
15 Habitat Monitoring and Mitigation Plan approved by the Department per Condition IV.H.2.1.  
16 [Site Certificate Condition 10.2]

17 IV.H.2.3 The certificate holder shall consult with the Oregon Department of Fish and Wildlife prior to  
18 commencement of construction to determine the final acreage of habitat mitigation required.  
19 Mitigation shall be provided in accordance with this final acreage determination.

20 [Site Certificate Condition 10.3]

21 IV.H.2.4 [DELETED. Requirements incorporated into Condition IV.H.2.1.]

22 IV.H.2.5 The certificate holder shall conduct noxious weed inventories within the HMA to identify  
23 patches of weed infestation during year one, year three and year five after construction, and  
24 then continue once every 5 years for the life of the project. Weeds shall be controlled as  
25 needed to maintain and enhance habitat quality within the mitigation area, with the goal of  
26 working toward eradication of targeted noxious weeds or, if eradication is not practical,  
27 decreasing their abundance to minimize impacts to native plant communities. Weed  
28 management practices shall be consistent with the *Revegetation and Noxious Weed Control*  
29 *Plan* and shall include an integrated weed management approach, using an appropriate  
30 combination of prevention and control methods. The certificate holder shall obtain ODFW  
31 approval prior to the use of pesticides. If a substantial area of soil is left bare from weed  
32 control activities, the area shall be seeded using the appropriate methods as described in the  
33 *Revegetation and Noxious Weed Control Plan*. Weed inventories and control measures and  
34 revegetation activities should not occur during Washington ground squirrel breeding periods.

35 [Site Certificate Condition 10.4]  
36



- 1 IV.H.2.6 The certificate holder shall implement a fire control plan for wildfire suppression within the  
2 HMA in accordance with the existing Boardman Wildfire Control Plan. A copy of the fire  
3 control plan shall be provided to the Department upon request. If vegetation in the HMA is  
4 damaged from fire or from fire suppression efforts (e.g., vehicular disturbance), the area shall  
5 be seeded as necessary with the appropriate seed mix using the appropriate methods for the  
6 site, as described in the *Revegetation and Noxious Weed Control Plan*.  
7 [Site Certificate Condition 10.5]
- 8 IV.H.2.7 The certificate holder shall monitor and control access to the HMA and shall post signs for  
9 the life of the facility designating the area as “protected” and including natural resources  
10 information. Access to the proposed area shall be limited to Boardman Plant operational  
11 needs, conservation area monitoring, and noxious weed control efforts. Any fences within or  
12 bordering the HMA shall be modified to wildlife-friendly specifications. Livestock grazing  
13 shall not be permitted within the HMA. Periodic monitoring (at least annually) shall be  
14 conducted to evaluate effectiveness of access control measures and signage maintenance  
15 needs.  
16 [Site Certificate Condition 10.6]
- 17 IV.H.2.8 [DELETED. See footnote on in Section IV.H.1.c.ii and Condition IV.D.2.7.]
- 18 IV.H.2.9 The certificate holder must implement measures to avoid or minimize temporary and  
19 permanent impacts to high quality native habitat and to retain habitat cover in the general  
20 landscape, where practicable.
- 21 a. The certificate holder shall not construct any facility components within areas of  
22 Category 1 habitat and shall avoid temporary disturbance of Category 1 habitat.
- 23 b. Before beginning construction, the certificate holder shall provide to the Department a  
24 map showing the final design locations of all components of the facility and the areas that  
25 would be disturbed during construction and identifying the survey areas for all plant and  
26 wildlife surveys conducted in 2010 or earlier as described in the *Final Order on the*  
27 *Application*. The certificate holder shall use a qualified professional biologist to conduct  
28 a pre-construction plant and wildlife investigation of all areas that would be disturbed  
29 during construction that lie outside of the previously surveyed areas. The certificate  
30 holder shall provide a written report of the investigation to the Department and to the  
31 Oregon Department of Fish and Wildlife (ODFW). Based on consultation with the  
32 Department and ODFW, the certificate holder shall implement appropriate measures to  
33 avoid impacts to any Category 1, 2, or 3 habitat, to any State-listed threatened or  
34 endangered plant or wildlife species, and to any State Candidate plant species. If any  
35 Category 2 or 3 habitat is identified and will be impacted, the certificate holder shall  
36 work with the Department and ODFW to identify appropriate mitigation measures for  
37 such impacts.
- 38 c. Before beginning construction, the certificate holder’s qualified professional biologist  
39 shall survey the previously-identified Category 1 Washington ground squirrel habitat to  
40 ensure that the sensitive use area is correctly marked with exclusion flagging and avoided  
41 during construction. The certificate holder shall maintain the exclusion markings until  
42 construction has been completed.
- 43 d. Before beginning construction, certificate holder’s qualified professional biologist shall  
44 complete aerial raptor nest surveys within the raptor nest survey area as described in the  
45 *Final Order on the Application*. The purposes of the survey are to identify any sensitive  
46 raptor nests near construction areas and to provide baseline information on raptor nest use  
47 for analysis as described in the *Wildlife and Habitat Monitoring and Mitigation Plan*

1 referenced in Condition IV.H.2.1. The certificate holder shall provide a written report on  
2 the raptor nest surveys to the Department and to ODFW.  
3 [Site Certificate Condition 10.7]

4 IV.H.2.10 During construction, the certificate holder shall avoid all construction activities within one  
5 mile of golden eagle nests, 0.5 miles of the Horn Butte Area of Critical Environmental  
6 Concern (ACEC), and 0.6 miles of ferruginous hawk nests, and 1,300 feet of other potentially  
7 active sensitive raptor species nest sites for the following species during the sensitive period,  
8 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 July 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

9 During all years in which construction occurs, the certificate holder shall use a protocol  
10 approved by the Oregon Department of Fish and Wildlife (ODFW) to determine whether  
11 there are any active nests of these species within 1,300 feet (or 0.5 miles for the Horn Butte  
12 ACEC) of any areas that would be disturbed during construction. Surveys shall be extended  
13 to one mile for golden eagle nests and 0.6 miles for ferruginous hawk nests. This construction  
14 buffer distance may be decreased with approval by ODFW and USFWS depending on the  
15 intensity of construction activity and whether there is an adequate physical barrier (i.e.,  
16 vegetation, topography, etc.) between the nest site and the construction impacts or if  
17 consultation determines a lesser distance is feasible and appropriate. The certificate holder  
18 shall begin monitoring potential nest sites by the beginning of the sensitive period, as listed  
19 above, and shall continue monitoring until at least May 31 (July 15 for golden eagle nests) to  
20 determine whether any potentially-active nest sites become active during the sensitive period.

21 If any nest site is determined to be unoccupied by the early release date, then unrestricted  
22 construction activities may occur within 0.6 miles (0.5 miles for the Horn Butte ACEC and  
23 one mile for golden eagle nests) of the nest site after that date. If a nest is occupied by any of  
24 these species after the beginning of the sensitive period, the certificate holder will flag the  
25 boundaries of a 1,300 foot (or 0.6 miles for ferruginous hawk nests, 0.5 miles for the Horn  
26 Butte ACEC, or one mile for golden eagle nests) buffer area around the nest site and shall  
27 instruct construction personnel to avoid disturbance of the buffer area. During the sensitive  
28 period, the certificate holder shall not engage in high-impact construction activities (activities  
29 that involve blasting, grading or other major ground disturbance) within the buffer area. The  
30 certificate holder shall restrict construction traffic within the buffer, except on public roads, to  
31 vehicles essential to the limited construction activities allowed within the buffer. If a golden  
32 eagle nest is identified, construction and maintenance activities between February 1 and July  
33 15 (courtship and nesting period) will be avoided within one mile of the active nest (or 0.5  
34 miles if the active nest is not in line-of-sight of activities).

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

- 1 the Department, unless the adverse impact is clearly shown to have a cause other than  
2 construction activity.
- 3 The certificate holder may begin or resume construction activities within the buffer area  
4 before the ending day of the sensitive period with the approval of ODFW, after the young are  
5 fledged. The certificate holder shall use a protocol approved by ODFW to determine when  
6 the young are fledged (the young are independent of the core nest site).  
7 [Site Certificate Condition 10.8]
- 8 IV.H.2.11 The certificate holder shall implement the following measures to avoid or mitigate impacts to  
9 sensitive wildlife habitat during construction:
- 10 a. Preparing maps to show exclusion areas that are off-limits to construction personnel, such  
11 as nesting or denning areas for sensitive wildlife species.
- 12 b. voiding unnecessary road construction, temporary disturbance, and vehicle use.
- 13 c. Limiting construction work to approved and surveyed areas shown on facility constraints  
14 maps.
- 15 d. Ensuring that all construction personnel are instructed to avoid driving cross-country or  
16 taking short-cuts within the site boundary or otherwise disturbing areas outside of the  
17 approved and surveyed construction areas.  
18 [Site Certificate Condition 10.9]
- 19 IV.H.2.12 The certificate holder shall reduce the risk of injuries to avian species by designing and  
20 installing all aboveground transmission line support structures following the most current  
21 suggested practices for avian protection on power lines published by the Avian Power Line  
22 Interaction Committee.  
23 [Site Certificate Condition 10.10]
- 24 IV.H.2.13 Sensitive raptor nest monitoring shall be conducted by qualified biologists in year one, year  
25 three, and year five after operations have begun and then at least every five years after that  
26 for the life of the project. Results of the monitoring shall be included in an annual sensitive  
27 raptor nest monitoring report provided to the Oregon Department of Fish and Wildlife, the  
28 U.S. Fish and Wildlife Service, and the Department. This report shall document the nest  
29 productivity of sensitive raptor species, including golden eagle (*Aquila chrysaetos*), occurring  
30 within one mile of the Carty facility, the Ferruginous Hawk occurring within 0.6 miles, and  
31 other sensitive raptor species nests occurring within 1,300 feet of the facility site.  
32 [Site Certificate Condition 10.11]
- 33 IV.H.2.14 The certificate holder shall use a qualified environmental professional to provide  
34 environmental training during construction and operation. Environmental training includes  
35 information on the sensitive species present onsite, precautions to avoid injuring or  
36 destroying wildlife or sensitive wildlife habitat, exclusion areas, permit requirements, and  
37 other environmental issues. The certificate holder shall instruct construction and operations  
38 personnel to report any injured or dead wildlife detected while on the site to the appropriate  
39 onsite environmental manager.  
40 [Site Certificate Condition 10.12]
- 41 IV.H.2.15 The certificate holder shall not place any structures in Sixmile Canyon and shall avoid new  
42 impacts to Sixmile Canyon during construction by using the existing access road for vehicle  
43 crossing only during the dry season. Impacts to both the Eightmile Canyon and Sixmile  
44 Canyon drainages shall be avoided.  
45 [Site Certificate Condition 10.13]  
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**IV.H.3. FISH AND WILDLIFE HABITAT: CONCLUSIONS OF LAW**

Based on the foregoing findings of fact, conclusions, and subject to compliance with the site certificate conditions, the Council finds that the design, construction and operation of the proposed facility would be consistent with ODFW’s habitat mitigation goals and standards (OAR 635-415-0025) and therefore would comply with the Council’s Fish and Wildlife Habitat Standard.

1 **IV.I. THREATENED AND ENDANGERED SPECIES [OAR 345-022-0070]**

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

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

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

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

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

16 **IV.I.1. THREATENED AND ENDANGERED SPECIES: FINDINGS OF FACT**

17 Those species listed as threatened or endangered by the responsible agencies in Oregon are referred to  
18 as “State-listed” species. Although the Council’s standard does not directly address federally-listed  
19 threatened or endangered species, certificate holders must comply with all applicable federal laws,  
20 including laws protecting those species. The analysis area for threatened or endangered plant<sup>334</sup> and  
21 wildlife<sup>335</sup> species is the area within the site boundary and 5 miles from the site boundary.<sup>336</sup> Although  
22 the analysis area includes parts of Washington, the Council’s standard addresses only those species listed  
23 as threatened or endangered by the responsible agencies in Oregon (referred to in this discussion as

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<sup>334</sup> ORS 564.100 defines “endangered” and “threatened” plant species as follows:

“Endangered species” means:

- (a) Any native plant species determined by the Department of Agriculture to be in danger of extinction throughout any significant portion of its range.
- (b) Any native plant species listed as an endangered species pursuant to the federal Endangered Species Act of 1973 (P.L. 93-205, 16 U.S.C. 1531 et seq.), as amended.

“Threatened species” means:

- (a) Any native plant species the director determines by a finding of fact is likely to become an endangered species within the foreseeable future throughout any significant portion of its range.
- (b) Any native plant species listed as a threatened species pursuant to the federal Endangered Species Act of 1973 (P.L. 93-205, 16 U.S.C. 1531 et seq.), as amended.

<sup>335</sup> ORS 496.004 defines “endangered” and “threatened” wildlife species as follows:

“Endangered species” means:

- (a) Any native wildlife species determined by the commission to be in danger of extinction throughout any significant portion of its range within this state.
- (b) Any native wildlife species listed as an endangered species pursuant to the federal Endangered Species Act of 1973 (P.L. 93-205, 16 U.S.C. 1531), as amended.

“Threatened species” means:

- (a) Any native wildlife species the commission determines is likely to become an endangered species within the foreseeable future throughout any significant portion of its range within this state.
- (b) Any native wildlife species listed as a threatened species pursuant to the federal Endangered Species Act of 1973 (P.L. 93-205, 16 U.S.C. 1531), as amended.

<sup>336</sup> CGS-0042, 11-03-09, Oregon Department of Energy Project Order for the Carty Generating Station

1 “State-listed” species). The applicant provided information about compliance with the Council’s  
2 Threatened and Endangered Species Standard in Exhibit Q of the application.

3 **IV.I.1.a. Plant Species**

4 To identify State-listed (threatened or endangered) or candidate plant species<sup>337</sup> that could occur  
5 within five miles of the site boundary, the Applicant conducted database searches through the Oregon  
6 Biodiversity Information Center [ORBIC, formerly the Oregon Natural Heritage Information Center  
7 (ORNHC)]. The Applicant also consulted with the U.S. Fish and Wildlife Service (USFWS), Oregon  
8 Department of Fish and Wildlife (ODFW), and scientific literature.<sup>338</sup> Plant species identified through this  
9 search are listed in the Protected and Candidate Plant Species table, below. The Council’s standard  
10 addresses plant species that the Oregon Department of Agriculture (ODA) has listed as threatened or  
11 endangered.

12 The Applicant conducted field surveys for special-status plants within the analysis area for the  
13 proposed Carty Generating Station and associated transmission corridor. Surveys were conducted in May  
14 and June of 2009 and May of 2010, by individuals familiar with identification of the subject species and  
15 qualified to conduct such surveys.<sup>339</sup>

16 None of the species identified by the literature and ORBIC search were identified on the project site  
17 during survey work. Habitat suitable for the disappearing monkeyflower, a Candidate species, may exist  
18 on the site; the disappearing monkeyflower is rare but has a broad geographic range and unspecialized  
19 habitat.<sup>340</sup> Condition IV.E.4.1 (Section IV.E, Land Use) would ensure minimization of the amount of  
20 habitat impacted overall by requiring the certificate holder to construct the Carty facility using the  
21 minimum land area necessary for safe construction and operation. Because no special-status plants were  
22 identified within survey area of the proposed facility, the Council finds that the design, construction and  
23 operation of the proposed facility are not likely to cause a significant reduction in the likelihood of  
24 survival or recovery of any State-listed or candidate plant species.  
25

Protected and Candidate Plant Species with Potential to Occur Within the Analysis Area		
Species	Federal Status	State Status
Disappearing monkeyflower <i>Mimulus evanescens</i>	Species of Concern	Candidate
Dwarf evening-primrose <i>Camissonia pygmaea</i>	Species of Concern	Candidate
Sessile mousetail <i>Myosurus sessilis</i>	Species of Concern	Candidate
Snake river goldenweed <i>Haplopappus radiates</i>	Species of Concern	Endangered
Laurent’s milk-vetch <i>Astragalus collinus var. laurentii</i>	Species of Concern	Threatened
Robinson’s onion <i>Allium robinsonii</i>	Species of Concern	None

26  
<sup>337</sup> A “candidate species” is “any plant species designated for study by the director [of the Oregon Department of Agriculture] whose numbers are believed low or declining, or whose habitat is sufficiently threatened and declining in quantity and quality, so as to potentially qualify for listing as a threatened or endangered species in the foreseeable future.” OAR 603-073-0002.

<sup>338</sup> Final ASC, Section Q.4.1, p. Q-5

<sup>339</sup> Final ASC, Section Q.4.1, p. Q-5

<sup>340</sup> Final ASC, Section Q.5.2, pp. Q-10-13

1 **IV.I.1.b. Fish and Wildlife Species**

2 To identify threatened or endangered wildlife species, the Applicant conducted database searches  
 3 through the USFWS and the ORBIC. The Applicant consulted with ODFW and reviewed technical  
 4 reports and published sources for information about wildlife species in the analysis area.<sup>341</sup> The species  
 5 identified are listed in the Protected and Candidate Fish and Wildlife Species Table, below. The Applicant  
 6 also obtained Washington Ground Squirrel monitoring data from The Nature Conservancy (TNC) for the  
 7 adjacent Boardman Conservation Area.<sup>342</sup> Based on this information, the Applicant determined that the  
 8 only special-status wildlife species expected to occur or with the potential to occur within the analysis  
 9 area is the Washington ground squirrel. Squirrel activity is highest in early spring and summer. In May  
 10 and June 2009 and May 2010, the Applicant conducted Washington ground squirrel surveys within the  
 11 Carty analysis area.<sup>343</sup>

12

Protected and Candidate Fish and Wildlife Species with Potential to Occur Within the Analysis Area		
Species	Federal Status	State Status
<b>Mammals</b>		
Washington ground squirrel <i>Spermophilus washingtoni</i>	Candidate	Endangered

13 Washington Ground Squirrel

14 The Washington ground squirrel is a State-listed endangered species and a federal candidate  
 15 species.<sup>344</sup> The Washington ground squirrel is found most often in areas that have good cover (annual  
 16 grasses and forbs) and deep, loose soils with low clay content, enabling burrow excavation. The  
 17 Washington ground squirrel has a particular affinity for Warden silty loam soils, possibly because these  
 18 soils' depth and high silt content enable burrow construction.<sup>345</sup> Historically, this species was abundant in  
 19 sagebrush and native bunchgrass habitat throughout the Columbia plateau east and south of the Columbia  
 20 River in Washington and Oregon. The Council has reviewed previous site certificate applications or  
 21 amendment requests for several wind energy facilities in which active Washington ground squirrel  
 22 colonies have been reported within or near the facility site boundaries (Montague Wind Power Facility,  
 23 Stateline Wind Project, Leaning Juniper II Wind Power Facility, Shepherds Flat South, Shepherds Flat  
 24 Central, and Helix Wind Power Facility).

25 The eastern portion of the generating station study area includes a plot of land which has been  
 26 designated as a wildlife conservation area by agreement between PGE, other surrounding land owners,  
 27 TNC, and other agencies. TNC has collected Washington ground squirrel patch monitoring data for the  
 28 Boardman Conservation area over the past nine years.<sup>346</sup>

29 During surveys conducted in 2009, numerous potential Washington ground squirrel burrows were  
 30 observed both near the Carty facility site and along the transmission line. Although no squirrels were

<sup>341</sup> Final ASC, Section Q.4.1, p. Q-5

<sup>342</sup> Final ASC, Section Q.4.2, p. Q-6

<sup>343</sup> Final ASC, Section Q.4.2, p. Q-6

<sup>344</sup> A federal Candidate species is a species for which the USFWS has sufficient information on biological status and threats to propose the species for listing as endangered or threatened under the Endangered Species Act, but for which development of a proposed listing regulation is precluded by other higher priority listing activities.

<sup>345</sup> Final ASC, Section Q.4.2, p. Q-6

<sup>346</sup> Preliminary ASC, Section Q.5.1, p. Q-8

1 observed during the 2009 surveys, because of the soil type and the abundance of possible burrows, areas  
2 of potential squirrel habitat were also scheduled for surveys in 2010.<sup>347</sup>

3 During the 2010 surveys, no individual squirrels were observed along the transmission line corridor,  
4 although evidence of occupation by species other than the Washington ground squirrel was found at some  
5 burrow locations. Evidence of Washington ground squirrel activity was found in two areas near the Carty  
6 facility site, including scat and auditory calls.<sup>348</sup> Washington ground squirrel populations fluctuate  
7 periodically and currently are at a relatively low level. Therefore, failure to detect Washington ground  
8 squirrel activity in some areas does not rule out future use of the area should population recovery occur.<sup>349</sup>

9 **IV.I.1.c. Potential Impacts and Mitigation**

10 Washington Ground Squirrel

11 The active Washington ground squirrel burrows identified during field surveys are located  
12 approximately 630 feet northeast of Tower Road, 255 feet north of the existing Boardman Plant  
13 evaporation pond, and 705 feet from the proposed Carty facility site. Tower Road crosses between these  
14 burrows and the site of the proposed facility. ODFW generally defines Category 1 habitat for Washington  
15 ground squirrels as the area within 785 feet of an active burrow; however, in this case ODFW concurred  
16 with the Applicant that Tower Road presents a significant boundary to usable Washington ground squirrel  
17 habitat, and reduced this distance to 630 feet from active burrows (the edge of Tower Road opposite from  
18 the proposed facility).<sup>350</sup> Therefore, the Council concurs with ODFW's analysis and finds that Tower  
19 Road and the energy facility site area west of Tower Road is not Category 1 habitat.

20 An evaporation pond is proposed approximately 810 feet southeast of the active burrow complex, and  
21 construction staging for this pond would border the edge of the 785-foot buffer around the burrow  
22 complex. The Applicant proposes to locate all construction staging areas and other temporary  
23 disturbances outside a 785-foot buffer around active burrows.<sup>351</sup> In Section IV.H, Fish and Wildlife  
24 Habitat, the Council adopted a condition of approval requiring the Applicant to avoid all impacts to  
25 Category 1 habitat. Because the area within 785 feet of active burrows, with the exception of Tower  
26 Road and energy facility site area west of Tower Road (as discussed above), is Category 1 habitat, the  
27 Council also adopts Condition IV.I.2.1 requiring the certificate holder to conduct additional Washington  
28 Ground Squirrel surveys and establish buffers around active burrows. Condition IV.I.2.1 also requires a  
29 qualified biologist to ensure that the sensitive area is correctly marked with exclusion flagging and  
30 avoided during construction.

31 Construction and operational activities might occur near areas where Washington ground squirrels are  
32 active; the squirrels could travel into access roads and could be struck by vehicles. The Applicant  
33 proposes a 20-mph speed limit for all roads near Washington ground squirrel suitable habitat.<sup>352</sup> The  
34 USFWS requests that the Council adopt a condition of approval including seasonal timing of measures to  
35 mitigate impacts to Washington ground squirrels.<sup>353</sup> The Council adopts Condition IV.I.2.2, which would  
36 impose a speed limit of 20 mph to prevent squirrel fatalities, and would reduce the speed limit to 10-mph

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<sup>347</sup> Final ASC, Section Q.5.1, p. Q-9

<sup>348</sup> Final ASC, Section Q.5.1, p. Q-9

<sup>349</sup> Final ASC, Section Q.5.1, p. Q-9

<sup>350</sup> Final ASC, Section Q.5.1, pp. Q-9-10

<sup>351</sup> Final ASC, Section Q.5.1, p. Q-10

<sup>352</sup> Carty Generating Station Wildlife and Habitat Monitoring and Mitigation Plan, submitted November 2011, p. 10 (See Exhibit 1 to this Order)

<sup>353</sup> CGS-0076, 06-09-11, USFWS Agency Comment on Application for Site Certificate for the Proposed Carty Generating Station



1 from one hour before sunset to one hour after sunrise on roads near areas of known Washington ground  
2 squirrel activity during the active squirrel season. The active squirrel season is defined by USFWS as the  
3 period February through June.<sup>354</sup> USFWS comments also request that the Applicant use perch-preventing  
4 structures on facility components in areas where Washington ground squirrels may be present, to  
5 minimize raptor mortality.<sup>355</sup> The Council adopts Condition IV.I.2.3, which requires the certificate holder  
6 to use perch-preventing structures in areas of Washington ground squirrel Category 1 habitat.

7 In coordination with ODFW, the Applicant also proposes the following best management practices to  
8 prevent impacts to the Washington ground squirrel:<sup>356</sup>

- 9 • Provide environmental awareness training for all project personnel and construction  
10 contractors prior to the beginning of construction or before entering the site boundary. The  
11 training program would discuss Washington ground squirrel issues as well as other  
12 environmental issues related to the project, and include handouts with identification  
13 information and reporting procedures. Additional training sessions would be conducted as  
14 needed for personnel that start after the beginning of construction.
- 15 • In order to discourage squirrels from moving into planned construction areas, disc or till, at a  
16 minimum, an 800-ft. buffer within the perimeter of the site boundary in closest proximity to  
17 squirrel activity areas (immediately SW of Tower Road). Areas to be tilled would be  
18 reviewed by ODFW and USFWS and would be informed by the most recent Washington  
19 ground squirrel survey data. Tilled areas would be tilled annually to maintain a soil  
20 disturbance regime that is unsuitable for use by Washington ground squirrels. In addition to  
21 preventing Washington ground squirrels from moving into the planned construction areas,  
22 tilling the planned construction area means the area would no longer be considered  
23 Washington ground squirrel habitat and would not be included in the no-impact buffer area  
24 for any new Washington ground squirrel burrows that are established within 785 feet of the  
25 facility site boundary.
- 26 • In order to control erosion and weed establishment in tilled areas, the Applicant would plant  
27 dryland wheat or another cover crop, as appropriate. Crops to be planted would be selected by  
28 the Applicant in coordination with ODFW and USFWS.
- 29 • If pre-construction surveys determine that Washington ground squirrel burrows have been  
30 established west of Tower Road, the Applicant would suspend all high impact construction  
31 activities, including any ground disturbing activities, within the 785-foot disturbance buffer  
32 of active burrows during the seasonal active period for Washington ground squirrels.
- 33 • Should new Washington ground squirrel burrows become established within 785 feet of the  
34 site boundary, the Applicant would immediately report to ODFW and USFWS. The  
35 Applicant would coordinate with ODFW and USFWS to establish additional mitigation  
36 measures or to obtain an Incidental Take Permit, as appropriate.

37 The Council adopts the bulleted points above as Conditions IV.I.2.4 through IV.I.2.8.<sup>357</sup> The  
38 proposed *Wildlife and Habitat Monitoring and Mitigation Plan* (Exhibit 1 to this Order) includes long-

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<sup>354</sup> CGS-0044, 12-15-10, USFWS Comments on Wildlife and Habitat Monitoring and Mitigation Plan

<sup>355</sup> CGS-0076, 06-09-11, USFWS Comments on the Application for Site Certificate for the Carty Generating Station

<sup>356</sup> CGS-0112, Carty Generating Station Wildlife and Habitat Monitoring and Mitigation Plan, submitted November 2011, p. 10 (See Exhibit 1).

<sup>357</sup> The Draft Proposed Order included Condition IV.I.2.7, which the Department recommends deleting because it was found to be inconsistent with other conditions, and contrary to the approach agreed upon between the applicant and ODFW concerning WGS buffer areas adjacent to Tower Road discussed in Section IV.I.1.c of

1 term post-construction monitoring of known Washington ground squirrel use areas within the site  
2 boundary to collect data on Washington ground squirrel activity in the vicinity of the site. The Applicant  
3 proposes to conduct post-construction monitoring on known Washington ground squirrel colonies in year  
4 one, year three, and year five after operations have begun and then at least every five years after that for  
5 the life of the project.<sup>358</sup> The Council adopts Condition IV.I.2.9, which requires the certificate holder to  
6 conduct post-construction surveys to record evidence of Washington ground squirrel activity, current land  
7 use, and evidence of conditions caused by the project that might increase erosion or result in a decline in  
8 vegetation quality and adversely affect a Washington ground squirrel colony.

9 Based on the mitigation measures and the site certificate conditions discussed above, the Council  
10 finds that the design, construction and operation of the proposed facility are not likely to cause a  
11 significant reduction in the likelihood of survival or recovery of the Washington ground squirrel or other  
12 threatened or endangered wildlife species.

13 **IV.I.2. THREATENED AND ENDANGERED SPECIES: SITE CERTIFICATE CONDITIONS**

14 IV.I.2.1 The certificate holder shall determine the boundaries of Category 1 Washington ground  
15 squirrel (WGS) habitat based on the locations where the squirrels were found to be active in  
16 the most recent WGS surveys prior to the beginning of construction in habitat suitable for  
17 WGS foraging or burrow establishment (“suitable habitat”). The certificate holder shall use a  
18 qualified professional biologist who has experience in detection of WGS to conduct surveys  
19 within the site boundary using appropriate search protocols. Except as provided in (a), the  
20 biologist shall conduct surveys in the active squirrel season (February 1 to June 30) in 2012  
21 and in the active squirrel seasons at least once every three years until the beginning of  
22 construction in suitable habitat. The biologist shall survey all areas of suitable habitat where  
23 permanent facility components would be located or where construction disturbance could  
24 occur. The certificate holder shall provide written reports of the surveys to the Department  
25 and to the Oregon Department of Fish and Wildlife (ODFW) and shall identify the  
26 boundaries of Category 1 WGS habitat. During each year in which construction will occur,  
27 the boundaries of Category 1 WGS habitat shall be marked by the biologist with high-  
28 visibility flagging or markers. The certificate holder shall not begin construction until the  
29 identified boundaries of Category 1 WGS habitat have been approved by the Department.  
30 Category 1 WGS habitat includes the areas described in IV.I.2.1b. and c below.

- 31 a. The certificate holder may omit the WGS survey in any year if the certificate holder  
32 avoids all permanent and temporary disturbance within suitable habitat until a WGS  
33 survey has been completed in the following year and the boundaries of Category 1 habitat  
34 have been determined and approved based on that survey.
- 35 b. Category 1 WGS habitat includes the area within the perimeter of multiple active WGS  
36 burrows plus a 785-foot buffer, excluding areas of habitat types not suitable for WGS  
37 foraging or burrow establishment. If the multiple-burrow area was active in a prior survey  
38 year, and active burrows are still present, then Category 1 habitat includes the largest  
39 extent of the active burrow area ever recorded (in the current or any prior-year survey),  
40 plus a 785-foot buffer. If no active burrows are still present, then it is no longer Category  
41 1 habitat for WGS.
- 42 c. Category 1 WGS habitat includes the area containing single active burrow detections plus  
43 a 785-foot buffer, excluding areas of habitat types not suitable for WGS foraging or

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this Order. ODFW’s comments on the DPO (CGW-0128) stated that “The inclusion of Condition IV.I.2.7 does not provide any additional protections and its removal would not affect the probability of WGS’s continued inhabitation of the area.”

<sup>358</sup> Final ASC, Appendix P-3, p. 10

- 1 burrow establishment. Category 1 habitat does not include single-burrow areas that were  
2 found active in a prior survey year but that are not active in the current survey year.  
3 [Site Certificate Condition 10.14]
- 4 IV.I.2.2 The certificate holder shall impose and enforce a construction and operation speed limit of 20  
5 miles per hour throughout the facility site and, during the active squirrel season (February 1  
6 to June 30), a speed limit of 10 miles per hour from one hour before sunset to one hour after  
7 sunrise on private roads near known Washington ground squirrel (WGS) colonies. The  
8 certificate holder shall ensure that all construction and operations personnel are instructed to  
9 watch out for and avoid WGS and other wildlife while driving through the facility site.  
10 [Site Certificate Condition 10.15]
- 11 IV.I.2.3 The certificate holder shall use perch-preventing structures on Carty Generating Station  
12 components in areas identified as Category 1 habitat for Washington ground squirrels.  
13 [Site Certificate Condition 10.16]
- 14 IV.I.2.4 The certificate holder shall provide environmental awareness training for all project personnel  
15 and construction contractors before such contractors or personnel enter the site to perform  
16 construction-related activities. The training program shall discuss Washington ground  
17 squirrel issues as well as other environmental issues related to the project, and include  
18 handouts with identification information and reporting procedures. Additional training  
19 sessions shall be conducted as needed for personnel that start after the beginning of  
20 construction.  
21 [Site Certificate Condition 10.17]
- 22 IV.I.2.5 The certificate holder shall disc or till a minimum of an 800-ft. buffer within the perimeter of  
23 the site boundary in closest proximity to squirrel activity areas. Areas to be tilled shall be  
24 reviewed by ODFW and USFWS and shall be informed by the most recent Washington  
25 ground squirrel survey data. Tilled areas shall be tilled annually to maintain a soil disturbance  
26 regime that is unsuitable for use by Washington ground squirrels.  
27 [Site Certificate Condition 10.18]
- 28 IV.I.2.6 The certificate holder shall plant dryland wheat or another cover crop in tilled areas within  
29 the site boundary. Crops to be planted shall be selected by the certificate holder in  
30 coordination with ODFW and USFWS.  
31 [Site Certificate Condition 10.19]
- 32 IV.I.2.7 [DELETED. See discussion in Section IV.I.]
- 33 IV.I.2.8 Should new Washington ground squirrel burrows become established within 785 feet of the  
34 site boundary, the certificate holder shall immediately report to ODFW and USFWS. The  
35 certificate holder shall coordinate with ODFW and USFWS to establish additional mitigation  
36 measures or to obtain an Incidental Take Permit, as appropriate.  
37 [Site Certificate Condition 10.20]
- 38 IV.I.2.9 The certificate holder shall conduct post-construction surveys on known Washington ground  
39 squirrel colonies in the Carty facility area, on land owned by the certificate holder, both  
40 within the HMA and in areas where known active burrows were recorded during  
41 preconstruction field surveys (2009-2012). The Washington ground squirrel surveys shall be  
42 conducted by qualified biologists in year one, year three, and year five after operations have  
43 begun, and then at least every five years after that for the life of the project. Surveyors shall  
44 record evidence of Washington ground squirrel activity, current land use, and evidence of  
45 conditions caused by the project that might increase erosion or result in a decline in  
46 vegetation quality and adversely affect a Washington ground squirrel colony.  
47 [Site Certificate Condition 10.21]
- 48

1           **IV.I.3.       THREATENED AND ENDANGERED SPECIES: CONCLUSIONS OF LAW**

2           Based on the foregoing findings of fact and conclusions, and subject to compliance with the site  
3           certificate conditions, the Council finds that the design, construction and operation of the proposed  
4           facility, taking into account mitigation, will not significantly reduce the likelihood of the survival or  
5           recovery of any threatened or endangered plant or wildlife species listed under Oregon law, and therefore  
6           complies with the threatened and Endangered Species Standard.  
7

1 **IV.J. SCENIC RESOURCES [OAR 345-022-0080]**

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

7 *(2) The Council may issue a site certificate for a special criteria facility under OAR 345-015-*  
8 *0310 without making the findings described in section (1). However, the Council may apply the*  
9 *requirements of section (1) to impose conditions on a site certificate issued for such a facility.*

10 **IV.J.1. SCENIC RESOURCES: FINDINGS OF FACT**

11 The Applicant provided evidence about potential impacts of the Carty Generating Station to  
12 scenic resources in Exhibit R of the application. OAR 345-022-0080(2) does not apply to Carty because  
13 this facility is not a special criteria facility as defined in OAR 345-015-0310. Therefore, the Council must  
14 make findings regarding the Applicant’s compliance with section (1) of the Scenic Resources Standard.  
15 The analysis area for the Scenic Resources Standard as defined in the project order is the area within the  
16 site boundary and 10 miles from the site boundary, including areas outside the state.

17 **IV.J.1.a. Visual Features of the Proposed Facility**

18 The proposed energy facility would occupy approximately 90 acres in Morrow County. Visible  
19 features of the Carty Generating Station would comprise several large buildings, including the  
20 combustion turbine generator (CTG) buildings, steam turbine generator (STG) buildings, outdoor heat  
21 recovery steam generators (HRSGs), HRSG exhaust stacks, mechanical draft cooling towers, a water  
22 treatment building and water tanks, a control and administration building, and generators and auxiliary  
23 transformers.

24 The tallest components of the proposed Carty Generating Station would be buildings (up to 100 feet  
25 in height) and HRSG exhaust stacks (approximately 200 feet in height). The buildings would be  
26 constructed with metal siding and roofs. Each HRSG would be a metal structure occupying a footprint of  
27 approximately 150 by 40 feet. Three insulated drums would be located on top of each HRSG at an  
28 elevation of approximately 100 feet. Each HRSG would connect to the back of a CTG building and would  
29 also connect to a steel exhaust stack approximately 200 feet tall and 19 feet in diameter. The proposed  
30 switchyard would occupy approximately 15 acres, within a fenced enclosure west of the Carty Generating  
31 Station structures. The application also includes several lined evaporation ponds which would only be  
32 visible from elevated ground.<sup>359</sup> The proposed new 500-kV transmission line would extend 18 miles  
33 from the Carty Generating Station into Gilliam County, running parallel to the existing 500-kV Boardman  
34 to Slatt transmission line. Transmission towers would be up to 150 feet in height, spaced approximately  
35 1,000 feet apart.<sup>360</sup>

36 **IV.J.1.b. Identification of Scenic Resources and Values**

37 The Applicant did not identify any important scenic or aesthetic values managed by applicable federal  
38 plans for the 10-mile analysis area surrounding the proposed facility. The Morrow County  
39 Comprehensive Plan did not identify any specific scenic resources as significant. The Gilliam County  
40 Comprehensive Plan states that open space is a characteristic of Gilliam County, and that rock  
41 outcroppings marking the rims and walls of steep canyon slopes are an important characteristic of the  
42 county’s landscape, but the plan does not identify specific resources or policies.<sup>361</sup>

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<sup>359</sup> Final ASC, Section R.2, p. R-2 and Figure R-1

<sup>360</sup> Final ASC, Section B.6, p. B-17 and Figure R-1

<sup>361</sup> Final ASC, Section R.3, p. R-3

1 The transmission line proposed with the Carty Generation Station, a new 500-kV line, would cross a  
2 segment of Oregon State Route (SR) 74 in Gilliam County in close proximity of the existing Boardman to  
3 Slatt 500-kV transmission line. A second opportunity to view the transmission line would be where the  
4 transmission corridor runs adjacent to SR 74, approximately 2 miles south of the point where the existing  
5 line crosses SR 74.<sup>362</sup> This portion of SR 74 is part of the Blue Mountain Scenic Byway, a National  
6 Forest Scenic Byway and an Oregon State Scenic Byway. The Gilliam County Comprehensive Plan does  
7 not designate any significant areas of scenic or aesthetic value associated with SR 74, and the Oregon  
8 Department of Transportation does not have a management plan for the Blue Mountain Scenic Byway.  
9 The US Forest Service’s Interpretive Guide for the Blue Mountain Scenic Byway, which serves as an  
10 interpretation and visitor services implementation guide, identifies National Forest lands along the Byway  
11 as a scenic corridor. The remainder of the Byway “offers a variety of scenery along with historical sites  
12 and numerous recreational opportunities,” but no specific scenic resources or values.<sup>363</sup>

13 The Council finds no scenic resources or values identified as significant or important in local land use  
14 plans, tribal land management plans, or federal land management plans for any lands located within the  
15 analysis area described in the project order.

#### 16 **IV.J.1.c. Analysis of Impacts of the Proposed Facility**

17 Although no significant visual or aesthetic resources were identified in the analysis area, the  
18 Applicant conducted an analysis to determine whether any scenic or aesthetic resources within a 10-mile  
19 radius of the proposed Carty Generating Station would be affected by the facility. This analysis was  
20 based on the BLM Visual Resource Management System, and incorporated the following steps:

- 21 • Review of documentation from federal, tribal, state and local planning policies;
- 22 • Review of proposed site plans, aerial photographs, and maps of the area surrounding the  
23 project site;
- 24 • Nomination of key observation points (KOPs) from site plans, aerial photos and maps;
- 25 • Evaluation and photography of KOPs in the field;
- 26 • Assessment of sensitivity of KOPs based on user types, the amount of use, the amount of  
27 public interest, and the adjacent land uses;
- 28 • Determination of scenic quality based on landform, vegetation, water, color, adjacent  
29 scenery, scarcity of the scenic resource, and existing cultural modifications; and
- 30 • Identification of opportunities for mitigation of any impacts that may be caused by  
31 construction or operation of the proposed facility.<sup>364</sup>

32 The most prominent visible features of the proposed facility would be the two approximately 200-foot  
33 tall exhaust stacks which would be in high contrast to the natural flat sagebrush landscape.<sup>365</sup> Three  
34 insulated drums would be located on top of each HRSG at an elevation of approximately 100 feet.<sup>366</sup>  
35 Cooling tower dimensions are expected to be approximately 400 by 65 feet or 300 by 120 feet, with the  
36 top of the paneled structure approximately 40 feet above grade and the top of the fan exhaust bell housing  
37 approximately 50 feet above grade. These facilities would be moderately visible. The Applicant expects

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<sup>362</sup> Final ASC, Section R.3, p. R-3

<sup>363</sup> *Blue Mountain National Scenic Byway Interpretive Guide*, Umatilla National Forest and USDA Forest Service (1998)

<sup>364</sup> Final ASC, Section R.4, p. R-3 and R-4

<sup>365</sup> Final ASC, Section R.4.6, p. R-6

<sup>366</sup> Final ASC, Section R.4.5, p. R-6

1 the vapor plumes emanating from cooling towers and exhaust stacks to dissipate before they reach the  
2 skyline from most vantage points, limiting impact to the contrast between the light color of the plume and  
3 the skyline. The plume may be visible from existing public roads and highways, from the Boardman  
4 airport, from agricultural facilities, from private residences, and from the existing power plant. Plume  
5 visibility at night may be variable, depending on clarity and cloud cover. The period of maximum visual  
6 impact would be during clear, cold, calm days, typically during the period from November through  
7 March. The cloud cover often present during winter months would tend to obscure the cooling tower  
8 plume and lessen its visual impact.<sup>367</sup>

9 The plume generated by the cooling towers is therefore not expected to generate significant visual  
10 impacts. The proposed new energy facility would cause moderate visual contrast to the surrounding  
11 sagebrush landscape; impacts of this visibility would be limited by the existing industrial buildings  
12 already constructed on the site. The proposed Grassland substation and new 500-kV transmission line  
13 would be visually associated with existing lines and industrial facilities in the area.<sup>368</sup>

14 Short-term impacts on visual quality from construction of the proposed facility would not be  
15 significant. Minor impacts could include the visibility of construction equipment such as cranes,  
16 scaffolding, etc. at times during the construction period.<sup>369</sup> The Council adopts Condition IV.J.2.1,  
17 which requires the certificate holder to mitigate visibility impacts of construction equipment.

18 The Applicant proposes to minimize visual impacts of the proposed structures by painting structures  
19 with low-glare paint in colors chosen to best complement the surrounding landscape. Facility lighting  
20 would be shielded or directed downward, and limited to lighting for safety and security purposes, with the  
21 exception of Federal Aviation Administration lighting on exhaust stacks.<sup>370</sup> The Council adopts  
22 Conditions IV.J.2.2 and IV.J.2.3 to incorporate these mitigation measures. As discussed in Section  
23 IV.E.1 of this Order (Land Use), the Applicant would design signage in accordance with applicable  
24 county ordinances (Condition IV.E.4.5).

25 The Department received public comment stating that the natural gas facility will release air pollution  
26 and impair air quality or visibility in areas downwind from the project site, especially in the Columbia  
27 River Gorge National Scenic Area (CRGNSA).<sup>371</sup> The CRGNSA is outside the analysis area for scenic  
28 resources for the facility, at a distance of approximately 50 miles from the proposed Carty Generating  
29 Station. The commenter indicates that the Council has a responsibility to ensure that the Gorge air is  
30 protected from new sources of air pollution that are subject to their permitting authority. The Council is  
31 not authorized to determine compliance with regulatory programs that have been delegated to another  
32 state agency by the federal government (ORS 469.503(3)). Air quality issues are under the jurisdiction of  
33 the Oregon Department of Environmental Quality and cannot be decided on by the Council.<sup>372</sup>

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<sup>367</sup> Final ASC, Section R.4.6, p. R-6

<sup>368</sup> Final ASC, Section R.4.6, p. R-6 to R-7

<sup>369</sup> Final ASC, Section R.4.6, p. R-7

<sup>370</sup> Final ASC, Section R.5, p. R-7

<sup>371</sup> CGS-0084, 06-24-11, Public Comment from Rick Till from Friends of the Columbia Gorge (FOCG) on Carty Generating Station

<sup>372</sup> In its comments on the Draft Proposed Order (CGS-0116, 04-13-12), the FOCG reiterated its position that air emissions from the Carty Generating Station will have adverse impacts on the Columbia River Gorge National Scenic Area and that “Based on the Project Order and applicable EFSC siting guidelines, the Council must ensure the proposed facility would not adversely affect Gorge resources. This must include protection against the adverse impacts of air pollution on the scenic, natural, recreational, cultural resources of the Gorge.” See Section IV.F. (Protected Areas) for further discussion of the FOCG comments regarding impacts from the proposed facility on the Columbia River Gorge National Scenic Area.

1 The Applicant contends that the proposed Carty Generating Station and its associated transmission  
2 line would add industrial features to an existing industrial development, creating moderate new visual  
3 impacts on the surrounding area. Consequently, the proposed energy facility and the proposed  
4 transmission line represent a low impact to the visual quality of the Carty Generating Station area and the  
5 transmission line corridor. The Council agrees with the Applicant’s analysis of visual impacts of the  
6 proposed facility.

7  
8 **IV.J.2. SCENIC RESOURCES: SITE CERTIFICATE CONDITIONS**

9  
10 IV.J.2.1 During construction of the facility, the certificate holder shall ensure that contractors move  
11 equipment out of the construction area when it is no longer expected to be used. To the extent  
12 practical, contractors shall lower equipment with long arms, such as cranes, bucket trucks,  
13 and backhoes when not in use, in order to minimize visibility.  
14 [Site Certificate Condition 6.12]

15 IV.J.2.2 To reduce the visual impact of the facility, the certificate holder shall paint the buildings and  
16 structures in low-reflectivity neutral colors to blend with the surrounding landscape.  
17 [Site Certificate Condition 6.13]

18 IV.J.2.3 The certificate holder shall not use exterior nighttime lighting except:

- 19 a. The minimum exhaust stack lighting required or recommended by the Federal Aviation  
20 Administration.  
21 b. Safety and security lighting at the Carty Generating Station, provided that such lighting is  
22 shielded or downward-directed to reduce offsite glare.  
23 c. Minimum lighting necessary for repairs or emergencies.  
24 [Site Certificate Condition 6.14]

25  
26 **IV.J.3. SCENIC RESOURCES: CONCLUSIONS OF LAW**

27 Based on the foregoing findings of fact and conclusions, and subject to the compliance with the site  
28 certificate conditions, the Council finds that the design, construction, and operation of the facility, taking  
29 into account mitigation, are not likely to result in significant adverse impacts to scenic resources and  
30 values identified as significant or important in local land use plans, tribal land management plans, and  
31 federal land management plans for any lands located within the analysis area. Based on these findings,  
32 the Council finds that the facility complies with the Scenic Resources Standard.  
33



1 **IV.K. HISTORIC, CULTURAL AND ARCHAEOLOGICAL RESOURCES [OAR 345-022-0090]**

- 2 (1) *Except for facilities described in sections (2) and (3), to issue a site certificate, the Council*  
3 *must find that the construction and operation of the facility, taking into account mitigation,*  
4 *are not likely to result in significant adverse impacts to:*
- 5 (a) *Historic, cultural or archaeological resources that have been listed on, or would likely*  
6 *be listed on the National Register of Historic Places;*
- 7 (b) *For a facility on private land, archaeological objects, as defined in ORS 358.905(1)(a),*  
8 *or archaeological sites, as defined in ORS 358.905(1)(c); and*
- 9 (c) *For a facility on public land, archaeological sites, as defined in ORS 358.905(1)(c).*
- 10 (2) *The Council may issue a site certificate for a facility that would produce power from wind,*  
11 *solar or geothermal energy without making the findings described in section (1). However,*  
12 *the Council may apply the requirements of section (1) to impose conditions on a site*  
13 *certificate issued for such a facility.*
- 14 (3) *The Council may issue a site certificate for a special criteria facility under OAR 345-015-*  
15 *0310 without making the findings described in section (1). However, the Council may apply*  
16 *the requirements of section (1) to impose conditions on a site certificate issued for such a*  
17 *facility.*

18 **IV.K.1. HISTORIC, CULTURAL, AND ARCHAEOLOGICAL RESOURCES: FINDINGS OF FACT**

19 OAR 345-022-00090(2) and (3) do not apply to the proposed facility because this facility would not  
20 produce power from wind, solar, or geothermal energy, and the facility is not a special criteria facility as  
21 defined in OAR 345-015-0310. Furthermore, OAR 345-022-0090(1)(c) does not apply, because the  
22 proposed facility is located entirely on private land. Therefore, the criteria specified in OAR 345-022-  
23 0090(1)(a) and (b) apply to the proposed facility and the Council must make findings regarding the  
24 applicant's compliance with these sections of the standard.

25 The applicant provided information regarding historic, cultural, and archaeological resources in  
26 Exhibit S of the Application for Site Certificate (ASC). The Applicant engaged Archaeological  
27 Investigations Northwest Inc. (AINW) to obtain information about historical, cultural, and archaeological  
28 resources within the proposed site boundary. AINW conducted a records review and field surveys. AINW  
29 reviewed archaeological records maintained by the Oregon State Historic Preservation Office (SHPO) for  
30 the area within the site boundary and its vicinity. The literature review included National Register of  
31 Historic Places (NRHP) records, regional and local environmental histories, ethnographic studies, and  
32 documents pertaining to local Euroamerican history.<sup>373</sup> The field survey area for potential impacts to  
33 documented resources was approximately 780 acres in size, and comprised the portion of the area within  
34 the site boundary which would be impacted by the construction of the proposed transmission line and  
35 energy facility.<sup>374</sup>

36 SHPO records identified three previous archaeological surveys within the field survey area. One  
37 previously-recorded archaeological site is present within the field survey area.<sup>375</sup> This site was identified  
38 during a 1977 survey for the existing Carty Reservoir. Archaeological site 35MW19, also known as "The  
39 Northwestern Outlet Site," was recorded as a prehistoric lithic scatter that contained flakes and a stone

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<sup>373</sup> Final ASC, Section S.5.1.1, p. S-3

<sup>374</sup> Final ASC, Section S.1, p. S-1

<sup>375</sup> Final ASC, Section S.5.1.1, p. S-3

1 tool. No documentary evidence was found to indicate whether this archaeological site’s eligibility for  
2 listing in the NRHP was previously determined.<sup>376</sup>

3 AINW conducted a pedestrian survey (typically in 20-meter transects) and shovel testing (90 shovel  
4 probes) of the field survey area between October 28 and November 6, 2009, in conformance to SHPO  
5 standards and guidelines.<sup>377</sup> The survey team was unable to locate archaeological site (35MW19), despite  
6 pedestrian transects (at intervals closer than 20 meters) and 18 shovel probes performed close to the  
7 recorded archaeological site.<sup>378</sup>

8 Four archeological resources were identified within the field survey area; all four are located on  
9 private land and fall under the definition of either archaeological object (ORS 358.905 (1) (a)) or  
10 archaeological site (ORS 358.905(1)(c)). SHPO defines archaeological isolates as nine or fewer artifacts  
11 found in a given location that can be associated with a particular activity that occurred in the past.  
12 Archaeological isolates fall within the definition of archaeological objects. There were two isolates  
13 identified in the analysis area; both are single prehistoric artifacts. One isolate (09/1778-B2) was a single  
14 cryptocrystalline silicate flake found in a shovel test. The other isolate (09/1778-5A) was the distal end of  
15 a bifacially worked obsidian projectile point found on the ground surface. AINW did not recommend any  
16 further work at the isolates because they do not appear to be parts of larger archaeological sites, and are  
17 therefore not eligible for listing in the NRHP.

18 The Oregon SHPO defines archaeological sites, in part, as 10 or more artifacts found in a given  
19 location that can be associated with a particular activity that occurred in the past. AINW located two  
20 historic-period archaeological sites: the remains of the Heppner branch of the Oregon Railway and  
21 Navigation Company Railroad (09/1778-B3), and an early twentieth-century trash scatter (09/1778-3A).  
22 The remains of the railway consist of a crushed gravel bed; all ties and rails were removed in 1974. The  
23 identified trash scatter is sparse and does not appear to be associated with any significant historical  
24 persons or events.<sup>379</sup> The two newly identified sites were not recommended to be eligible for listing with  
25 the NRHP based on an analysis of the context and character of the sites, subsurface archaeological  
26 deposits are unlikely to be present.<sup>380</sup>

27 The Applicant proposes to avoid the area of archaeological site 35MW19, the previously identified  
28 archaeological site which has not been evaluated for eligibility for listing with the NRHP, and was not  
29 located during field surveys for the proposed facility. The Applicant proposes an avoidance area to  
30 include the archaeological resource 35MW19 site boundary and a buffer extending 30 meters (100 feet)  
31 beyond the archaeological site boundary. This buffer area would be marked with temporary fencing  
32 and/or flagging to prevent inadvertent impacts to the site.<sup>381</sup> The Council adopts Condition IV.K.2.1,  
33 which incorporates the Applicant’s proposed avoidance measure for archaeological site 35MW19.

34 The Council also adopts Condition IV.K.2.2, which requires a map showing the final facility layout,  
35 temporary disturbance areas, 2009 archaeological resource field survey areas, and SHPO archaeological  
36 site 35MW19, and Conditions IV.K.2.3 and IV.K.2.4, which require additional field surveys for areas  
37 outside the previously-surveyed areas potentially impacted during construction, and training of  
38 construction personnel by a qualified archaeologist for identification and avoidance techniques for  
39 cultural resources.

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<sup>376</sup> Final ASC, Section S.5.1.1, p. S-3 and S.5.2, p. S-4

<sup>377</sup> Final ASC, Section S.5.1.2, p. S-4

<sup>378</sup> Final ASC, Sections S.5.1.2 and S.5.2, p. S-4

<sup>379</sup> Final ASC, Section S.3, p. S-2

<sup>380</sup> Final ASC, Section S.5.2, p. S-5

<sup>381</sup> Final ASC, Section S.5.3, p. S-6

1 In accordance with Oregon law (ORS 97.745 and ORS 358.920), the Applicant proposes to cease all  
2 construction activities within a 100-foot area if any archaeological or cultural resources are found during  
3 construction of the facility until a qualified archaeologist can evaluate the significance of the find. The  
4 archaeologist’s preliminary assessment would require SHPO concurrence prior to commencement of any  
5 ground-disturbing activities within the 100-foot buffer area of the find.<sup>382</sup> The Council adopts Condition  
6 IV.K.2.5, which incorporates the Applicant’s proposed avoidance measures during construction of the  
7 proposed facility. The Council also adopts Condition IV.K.2.6, which describes the Applicant’s proposed  
8 Archaeological Monitoring Protocol to monitor and protect historical, cultural, and archaeological  
9 resources during construction of the Carty Generating Station.

10 SHPO commented in a July 8, 2011 letter (SHPO Case No. 10-0046) that the Carty Generating  
11 Station project, as described in the application, would not have an adverse affect on any known cultural  
12 resources.<sup>383</sup> The Council finds that the construction and operation of the facility, taking into account  
13 mitigation, are not likely to result in significant adverse impacts to historic, cultural, or archaeological  
14 resources that have been listed on, or would likely be listed on, the NRHP. Based on its review of the  
15 information in the application, the Council finds that the construction and operation of the facility, taking  
16 into account mitigation, are not likely to result in significant adverse impacts to archaeological objects or  
17 archaeological sites on private land.

18 **IV.K.2. HISTORIC, CULTURAL AND ARCHAEOLOGICAL RESOURCES: SITE CERTIFICATE**  
19 **CONDITIONS**

- 20
- 21 IV.K.2.1 Before beginning construction, the certificate holder shall label SHPO archaeological  
22 resource site 35MW19 and a 100-foot buffer around site 35MW19 on construction maps and  
23 drawings as a “no entry” area. Site 35MW19 and its 100-foot buffer shall be marked with  
24 temporary fencing or stakes with rope and/or flagging to prevent inadvertent entry.  
25 [Site Certificate Condition 11.1]
- 26 IV.K.2.2 Before beginning construction, the certificate holder shall provide to the Department a map  
27 showing the final design locations of all components of the facility, the areas that would be  
28 temporarily disturbed during construction, the areas that were surveyed in 2009 as described  
29 in the *Final Order on the Application*, and the location of archaeological resource site  
30 35MW19 and its 100-foot buffer.  
31 [Site Certificate Condition 11.2]
- 32 IV.K.2.3 The certificate holder shall use qualified personnel to conduct field investigation of all areas  
33 to be disturbed during construction that lie outside the previously-surveyed areas. The  
34 certificate holder shall provide a written report of the field investigation to the Department  
35 and to the Oregon State Historic Preservation Office (SHPO). If any potentially significant  
36 historic, cultural, or archaeological resource sites are found during the field investigation, the  
37 certificate holder shall instruct all construction personnel to avoid the identified sites and  
38 shall implement appropriate measures to protect the sites, including the measures described in  
39 Condition IV.K.2.5.  
40 [Site Certificate Condition 11.3]
- 41 IV.K.2.4 The certificate holder shall ensure that a qualified archaeologist, as defined in OAR 736-051-  
42 0070, instructs construction personnel in the identification of cultural materials and avoidance  
43 of accidental damage to identified resource sites. Records of such training shall be

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<sup>382</sup> Final ASC, Section S.5.4, p. S-6

<sup>383</sup> CGS-0089

1 maintained at the administration/control building and made available to authorized  
2 representatives of the Department upon request.  
3 [Site Certificate Condition 11.4]

4 IV.K.2.5 The certificate holder shall ensure that construction personnel cease all ground-disturbing  
5 activities in the immediate area if any archaeological or cultural resources are found during  
6 construction of the facility until a qualified archeologist can evaluate the significance of the  
7 find. The certificate holder shall notify the Department and the Oregon State Historic  
8 Preservation Office (SHPO) of the find. If the SHPO determines that the resource is  
9 significant, the certificate holder shall make recommendations to the Council for mitigation,  
10 including avoidance, field documentation and data recovery, in consultation with the  
11 Department, SHPO, interested tribes and other appropriate parties. The certificate holder shall  
12 not restart work in the affected area until the certificate holder has demonstrated to the  
13 Department and the SHPO that it has complied with archaeological resource protection  
14 regulations.  
15 [Site Certificate Condition 11.5]

16 IV.K.2.6 The certificate holder shall prepare and implement an Archaeological Monitoring Plan for  
17 construction activities to address and mitigate impacts from exposure of unanticipated or  
18 previously unidentified cultural resources that may be exposed during construction of the  
19 facility. A current copy of the plan must be maintained at the administration/control building  
20 and made available to authorized representatives of the Department upon request. The  
21 Archaeological Monitoring Plan, as proposed by the certificate holder, shall include the  
22 following requirements:

- 23 a. The certificate holder will be responsible for providing a qualified archaeological monitor  
24 for any ground-disturbing project construction activity that occurs within the area  
25 between the shovel tests excavated in 2009 and the delineated 100-foot buffer around  
26 35MW19. No ground-disturbance is permitting within the site boundaries or the 100-foot  
27 buffer around the archaeological site.
- 28 b. A qualified archaeological monitor is a person who meets the “qualified archaeologist”  
29 standards defined by ORS 390.235(6)(b) or who is supervised by a “qualified  
30 archaeologist.” If the latter applies, the supervising qualified archaeologist must vouch  
31 for the work of the archaeological monitor and author or co-author the archaeological  
32 monitoring report provided at the end of construction monitoring.
- 33 c. The archaeological monitor will keep a daily log of construction and monitoring  
34 activities. If intact archaeological materials are encountered during the monitoring, the  
35 archaeological monitor will initiate procedures for inadvertent discovery of  
36 archaeological resources, as specified in ORS 358.920.
- 37 d. Artifacts will be examined and documented in the field and will not be collected unless  
38 authorized under the provisions of a SHPO permit, if one is obtained in the inadvertent  
39 discovery of archaeological resources process.
- 40 e. If human remains are identified during the course of construction monitoring, the monitor  
41 will initiate the procedures for Inadvertent Discovery of Human Remains, as specified in  
42 ORS 97.740-97.760.  
43

1 f. The certificate holder is responsible for providing an archaeological monitoring report to  
2 the Department and SHPO after construction work is completed. The report must detail  
3 the activities of the archaeological monitor and any inadvertent discoveries encountered,  
4 along with actions taken to address them.  
5 [Site Certificate Condition 11.6]  
6

7 **IV.K.3. HISTORICAL, CULTURAL, AND ARCHAEOLOGICAL RESOURCES: CONCLUSIONS OF**  
8 **LAW**

9 Based on the foregoing findings of fact, conclusions, and subject to compliance with the site  
10 certificate conditions, the Council finds that the construction and operation of the facility are not likely to  
11 result in significant adverse impacts to historic, cultural, or archaeological resources and therefore  
12 complies with the Historical, Cultural, and Archaeological Resources Standard.  
13

1 **IV.L. RECREATION [OAR 345-022-0100]**

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

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

8 *(b) The degree of demand;*

9 *(c) Outstanding or unusual qualities;*

10 *(d) Availability or rareness;*

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

12 *(2) The Council may issue a site certificate for a special criteria facility under OAR 345-*  
13 *015-0310 without making the findings described in section (1). However, the Council may*  
14 *apply the requirements of section (1) to impose conditions on a site certificate issued for such*  
15 *a facility.*

16 \* \* \*

17 **IV.L.1. RECREATION: FINDINGS OF FACT**

18 OAR 345-022-0100(2) does not apply because the proposed facility is not a special criteria facility as  
19 defined by OAR 345-015-0310. Therefore, only the criteria specified in OAR 345-022-0100(1) apply to  
20 this facility and the Council must make findings regarding the applicant’s compliance with section (1) of  
21 the standard. The Council’s recreation standard applies only to those recreation areas that the Council  
22 finds are “important” using the factors listed in the sub-paragraphs of section (1) of the standard.

23 The analysis area for the Recreation Standard is the area within the site boundary and five miles from  
24 the site boundary.<sup>384</sup> The applicant provided information about compliance with the Council’s Recreation  
25 Standard in Exhibit T of the application. Section IV.L.1.a describes the recreation opportunities identified  
26 by the applicant within the analysis area, and includes the Council’s conclusions regarding the  
27 “importance” of the recreation opportunity. Section IV.L.1.b describes the potential impacts to the  
28 recreation opportunities that the Council finds important.

29 The majority of the area within the site boundary is privately owned, with a small area controlled by  
30 the Bonneville Power Administration; it contains no County, State or federally designated recreational  
31 facilities. Recreational activities generally available in the vicinity include fishing, waterfowl hunting,  
32 hiking, cycling and boating. Similar opportunities for each of these activities are available on public and  
33 private lands outside the analysis area. Hunting and other recreational activities are not currently allowed  
34 at the proposed Carty Generating Station site or Carty Reservoir.<sup>385</sup> Morrow County submitted comments  
35 requesting that Quesnal Park, a U.S. Army Corps of Engineers (USACE) park, be included;<sup>386</sup> however,  
36 this park is outside of the analysis area for recreation and is therefore out of the Council’s jurisdiction.  
37 Recreation resources identified within the analysis area are discussed below. To evaluate compliance with  
38 OAR 345-022-0100, the Council must determine whether identified recreational resources are important  
39 as well as identifying any significant adverse impacts. Accordingly, the sections below address the

384 CGS-0042, 11-03-09, Oregon Department of Energy Project Order for the Carty Generating Station

385 Final ASC, Section T.2, p. T-2

386 CGS-0085, 06-30-11, Morrow County Comment on Carty Generating Station Application for Site Certificate -  
Comments General

1 importance of each identified resource; potential adverse impacts to these resources are addressed in  
2 Section IV.L.1.b, below.

### 3 **IV.L.1.a. Identification of Important Recreational Resources**

#### 4 **Columbia River Waterfront**

5 There are a number of recreational resources along the Columbia River that are within the analysis  
6 area for the proposed Carty Generating Station. The Columbia River Waterfront itself is a recreational  
7 resource managed by the USACE. The Lewis and Clark Historic Trail, which is managed by the National  
8 Park Service, is located along the Columbia River approximately 5 miles from the proposed Carty  
9 Generating Station transmission line. The trail also parallels the Columbia River in the vicinity of  
10 Arlington, Oregon. The Port of Arlington has an RV park and a marina equipped for boat moorage up to  
11 30 feet.

12 The criteria for importance in OAR 345-022-0100 include special designation or management, degree  
13 of demand, outstanding qualities, availability or rareness, and irreplaceability. The Columbia River  
14 Waterfront is a managed resource that occurs in only one location in the world, as is the Lewis and Clark  
15 Historic Trail. The Lewis and Clark Historic Trail is also unique in its historic significance to the West,  
16 which is an unusual quality. Both of these resources are irreplaceable. The Port of Arlington RV park and  
17 marina is replaceable, but RV parks and marinas are somewhat uncommon along the Columbia River  
18 Waterfront east of The Dalles. This RV park and marina are also managed by the Port of Arlington. For  
19 these reasons, the recreational resources identified along the Columbia River Waterfront all meet at least  
20 one of the criteria for a determination of importance by the Council, and The Council finds that the  
21 Columbia River Waterfront, Lewis and Clark Historic Trail, and Port of Arlington RV park and marina  
22 are important recreational resources as defined by OAR 345-022-0100(1).

#### 23 **Blue Mountain Scenic Byway**

24 The Blue Mountain Scenic Byway (State Route [SR] 74) is a highway which traverses Morrow and  
25 Gilliam counties. It was designated as a scenic byway in 1989 under the National Scenic Byway Program,  
26 which is managed by the U.S. Department of Transportation. National Scenic Byways are designated  
27 based on their outstanding archaeological, cultural, historic, natural, recreational, and scenic qualities.<sup>387</sup>  
28 Based on this special designation, which recognizes outstanding qualities, the Council finds that the Blue  
29 Mountain Scenic Byway is an important recreational resource as defined by OAR 345-022-0100(1).

#### 30 **Arlington State Park**

31 The Applicant identified a recreational resource referred to as Arlington State Park in the application.  
32 This resource is an undeveloped 191-acre site, owned by the Oregon Parks and Recreation Department,  
33 which is located along I-84, approximately 2 miles east of Arlington, Oregon and within 5 miles of the  
34 proposed transmission line associated with the proposed Carty Generating Station. This park was  
35 identified by the Applicant<sup>388</sup> but is not listed on by the Oregon Parks and Recreation Department as a  
36 state park.<sup>389</sup> The Applicant consulted with Oregon State Parks, which indicated that there are currently  
37 no plans to develop this site.<sup>390</sup> The site is located on the opposite side of I-84 from the Carty facility,  
38 north of the western end of the proposed transmission line. Because this site is undeveloped, it does not  
39 have any unusual qualities beyond its proximity to the Columbia River, and is not rare or irreplaceable.  
40 When developed it could potentially develop outstanding qualities and a high degree of demand. Because

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<sup>387</sup> National Scenic Byways Program, <http://www.byways.org/learn/program.html> (August 16, 2011)

<sup>388</sup> Final ASC, Section T.1, p. T-1

<sup>389</sup> Oregon Parks and Recreation Department,  
[http://www.oregonstateparks.org/searchpark.php?region=eastern\\_oregon](http://www.oregonstateparks.org/searchpark.php?region=eastern_oregon) (August 16, 2011)

<sup>390</sup> Final ASC, Section T.1, p. T-1

1 this site is undeveloped and there are no plans to further develop the site, it is replaceable with another  
2 site, does not have a high degree of demand, does not have unusual or outstanding qualities, and is not  
3 rare. For these reasons, the Council finds that the Arlington State Park is not an important recreational  
4 resource as defined by OAR 345-022-0100(1).

### 5 **Oregon Historic Trail**

6 The Oregon Historic Trail follows the route taken by emigrants and traders traveling west in the  
7 1840's-1860's.<sup>391</sup> The Oregon Historic Trails Advisory Council provided general comments on the Final  
8 ASC; these comments were limited to identifying the location of the Oregon National Historic Trail,  
9 Cutoff to the Barlow Road trail, Nathaniel Wyeth Route, and Benjamin Bonneville Route relative to the  
10 Carty facility and request that impacts to this resource be avoided or minimized.<sup>392</sup> Only the Oregon  
11 National Historic Trail is within the analysis area. A portion of the Oregon Historic Trail passes through  
12 Morrow and Gilliam counties approximately 4 to 6 miles south of the proposed Carty Generating Station  
13 and transmission line. This trail is specially designated as a National Historic Trail by the National Park  
14 Service, and has outstanding historical significance. For these reasons, the Council finds that the Oregon  
15 Historic Trail is an important recreational resource as defined by OAR 345-022-0100(1).

### 16 **Potential Adverse Impacts and Proposed Mitigation Measures**

17 None of the recreational facilities identified above would be physically impacted by construction of  
18 the Carty facility. The proposed transmission line would cross the Blue Mountain Scenic Byway, at the  
19 same location that the byway is currently crossed by the Boardman to Slatt 500-kilovolt (kV)  
20 transmission line. Because the Blue Mountain Scenic Byway is already crossed by an existing  
21 transmission line, the construction of an additional transmission line at the same location would have a  
22 minimal impact on this resource.

23 Visual impact analyses prepared by the Applicant indicate that, due to the difference in elevation and  
24 steep canyon walls along the Columbia River, the Carty Generating Station and its transmission line  
25 would not be visible from the river or from any of the recreational resources identified along the  
26 riverfront.<sup>393</sup> The Carty facility would be intermittently visible from the Oregon Historic Trail route,  
27 similar to the existing Boardman Coal Plant;<sup>394</sup> however, the facility would be viewed at a distance of 4-6  
28 miles. The distance and the intermittent nature of facility views from the Oregon Historic Trail would  
29 minimize visual impacts to this resource.

30 The Applicant submitted an analysis of predicted noise associated with the proposed facility, which  
31 shows that no general recreational opportunities are located within audible range of the Carty facility, and  
32 noise generated by the facility would meet DEQ requirements at all identified recreational opportunity  
33 locations. For these reasons, noise generated by the Carty facility would not impact recreational  
34 resources.<sup>395</sup>

35 Water usage and wastewater production associated with the proposed facility also would not impact  
36 identified recreational resources. Process water would be drawn from the Carty Reservoir and discharged  
37 back into the Carty Reservoir or into evaporation ponds; The Carty Reservoir is not open to the public for  
38 recreation and therefore will not suffer adverse recreational impacts. Existing potable water and sanitary  
39 sewer infrastructure would serve the proposed Carty facility, which would not result in new impacts to

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<sup>391</sup> National Park Service, <http://www.nps.gov/oreg/index.htm> (August 16, 2011)

<sup>392</sup> Comment from Oregon Historic Trails Advisory Council Identifying Historic Trails and requesting that the Project Either Avoid or Minimize Potential Impact to the Trails, June 9, 2011 (CGS-0077)

<sup>393</sup> Final ASC, Section T.2., pp. T-2-3

<sup>394</sup> Final ASC, Figure R-2

<sup>395</sup> Final ASC, Section T.4, p. T-6



1 recreational resources.<sup>396</sup> Significant increases in traffic that could interrupt or alter access to recreational  
2 sites is not expected to result from construction or operation of the proposed facility or transmission  
3 line.<sup>397</sup> The Applicant does not propose any mitigation measures because no impacts are expected.<sup>398</sup>

4 Based on the reasons outlined above, the Council finds that there would be no significant adverse  
5 impact to important recreational resources as a result of construction and operation of the Carty facility.

6 **IV.L.2. RECREATION: SITE CERTIFICATE CONDITIONS**

7 The Council is not adopting any site certificate conditions specifically related to compliance with the  
8 Recreation Standard.

9 **IV.L.3. RECREATION: CONCLUSIONS OF LAW**

10 Based on the foregoing findings of fact and conclusions, the Council finds that the design,  
11 construction and operation of the proposed facility are not likely to result in a significant adverse impact  
12 to any important recreational opportunities in the analysis area and therefore complies with the Recreation  
13 Standard.

14

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<sup>396</sup> Final ASC, Section T.4, p. T-6

<sup>397</sup> Final ASC, Section T.4, p. T-6

<sup>398</sup> Final ASC, Section T.5, p. T-8

1 **IV.M. PUBLIC SERVICES [OAR 345-022-0110]**

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

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 (3) *The Council may issue a site certificate for a special criteria facility under OAR 345-015-*  
13 *0310 without making the findings described in section (1). However, the Council may*  
14 *apply the requirements of section (1) to impose conditions on a site certificate issued for*  
15 *such a facility.*

16 \* \* \*

17 **IV.M.1. PUBLIC SERVICES: FINDINGS OF FACT**

18 OAR 345-022-0110 (1) requires the Council to identify any significant adverse impacts to the ability  
19 of public and private service providers in the analysis area to provide sewers and sewage treatment, water,  
20 stormwater drainage, solid waste management, housing, traffic safety, police and fire protection, health  
21 care, and schools. Each of these services is evaluated below for both the construction and operation  
22 phases of the Carty facility.

23 OAR 345-022-0110(2) and (3) do not apply to the proposed facility because it would not produce  
24 power from wind, solar, or geothermal energy, and the facility is not a special criteria facility as defined  
25 in OAR 345-015-0310. Therefore, only the criteria specified in OAR 345-022-0110(1) apply to the  
26 proposed facility, and the Council must make findings regarding the applicant’s compliance with  
27 paragraph (1) of the Public Services Standard, requiring the Council to identify any significant adverse  
28 impacts to public and private service providers in the analysis area.

29 The analysis area for the Public Services standard is the area within the site boundary and 10 miles  
30 from the site boundary,<sup>399</sup> which includes Morrow County and Gilliam County for the proposed facility  
31 and transmission line, respectively. The analysis area also includes portions of Klickitat and Benton  
32 Counties, Washington. For the purpose of this analysis, the Applicant has only addressed potential  
33 impacts to public services in Oregon, due to the physical barrier of the Columbia River. The nearest river  
34 crossing to the proposed project is over 20 miles from the proposed project site, making travel for service  
35 providers to and from Washington infeasible.<sup>400</sup>

36 Exhibit U of the Application for Site Certificate (ASC) addresses the potential impacts of the facility  
37 on public services, and compliance with OAR 345-022-0110(1). The sections below address public  
38 services listed in OAR 345-022-0110(1), including Sewage, Storm Water, Process Wastewater, and Solid  
39 Waste (Section IV.M.1.a.); Water Supply (IV.M.1.b); Housing (IV.M.1.c); Police and Fire Protection  
40 (IV.M.1.d); Health Care (IV.M.1.e); Public Education (IV.M.1.f); and Traffic Safety (IV.M.1.g).

399 CGS-0042, 11-03-09, Oregon Department of Energy Project Order for the Carty Generating Station

400 Final ASC, Section U.1, p. U-1

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**IV.M.1.a. Sewage, Storm Water, and Solid Waste**

During construction of the proposed Carty facility, the impact on public sewage treatment facilities would be minimal. The Applicant proposes to retain a contractor to bring in portable toilets to address sanitary sewer needs during construction<sup>401</sup> (see Section IV.N of this Order, Waste Minimization, and Condition IV.N.2.3). During operation, the Carty Generating Station would utilize the existing Boardman Plant sanitary waste treatment system.<sup>402</sup> The proposed facility would typically be staffed by less than 30 personnel over a 24-hour period. The increased sanitary waste generated by this level of staffing is estimated to be approximately 800 to 1,000 gallons per day (gpd), within the current excess capacity of the existing Boardman Plant sanitary waste system. The Boardman Plant currently uses only 5 percent of its 20,000 gpd capacity. For these reasons, the proposed facility would not adversely impact sanitary sewer services provided by any public or private providers.

The Applicant would capture all stormwater using retention swales and evaporate or infiltrate captured stormwater on-site using retention ponds, in accordance with DEQ requirements. Best management practices would be implemented during construction, and the Applicant proposes to obtain an NPDES construction stormwater permit from DEQ<sup>403</sup> (see Section IV.D of this Order, Soil Protection, and Condition IV.D.2.1). Because stormwater and wastewater would all be treated either on-site or at the Boardman Plant site, independent of any community systems, there are no expected impacts to the availability of these services from either public or private providers.

Solid waste generated during construction is would be minimized and recycled as much as possible. Solid waste that is not recycled is proposed to be transported to an approved landfill; the nearest approved landfill is the Finley Buttes Regional Landfill, which is located approximately 10 miles east of the proposed facility. Solid waste generated during operation would also be recycled or disposed of in a local landfill. The volume of waste generated would not be large enough to result in impacts to waste disposal services.<sup>404</sup>

The Applicant also expects to be a conditionally exempt Small Quantity Generator of Hazardous Waste. Types of hazardous waste that would be generated include batteries, fluorescent lighting, and used oils.<sup>405</sup> The small quantity generated is not expected to have a significant impact on waste disposal facilities in the area. Based on the information contained in the ASC, and subject to compliance with the conditions discussed elsewhere in this Order, the Council finds that construction and operation of the proposed facility would not have a significant adverse impact on the ability of public or private providers to provide sewers, sewage treatment, stormwater drainage, or solid waste management.

**IV.M.1.b. Water Supply**

Process water supplies during operation are proposed to be drawn from Carty Reservoir, utilizing the existing intake structure currently providing water to the Boardman Plant. This water would be used for cooling water, cooling tower makeup water, service water, and the preparation of de-mineralized water. The Carty Reservoir is periodically filled from the Columbia River, and does not draw any water from public or private wells.<sup>406</sup> Potable water for the permanent staff would be obtained from the existing Boardman Plant potable water system, with an expected usage of approximately 800 to 1,000 gpd.

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<sup>401</sup> Final ASC, Section U.3.1, p. U-3  
<sup>402</sup> Final ASC, Section U.3.1, p. U-3  
<sup>403</sup> Final ASC, Section U.3.3, p. U-6  
<sup>404</sup> Final ASC, Section U.3.4, p. U-6  
<sup>405</sup> Final ASC, Section V.3.1, p. U-6  
<sup>406</sup> Final ASC, Section B.4, p. B-13

1 Potable water is supplied to the existing Boardman facility by a well located approximately 750 feet  
2 northwest of the existing Boardman facility.<sup>407</sup> Water supplies to the Carty facility are discussed in further  
3 detail in Sections V.C, Ground Water Act, and IV.N, Waste Minimization. For these reasons, and based  
4 on the discussion in Sections V.C (Ground Water Act) and IV.N (Waste Minimization) and subject to  
5 compliance with the conditions adopted in those sections, the Council finds that there would not be any  
6 impacts to the ability of public or private providers to supply water because no water would be obtained  
7 from public providers and the private provider, the Boardman facility, has sufficient capacity to serve the  
8 demands of the Carty facility,

#### 9 **IV.M.1.c. Housing**

10 The Applicant estimates that the proposed Carty facility would employ 20 to 30 permanent  
11 employees, increasing up to 50 during periodic maintenance. Up to 350 temporary construction workers  
12 are expected to be employed during peak construction months.<sup>408</sup>

13 The Applicant proposes to employ most construction workers from the regional labor force;  
14 approximately 50-75 positions are projected to be filled from outside the region. Temporary workers who  
15 do not reside locally are expected to seek lodging in temporary housing opportunities (i.e. trailers or RV  
16 parks). The Applicant has successfully used this strategy in the past during biannual maintenance for the  
17 Boardman Plant, which requires additional workers. There is a high level of vacancy in the Boardman  
18 community, which would be sufficient to house workers that are not hired locally;<sup>409</sup> for this reason,  
19 construction of the Carty facility would not have a significant adverse effect on the availability of  
20 temporary housing or lodging within the analysis area.<sup>410</sup>

21 The Applicant states that permanent positions would be filled from the local community as much as  
22 possible, which would result in a minimal increase in demand for local housing. There is currently a high  
23 level of vacancy in the area surrounding the Carty facility site, such that the community could absorb  
24 additional residents.<sup>411</sup> Based on the review of the information in the ASC, the Council finds that the  
25 proposed facility will not adversely affect the local housing supply.

#### 26 **IV.M.1.d. Police and Fire Protection**

27 The Applicant proposes to consult with the following entities regarding potential impacts to law  
28 enforcement and fire protection services:

- 29 • Oregon State Police;
- 30 • Morrow County Sheriff;
- 31 • Gilliam County Sheriff;
- 32 • Boardman Rural Fire Protection District;
- 33 • North Gilliam Rural Fire Protection District/Arlington Rural Fire Protection District; and

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<sup>407</sup> Final ASC, Section U.3.2, p. U-6

<sup>408</sup> Final ASC, Section U.4.1.9, p. U-20

<sup>409</sup> Final ASC, Section U.4.1.7, p. U-19

<sup>410</sup> In its comments on the DPO (CGS-0115) Morrow County asserted that the "...analysis done in [Section IV.M.1.c] is inadequate. It does not properly address the impacts to local housing that could take place should the construction of this facility and one or more of the other facilities currently being planned...take place during the same time frame. Should that happen there may very well NOT be enough local housing."

None of other facilities listed in the comment have been issued a site certificate by the Council, although two of the facilities are in the early phases of the Council's review process. However, the Council does not have sufficient information in its record at this time to make a reasonable assessment of the potential impacts on the housing supply if construction of multiple facilities occurs simultaneously.

<sup>411</sup> Final ASC, Section U.4.1.9, p. U-19

- South Gilliam Rural Fire Protection District/Condon Rural Fire Protection District.

No significant adverse impacts are expected. Primary police services for the proposed facility site would be provided by the Morrow County Sheriff's Office, which is headquartered in Heppner.<sup>412</sup> In Gilliam County, primary police services will be provided by the Gilliam County Sheriff's Office.<sup>413</sup> The Council adopts Condition IV.M.2.1, which requires the certificate holder to provide for on-site security and to establish and maintain communication with local law enforcement personnel during construction and operation of the proposed Carty facility, in order to minimize potential impacts to the availability of police services to the community when needed.

The Boardman Rural Fire Protection District would provide fire protection to those portions of the Carty facility located within Morrow County. For portions of the project located in Gilliam County, the North Gilliam Rural Fire Protection District/Arlington Fire District and the South Gilliam Rural Fire Protection District/Condon Rural Fire District provide fire protection and emergency response services.<sup>414</sup> No potential impacts to emergency medical response services have been identified; however, the Council adopts Conditions IV.M.2.2 and IV.M.2.3, which require the certificate holder to develop and implement a health and safety plan during construction and during operation to ensure safe work practices and reduce demand on emergency medical response services, thereby minimizing the potential impacts to the providers of such services.

To prevent impacts to the availability of fire protection services, the proposed facility would be constructed with sprinkler and deluge systems, as well as on-site hydrants, in accordance with the Oregon Fire Code. In addition, the Boardman Plant has fire-trained personnel on staff, which form a private PGE Fire Brigade, which would provide additional fire protection on the site of the proposed facility. The Council adopts Conditions IV.M.2.4 through IV.M.2.6, which require the certificate holder to keep fire sources away from dry grass areas during construction, provide appropriate safety training and equipment during operation of the facility, and provide shovels and fire extinguishers on facility vehicles at all times, respectively.

The Council also adopts Conditions IV.M.7 and IV.M.8, which require the certificate holder to develop a fire safety plan in consultation with the Boardman Rural Fire Protection District as well as provide the district with a site plan. These measures would further reduce the risk of fire, as well as increase the efficacy and safety of responses to the site by the fire district, further reducing the risk of impacts to the availability of fire safety services. The Council adopts these conditions to minimize the risk of fire at the facility during construction and operation, and thereby reduce potential impacts to fire safety service providers, in accordance with OAR 345-022-0110(1). For these reasons, and subject to compliance with the conditions discussed herein, the Council finds that development of the proposed facility would not increase demand for fire protection such that fire protection services to the community would be impacted.<sup>415</sup>

#### **IV.M.1.e. Health Care**

The closest hospital to the proposed generating facility is the Good Shepherd Community Hospital in Hermiston, Oregon, which provides Trauma Level III services. The Applicant consulted with hospital staff, who indicated that neither construction nor operation of the proposed facility would adversely impact the ability of the Hospital to provide health care services for the community.<sup>416</sup> The Morrow County Health District's Emergency Medical Services could also provide emergency medical services. In

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<sup>412</sup> Final ASC, Section U.3.5, p. U-9

<sup>413</sup> Final ASC, Section U.3.5

<sup>414</sup> Final ASC, Section U.3.5, pp. U-10-11

<sup>415</sup> Final ASC, Section U.4.1.4, p. U-18

<sup>416</sup> Final ASC, Section U.3.6, p. U-11

1 addition, Oregon Health and Science University (OHSU) has a facility (the Gilliam County Medical  
2 Center) in Condon that serves Gilliam County.<sup>417</sup>

3 Morrow County Health District was established in 1994 by the county’s voters to ensure continued  
4 support of medical services in the area. The health district is composed of a hospital and medical clinic in  
5 Heppner, a medical clinic in Irrigon, and home health, hospice, and emergency medical services  
6 throughout the county. The district also subsidizes Columbia River Community Health Services in  
7 Boardman. The Applicant consulted with the Executive Director for the Morrow County Public Health  
8 District; he indicated that future conversations based on the on-going development of the facility would  
9 be necessary to determine any impacts to service levels.<sup>418</sup>

10 In a medical emergency, south Morrow County residents are transported to Pioneer Memorial  
11 Hospital in Heppner, where Trauma Level IV services are available. If necessary, patients can be flown  
12 via helicopter or fixed-wing aircraft to Bend, Oregon, Portland, Oregon, or Walla Walla, Washington for  
13 higher levels of trauma care. Patients in the north end of the county can be transported to Trauma Level  
14 III services in Hermiston. The number of construction workers temporarily locating in the area and the  
15 number of permanent employees and their families moving into the area would not be sufficient to  
16 adversely affect the ability of these providers to deliver health services.<sup>419</sup>

17 As discussed previously, the Council adopts Conditions IV.M.2.2 and IV.M.2.3 which require the  
18 certificate holder to implement on-site health and safety plans during construction and operation of the  
19 facility, in order to prevent medical emergencies as much as possible and thereby reduce potential impacts  
20 to the availability of health care services. For these reasons, and subject to compliance with the  
21 conditions discussed herein, the Council finds that construction and operation of the proposed facility are  
22 not likely to have significant adverse impacts on the ability of health care providers to deliver services.

#### 23 **IV.M.1.f. Public Education**

24 The number of permanent employees needed for the construction and operation of the proposed  
25 facility might result in some families moving to the area, which could increase demand on local schools.  
26 Capacity exists in each of the potentially affected school districts; therefore, no adverse impacts on the  
27 availability of public education services would occur.<sup>420</sup> The temporary workforce associated with  
28 construction of the proposed Carty facility is not expected to result in families relocating to the area.<sup>421</sup>

#### 29 Morrow County School District

30 The Morrow School District serves three jurisdictions: Boardman, Heppner, and Irrigon. The  
31 boundaries of the District follow that of Morrow County. In recent years, the School District has  
32 experienced an increase in growth and as a result, Windy River Elementary and Irrigon Elementary were  
33 constructed as part of a bond measure in 2001.<sup>422</sup>

34 The Boardman area continues to experience growth as forecasted; less growth has been experienced  
35 in the Irrigon area. In response to this growth pattern, the District adjusted the grades served at Irrigon  
36 Elementary from 5th and 6th to 4th through 6th. Additionally, the District has retained the potential to

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<sup>417</sup> Final ASC, Section U.3.6, p. U-11

<sup>418</sup> Final ASC, Section U.3.6, p. U-11

<sup>419</sup> Final ASC, Section U.3.6, p. U-11

<sup>420</sup> Final ASC, Section U.3.7, p. U-12

<sup>421</sup> Final ASC, Section U.4.1.5, p. U-19

<sup>422</sup> Final ASC, Section U.3.7, p. U-12

1 purchase additional property in the City of Boardman in the future, should the need for additional school  
2 capacity arise. Overall, the District has capacity if needed.<sup>423</sup>

3 Arlington School District

4 In contrast to the growth experienced in the Morrow School District, the Arlington School District in  
5 Gilliam County has not experienced a similar level of growth and the District has actually decreased in  
6 enrollment, based on a comparison of the 2003-2004 enrollment and the 2007-2008 enrollment.<sup>424</sup>  
7 Therefore, capacity is available in this school district to accommodate additional demand.

8 Ione School District

9 Ione School District in Morrow County began serving students in 2004-2005. The School District  
10 manages one school, a school which serves a K-12 population for the City of Ione and surrounding areas.  
11 The Ione School is a Charter School—meaning it can receive students from either the Morrow or  
12 Arlington School Districts. Since inception, the School has achieved a small amount of growth.<sup>425</sup> This  
13 school has additional remaining capacity which could accommodate additional students.<sup>426</sup> Because all  
14 area schools identified have available capacity to accept new students, the availability of schools and  
15 school-based services would not be significantly adversely impacted by the construction or operation of  
16 the Carty facility.

17 **IV.M.1.g. Traffic Safety**

18 The Applicant provided a traffic impact analysis (TIA) for the proposed Carty facility which  
19 addresses the traffic-related impacts of the completed project as well as the impacts of the peak  
20 construction phases. With the identified mitigation, the proposed development is not expected to have a  
21 significant impact on the adjacent roadway traffic operations during the construction phase or during  
22 operation.<sup>427</sup>

23 The traffic due to construction personnel would have a limited impact on congestion on Interstate 84,  
24 Highways 74 and 19, and Tower Road. The Applicant proposes to meet and work with construction  
25 workers and local residents to promote highway safety awareness and minimize the effect of increased  
26 traffic during the construction period. The estimated 20-30 personnel required during general operation of  
27 the Carty Generating Station would have minimal impact on traffic flow in the vicinity of the proposed  
28 facility.<sup>428</sup>

29 In order to reduce potential impacts to traffic safety, the Applicant proposes to mitigate peak traffic  
30 volumes by reducing peak hour traffic volume and/or installing temporary traffic controls during  
31 construction. The Applicant proposes the following possible traffic control methods: staggering shift start  
32 times, implementation of ride sharing, implementation of busing programs, installation of a temporary  
33 traffic signal, or manual traffic control during peak construction months.<sup>429</sup> Morrow County provided  
34 comments to the Department concurring with the Applicant's proposal.<sup>430</sup> The Council adopts Condition  
35 IV.M.2.9 to incorporate this proposal into a condition of approval. The Council also adopts Condition

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<sup>423</sup> Final ASC, Section U.3.7, p. U-12

<sup>424</sup> Final ASC, Section U.3.7, p. U-12

<sup>425</sup> Final ASC, Section U.3.7, p. U-12

<sup>426</sup> Final ASC, Section U.4.1.5, p. U-19

<sup>427</sup> Final ASC, Section U.3.9, p. U-14

<sup>428</sup> Final ASC, Section U.3.9, p. U-14

<sup>429</sup> Final ASC, Section U.4.2.1, p. U-22

<sup>430</sup> Morrow County Comment on Carty Generating Station Application for Site Certificate - Comments on Exhibit U Public Services, June 30, 2011 (CGS-0086)

1 IV.M.2.10, which prohibits the certificate holder from parking or storing machinery in public rights-of-  
2 way unless approved by the County Roadmaster, and Condition IV.M.2.11, which requires the certificate  
3 holder to cooperate with the county road departments and repair any unusual damage or wear on county  
4 roads due to construction traffic.

5 The submitted traffic study also found that the existing geometry of the ramp terminal at the I-  
6 84/Tower Road interchange is not adequate for a WB-67 design vehicle (a large semi-truck vehicle such  
7 as would deliver large facility components during construction). The necessary improvements will likely  
8 be completed by another developer prior to construction of the Carty facility.<sup>431</sup> If this development is  
9 delayed or canceled, or if the improvements are not to the standard needed for the vehicles that would  
10 serve the Carty facility during construction, the Applicant would need to provide improvements to this  
11 interchange to allow safe traffic flow through the interchange. The Applicant proposes to work with the  
12 Oregon Department of Transportation (ODOT) and Morrow County to identify the improvements needed,  
13 and to construct these improvements if the improvements are not already in place, prior to construction of  
14 the Carty facility.<sup>432</sup> Morrow County provided comments to the Department concurring with this  
15 assessment and requesting that the Council adopt a condition requiring the Applicant to work with  
16 Morrow County to address these ramp terminal deficiencies prior to construction of the Carty facility, if  
17 these deficiencies still exist. The Council adopts Condition IV.M.2.12 to incorporate this requirement.

18 Morrow County also requested that the Council include a condition requiring the Applicant to receive  
19 oversize or overweight deliveries by rail or barge when feasible, to limit the impact to the I-84/Tower  
20 Road interchange, as well as a condition requiring the Applicant to agree upon widening improvements to  
21 Tower Road with the county.<sup>433</sup> Receiving oversize and overweight deliveries by rail or barge would  
22 reduce the miles traveled by oversize vehicles, which could improve traffic safety; therefore the Council  
23 adopts Condition IV.M.2.13, which requires the certificate holder to arrange deliveries by rail and barge  
24 when feasible.<sup>434</sup>

25 Morrow County requests widening improvements to Tower Road to prevent future crashes, having  
26 identified wide loads as a potential hazard leading to crashes on Tower Road.<sup>435</sup> The submitted TIA,  
27 however, did not identify any safety deficiencies or crash patterns.<sup>436</sup> For this reason, the Council is not  
28 adopting any conditions of approval requiring widening improvements to Tower Road for safety reasons.

29 For the reasons described above, and subject to compliance with the conditions of approval, the  
30 Council finds that construction and operation of the Carty Generating Station would not result in

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<sup>431</sup> A Love's Travel Stop is planned for development and is currently going through the process of finalizing approval through Morrow County. Because the travel stop would serve large vehicles, this developer will be required to improve the I-84/Tower Road interchange to the standards needed for the vehicles that would deliver large parts to the Carty facility. If this development is postponed or does not occur as planned, this other developer may not complete the needed improvements prior to construction of the Carty facility.

<sup>432</sup> Final ASC, Section U.4.2.1, p. U-23

<sup>433</sup> Morrow County Comment on Carty Generating Station Application for Site Certificate - Comments on Exhibit U Public Services, June 30, 2011 (CGS-0086)

<sup>434</sup> Morrow County pointed out in its comments on the DPO (CGS-0115) that the Department did not include Morrow County's request that the applicant be required to obtain over-weight, -width, and -length permits as needed. Recommended Condition IV.B.2.4 requires the certificate holder to "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." This would include any required permits related to transport of oversize loads over public roadways.

<sup>435</sup> Morrow County Comment on Carty Generating Station Application for Site Certificate - Comments on Exhibit U Public Services, June 30, 2011 (CGS-0086)

<sup>436</sup> Final ASC, Appendix U-1, p. 25



1 significant adverse impacts to the ability of public and private service providers in the analysis area to  
2 provide sewers and sewage treatment, water, stormwater drainage, solid waste management, housing,  
3 traffic safety, police and fire protection, health care, and schools.

4 **IV.M.2. PUBLIC SERVICES: SITE CERTIFICATE CONDITIONS**

5  
6 IV.M.2.1 During construction and operation of the facility, the certificate holder shall provide for on-  
7 site security and shall establish good communications between on-site security personnel and  
8 the Morrow County Sheriff's Office. During operation, the certificate holder shall ensure that  
9 appropriate law enforcement agency personnel have an up-to-date list of the names and  
10 telephone numbers of facility personnel available to respond on a 24-hour basis in case of an  
11 emergency on the facility site.

12 [Site Certificate Condition 8.1]

13 IV.M.2.2 During construction, the certificate holder shall require that all on-site construction  
14 contractors develop and implement a site health and safety plan that informs workers and  
15 others on-site about first aid techniques and what to do in case of an emergency. The plan  
16 shall also include important telephone numbers and the locations of on-site fire extinguishers  
17 and nearby hospitals. The certificate holder shall ensure that construction contractors have  
18 personnel on-site who are first aid and CPR certified.

19 [Site Certificate Condition 8.2]

20 IV.M.2.3 During operation, the certificate holder shall develop and implement a site health and safety  
21 plan that informs employees and others on-site about first aid techniques and what to do in  
22 case of an emergency. The plan shall also include important telephone numbers and the  
23 locations of on-site fire extinguishers and nearby hospitals.

24 [Site Certificate Condition 8.3]

25 IV.M.2.4 During construction, the certificate holder shall ensure that construction vehicles and  
26 equipment are operated on graveled areas to the extent possible and that open flames, such as  
27 cutting torches, are kept away from dry grass areas.

28 [Site Certificate Condition 8.4]

29 IV.M.2.5 During operation, the certificate holder shall ensure that all on-site employees receive annual  
30 fire prevention and response training by qualified instructors or members of the local fire  
31 districts. The certificate holder shall ensure that all employees are instructed to keep vehicles  
32 on roads and off dry grassland, except when off-road operation is required for emergency  
33 purposes.

34 [Site Certificate Condition 8.5]

35 IV.M.2.6 During construction and operation of the facility, the certificate holder shall ensure that all  
36 service vehicles are equipped with shovels and portable fire extinguishers of a 4500BC or  
37 equivalent rating.

38 [Site Certificate Condition 8.6]

39 IV.M.2.7 During construction and operation of the facility, the certificate holder shall develop and  
40 implement fire safety plans in consultation with the Boardman Rural Fire Protection District  
41 to minimize the risk of fire and to respond appropriately to any fires that occur on the facility  
42 site. In developing the fire safety plans, the certificate holder shall take into account the dry  
43 nature of the region and shall address risks on a seasonal basis. The certificate holder shall  
44 meet annually with local fire protection agency personnel to discuss emergency planning and  
45 shall invite local fire protection agency personnel to observe any emergency drill conducted  
46 at the facility.

47 [Site Certificate Condition 8.7]

- 1 IV.M.2.8 Upon the beginning of operation of the facility, the certificate holder shall provide a site plan  
2 to the Boardman Rural Fire Protection District. The certificate holder shall indicate the actual  
3 location of all facility structures on the site plan. The certificate holder shall provide an  
4 updated site plan if additional structures are later added to the facility. During operation, the  
5 certificate holder shall ensure that appropriate fire protection agency personnel have an up-to-  
6 date list of the names and telephone numbers of facility personnel available to respond on a  
7 24-hour basis in case of an emergency on the facility site.  
8 [Site Certificate Condition 8.8]
- 9 IV.M.2.9 During construction of the facility, the certificate holder shall implement measures to reduce  
10 traffic impacts, as follows:
- 11 a. The certificate holder shall reduce peak hour volumes during construction by staggering  
12 shift start times or implementing other measures that would significantly reduce the total  
13 number of construction worker vehicle trips through the westbound I-84/Tower Road  
14 ramp terminal; or
- 15 b. The certificate holder shall install temporary traffic controls during peak construction to  
16 prioritize westbound left-turning vehicles at the westbound Tower Road ramp terminal  
17 during the weekday a.m. peak hour.  
18 [Site Certificate Condition 6.17]
- 19 IV.M.2.10 Unless legally permissible, the certificate holder shall ensure that no equipment or machinery  
20 associated with the construction is parked or stored on any public road within Morrow or  
21 Gilliam counties. The certificate holder may temporarily park equipment off the road but  
22 within County rights-of-way with the approval of the County Roadmaster.  
23 [Site Certificate Condition 6.18]
- 24 IV.M.2.11 The certificate holder shall cooperate with the Morrow County Public Works Department and  
25 the Gilliam County Road Department to ensure that any unusual damage or wear to county  
26 roads that is caused by construction of the facility is repaired by the certificate holder. Upon  
27 completion of construction, the certificate holder shall restore public roads to pre-  
28 construction condition or better to the satisfaction of applicable county departments.  
29 [Site Certificate Condition 6.19]
- 30 IV.M.2.12 If improvements are needed to the I-84/Tower Road interchange to safely accommodate  
31 turning movements by a WB-67 design vehicle, the certificate holder shall work with The  
32 Oregon Department of Transportation and Morrow County to identify needed improvements  
33 and shall construct or install needed improvements prior to commencement of construction of  
34 the Carty facility.  
35 [Site Certificate Condition 6.20]
- 36 IV.M.2.13 Oversize and overweight deliveries shall be made by rail and barge when feasible, to limit  
37 impacts to the I-84/Tower Road interchange.  
38 [Site Certificate Condition 6.21]

39 **IV.M.3. PUBLIC SERVICES: CONCLUSIONS OF LAW**

40 Based on the foregoing findings of fact and conclusions, and subject to compliance with the site  
41 certificate conditions, the Council finds that the construction and operation of the proposed facility, taking  
42 into account mitigation, are not likely to result in significant adverse impacts to the ability of public and  
43 private providers within the analysis area to provide the public services as described in Section IV.M.1  
44 and therefore complies with the Public Services Standard.  
45

1 **IV.N. WASTE MINIMIZATION [OAR 345-022-0120]**

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

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

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

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

14 *(3) The Council may issue a site certificate for a special criteria facility under OAR 345-015-*  
15 *0310 without making the findings described in section (1). However, the Council may apply the*  
16 *requirements of section (1) to impose conditions on a site certificate issued for such a facility.*

17 **IV.N.1. WASTE MINIMIZATION: FINDINGS OF FACT**

18 OAR 345-022-0120(2) and (3) do not apply because the proposed facility would not produce power  
19 from wind, solar, or geothermal energy, and the facility is not a special criteria facility as defined in OAR  
20 345-015-0310. Therefore, only the criteria specified in OAR 345-022-0120(1) apply to the proposed  
21 facility, and the Council must make findings regarding the applicant's compliance with paragraphs 1(a)  
22 and 1(b) of the Waste Minimization Standard.

23 The applicant provided information about waste minimization in Exhibits G and V of the Final ASC.  
24 Exhibit G (Materials Analysis) includes an inventory of the quantities of industrial materials that will be  
25 used at the facility during construction and operation, the plans for management of hazardous and non-  
26 hazardous substances during construction and operation, and the measures that the applicant proposes to  
27 take to prevent and contain spills. Exhibit V (Waste Minimization) includes the applicant's plans for  
28 management of solid waste, wastewater, and stormwater during construction and operation of the  
29 proposed facility. In addition, Exhibit I (Soils) included a copy of the National Pollutant Discharge  
30 Elimination System (NPDES) 1200-C permit application submitted to the Oregon Department of  
31 Environmental Quality (DEQ) for stormwater management during construction.

32 **IV.N.1.a. Solid Waste**

33 During construction, approximately five tons per month of solid waste would be generated at the  
34 project site; construction is expected to take 27 months per block, for a total of up to 54 months. This  
35 waste will likely consist of domestic refuse, office waste, packaging materials, steel cut-offs, and  
36 construction materials.<sup>437</sup> The applicant proposes to collect all non-recyclable solid waste generated  
37 during construction for disposal by a contractor at an approved landfill; the nearest landfill is Finley  
38 Buttes Regional Landfill, which is roughly 10 miles from the project site. Recyclable materials are  
39 proposed to be stored separately and transported periodically to a recycling facility. The applicant  
40 proposes to minimize waste generated during construction through detailed estimates of materials  
41 required and efficient construction practices.<sup>438</sup> The Council adopts Condition IV.N.2.1, which requires  
42 the site certificate holder to adopt the waste management plan during construction.

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<sup>437</sup> Final ASC, Section V.3.1, p. V-2

<sup>438</sup> Final ASC, Section V.4.1, p. V-6

1 Solid waste generated during operation of the proposed facility is expected to consist of domestic  
2 solid waste (including office waste), solid waste generated by the water treatment system, and small  
3 amounts of hazardous waste.<sup>439</sup> Domestic waste is proposed to be recycled to the extent possible, in  
4 accordance with PGE’s company-wide waste minimization plan, and the remaining non-recyclable waste  
5 is proposed to be trucked to an approved landfill by a refuse removal contractor.<sup>440</sup>

6 The primary source of solid waste generated by the water treatment system would be silt from the raw  
7 water supply. The applicant proposes to construct evaporation ponds as a potential wastewater facility in  
8 addition to Carty Reservoir (see Section IV.N.1.b and Section V.E.). If evaporation ponds are utilized for  
9 process wastewater disposal, waste solids would accumulate in the pond, consisting of an assortment of  
10 sparingly soluble salts that precipitate as the water concentrates in the pond. These would include  
11 carbonate salts (calcium, magnesium, etc), sulfate salts (calcium, magnesium, etc), chloride salts  
12 (calcium, magnesium, etc) and silica compounds. Some hydroxide salts may precipitate including metal  
13 hydroxides that may form in the ponds.

14 There may also be suspended solids that are not soluble in the evaporation ponds. This would include  
15 silt and other debris that enters the pond with the wastewater or is blown into the ponds from surround  
16 areas. The applicant expects approximately 40,000 tons of these solids to accumulate in the evaporation  
17 ponds over the life of the facility. These solids are not expected to be hazardous in nature and are not  
18 anticipated to accumulate at a rate that would require removal during the 30-year life of the plant.<sup>441</sup>  
19 However, if it becomes necessary at some time to remove solids from the evaporation ponds, or upon  
20 retirement of the facility, the applicant proposed to remove the solids and dispose of them in a suitable  
21 disposal facility. In the discussion of compliance with the Soil Protection Standard in Section IV.D.  
22 above the Council adopted Condition IV.D.2.11, which requires the certificate holder to dispose of those  
23 solids at a suitable disposal facility rather than used as fill in order to protect soil quality at the site.<sup>442</sup>  
24 Disposal of hazardous waste is discussed below, in Section IV.N.1.c.

25 The Council adopts Condition IV.N.2.2, which requires the certificate holder to implement a waste  
26 management plan as described in the application during operation that includes training employees to  
27 minimize and recycle solid waste, recycling paper products, metals, glass and plastics, collecting non-  
28 recyclable waste for transport to a local landfill by a licensed waste hauler and segregating all hazardous  
29 wastes such as used oil, oily rags and oil-absorbent materials, mercury-containing lights and lead-acid and  
30 nickel-cadmium batteries for disposal by a licensed firm specializing in the proper recycling or disposal  
31 of hazardous wastes.

32 In addition, the Council adopts Condition IV.E.4.7, which requires a franchised solid waste handler to  
33 perform hauling of solid waste during facility construction, operation, or retirement, or otherwise comply  
34 with the Morrow County Solid Waste Management Ordinance. Morrow County’s request for this  
35 condition of approval, and the ordinance, are discussed in more detail in Section IV.E. (Land Use). Based  
36 on the information contained in the application, and compliance with the conditions of approval, the  
37 Council finds the applicant’s solid waste plans are likely to minimize generation of solid waste in the  
38 construction and operation of the facility, and when solid waste is generated, to result in recycling and  
39 reuse of such wastes to the extent possible.

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439 Final ASC, Section V.3.1, p. V-2

440 Final ASC, Section V.4.1, p. V-6

441 Final ASC, Section V.3.1, p. V-3

442 Final ASC, Section V.4.1, p. V-6

1 **IV.N.1.b. Wastewater**

2 During construction of the proposed Carty Generating Station, wastewater would result from sanitary  
3 waste, storm water, testing and commissioning of water supply systems, hydrostatic testing, flushing of  
4 the water supply pipelines, washing equipment and vehicles, and washing concrete truck chutes after  
5 delivery of concrete loads.<sup>443</sup> During construction of the facility, the Applicant would be subject to the  
6 National Pollutant Discharge Elimination System (NPDES) 1200-C construction stormwater permit and  
7 its associated Erosion and Sediment Control Plan. This requirement is included in Condition IV.D.2.1. An  
8 Erosion and Sediment Control Plan describes best management practices for erosion and sediment  
9 control. The DEQ has determined the NPDES 1200-C permit application complete, pending a site  
10 certificate and final review of the Erosion and Sediment Control Plan.<sup>444</sup>

11 The Applicant proposes to treat wastewater generated through testing and commissioning of water  
12 supply systems, hydrostatic testing and flushing of lines, washing equipment and vehicles, and concrete  
13 washout with an oil/water separator and test wastewater for constituent levels. Construction wastewater  
14 would then be disposed of either in on-site stormwater retention swales or evaporations ponds, or trucked  
15 off-site for processing and disposal in an approved facility.<sup>445</sup> Sanitary waste generated during  
16 construction is proposed to be addressed through provision of portable toilets, to be managed by a  
17 contractor.<sup>446</sup> The Council adopts Condition IV.N.2.3, which requires that a licensed contractor pump and  
18 clean portable toilets and dispose of the wastewater off-site. Condition IV.N.2.1 allows wastewater  
19 generated during concrete truck chute and exterior rinsing to be discharged on site.

20 During operation, the Carty Generating Station would produce sanitary sewage, cooling system  
21 blowdown, Heat Recovery Steam Generator (HRSG) blowdown, demineralized water production wastes,  
22 Combustion Turbine Generator (CTG) wash wastes, plant and equipment drain wastes, and stormwater.  
23 The applicant proposes to connect to sanitary facilities already in place at the existing Boardman Plant to  
24 serve sanitary waste disposal needs.<sup>447</sup> The DEQ recommended approval of the applicant's plans for  
25 sanitary wastewater during operation of the facility, and recommended conditions of approval related to  
26 the Boardman sanitary system in its draft Water Pollution Control Facilities (WPCF) permit for Carty,  
27 described in section V.E.<sup>448</sup> The Council adopts Condition IV.N.2.4, which would require the certificate  
28 holder to discharge sanitary wastewater generated at the proposed facility to the sanitary waste disposal  
29 system at the Boardman Plant in compliance with WPCF permit requirements.

30 Process wastewater, including cooling tower blowdown, HRSG blowdown, and CTG wash water,  
31 will be generated during operation of the proposed Carty facility. Cooling tower blowdown is used to  
32 maintain the proper water chemistry in the water that circulates between the condenser and the cooling  
33 towers. The evaporation of water in the cooling process leaves behind a variety of solids and other  
34 chemicals that do not evaporate, and a small blowdown stream is used to remove some of the water with a  
35 higher concentration of solids or chemicals and replace it with better quality water. HRSG blowdown is  
36 used to maintain the required water chemistry in the boiler condensate water and steam to meet the steam  
37 purity requirements for admitting steam to the steam turbine generators. HRSG blowdown is proposed to  
38 be collected in a sump and cooled by mixing with service water, and the resultant wastewater stream  
39 pumped to the cooling tower as part of the cooling tower makeup water requirements.<sup>449</sup>

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<sup>443</sup> Final ASC, Section V.3.1, p. V-3

<sup>444</sup> CGS-0031, 07-28-10, DEQ letter RE: NPDES Completeness

<sup>445</sup> Final ASC, Section V.4.2, p. V-7

<sup>446</sup> Final ASC, Section V.4.2, p. V-6

<sup>447</sup> Final ASC, Section V.4.2, p. V-8

<sup>448</sup> CGS-0078, 06-08-11, Agency Comment from Carl Nadler, DEQ

<sup>449</sup> Final ASC, Section V.3.2, p. V-4

1 Wastewater rejected from the reverse osmosis process used to produce high purity demineralized  
2 water, neutralization tank waste, filtration backwash, and evaporative cooling blowdown would also be  
3 generated. To maintain CTG efficiency, the applicant would periodically wash the compressor section of  
4 the CTG with water. The CTG would be washed when it was not in operation, and the water from the  
5 wash would be collected in a holding tank. The wash water would contain a detergent used to aid in  
6 cleaning and any substances washed from the compressor blades. The applicant proposes to discharge  
7 process wastewater generated during facility operation to the Carty Reservoir or evaporation ponds.<sup>450</sup> As  
8 discussed, in Section V.E, below, the DEQ has issued a recommended draft joint WPCF permit covering  
9 the Boardman plant the CGS, recommending the process wastewater described in this order to be  
10 discharged onsite as described in the application and recommending conditions of approval. The water  
11 quality and WPCF permit requirements and conditions are discussed further in Section V.E.

12 During facility operation, stormwater from impervious surfaces within the Carty Generating Station  
13 would be managed onsite using drainage swales and ponds. Stormwater that may be contaminated with  
14 oil would be treated through an oil/water separator or captured for testing and treatment prior to discharge  
15 to evaporation ponds or stormwater facilities.<sup>451</sup>

16 Based on the information provided in the application, DEQ's WPCF Permit Evaluation Report, the  
17 DEQ's draft WPCF permit discussed in Section V.E, and subject to compliance with the conditions of  
18 approval, the Council finds that the applicant's plans for wastewater management are likely to minimize  
19 generation of wastewater in the construction and operation of the facility.

#### 20 **IV.N.1.c. Hazardous Materials**

21 Hazardous materials that could potentially be produced on the project site during construction or  
22 operation include fluorescent lights, lubricating oils, cleaners and solvents, and batteries.<sup>452</sup> The Applicant  
23 expects to be a conditionally exempt generator of hazardous waste, producing less than 220 pounds of  
24 hazardous solid waste per month.<sup>453</sup>

25 Used oil, and lead-acid and nickel cadmium batteries, are proposed to be stored in an appropriate  
26 manner and then recycled.<sup>454</sup> Conditions IV.N.2.1 and IV.N.2.1 include storage and recycling or disposal  
27 of hazardous wastes during construction and operation of the proposed facility. Conditions in the Soil  
28 Protection and Public Safety section and of this Order further addresses preparation for and response to  
29 hazardous material spills and accidental releases.

#### 30 **IV.N.2. WASTE MINIMIZATION: SITE CERTIFICATE CONDITIONS**

31  
32 IV.N.2.1 The certificate holder shall implement a waste management plan during construction that  
33 includes but is not limited to the following measures:

- 34 a. Recycling steel and other metal scrap.
- 35 b. Recycling wood waste.
- 36 c. Recycling packaging wastes such as paper and cardboard.
- 37 d. Collecting non-recyclable waste for transport to a local landfill by a licensed waste  
38 hauler.

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<sup>450</sup> Final ASC, Section V.3.2, p. V-5

<sup>451</sup> Final ASC, Section V.3.2, p. V-5

<sup>452</sup> Final ASC, Section V.3.1, p. V-2.

<sup>453</sup> Final ASC, Section V.3.1, p. V-2

<sup>454</sup> Final ASC, Section V.4.1, p. V-6

- 1 e. Segregating all hazardous wastes such as used oil, oily rags and oil-absorbent materials,  
2 mercury-containing lights and lead-acid and nickel-cadmium batteries for disposal by a  
3 licensed firm specializing in the proper recycling or disposal of hazardous wastes.  
4 f. Confining concrete delivery truck chute and exterior rinse to a designated wash-out area  
5 and burying other concrete waste as part of backfilling. Concrete mixer washout is not  
6 permitted on site.

7 [Site Certificate Condition 6.3]

8 IV.N.2.2 The certificate holder shall implement a waste management plan during operation that  
9 includes but is not limited to the following measures:

- 10 a. Training employees to minimize and recycle solid waste.  
11 b. Recycling paper products, metals, glass and plastics.  
12 c. Collecting non-recyclable waste for transport to a local landfill by a licensed waste  
13 hauler.  
14 d. Segregating all hazardous wastes such as used oil, oily rags and oil-absorbent materials,  
15 mercury-containing lights and lead-acid and nickel-cadmium batteries for disposal by a  
16 licensed firm specializing in the proper recycling or disposal of hazardous wastes.

17 [Site Certificate Condition 10.22]

18 IV.N.2.3 The certificate holder shall provide portable toilets for on-site sewage handling during  
19 construction and shall ensure that they are pumped and cleaned regularly by a licensed  
20 contractor who is qualified to pump and clean portable toilet facilities.

21 [Site Certificate Condition 6.2]

22 IV.N.2.4 During operation, the certificate holder shall discharge sanitary wastewater generated at the  
23 facility to the Boardman Plant sanitary waste facility in compliance with DEQ permit  
24 requirements.

25 [Site Certificate Condition 10.24]

26 **IV.N.3. WASTE MINIMIZATION: CONCLUSIONS OF LAW**

27 Based on the foregoing findings of fact and conclusions, and subject to compliance with the site  
28 certificate conditions, the Council finds that, to the extent reasonably practicable, the applicant's solid  
29 waste and wastewater plans are likely to minimize generation of solid waste and wastewater in the  
30 construction and operation of the facility, and when solid waste or wastewater is generated, to result in  
31 recycling and reuse of such wastes.

32 The Council finds that, subject to compliance with the site certificate conditions, that, to the extent  
33 reasonably practicable, the applicant's plans to manage the accumulation, storage, disposal and  
34 transportation of waste generated by the construction and operation of the facility are likely to result in  
35 minimal adverse impact on surrounding and adjacent areas.

36 Based on these findings and subject to compliance with the site certificate conditions, the Council  
37 concludes that the proposed facility complies with the Waste Minimization Standard.  
38

1 **IV.O. SITING STANDARDS FOR TRANSMISSION LINES [OAR 345-024-0090]**

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

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

10 **IV.O.1. TRANSMISSION LINE SITING STANDARD: FINDINGS OF FACT**

11 The applicant provided information on the Siting Standards for Transmission Lines in Exhibit AA of  
12 the application. These standards address safety hazards associated with electric fields around transmission  
13 lines. Section (1) of OAR 345-024-0090 sets a limit for electric fields from transmission lines of not more  
14 than 9-kV per meter at one meter above the ground surface in areas that are accessible to the public.  
15 Section (2) requires measures to reduce the risk of induced current.

16 **IV.O.1.a. Electric Fields**

17 The proposed Carty Generating Station includes 500-kV overhead lines connecting the step-up  
18 transformers at the generation buildings to the proposed switchyard. The applicant also proposes a new  
19 500-kV transmission line to parallel the existing Boardman to Slatt transmission line to connect the  
20 proposed Carty Generating Station switchyard to the Slatt substation. The applicant calculated estimates  
21 of the maximum possible electromagnetic field strengths that would be produced by distributing energy  
22 from the proposed Carty Generating Station using five possible scenarios. These scenarios were:

23 Case 1: Existing conditions;

24 Case 2: Existing Boardman to Slatt transmission line with the addition of a single line connecting the  
25 Block 1 of the proposed Carty Generating Station to the proposed switchyard;

26 Case 3: Existing Boardman to Slatt transmission line and a new single-circuit transmission line  
27 paralleling the Boardman to Slatt line. This case also includes a single line connecting Block 1 of the  
28 proposed Carty facility to the proposed switchyard, and assumes that the new line to Slatt carries half  
29 of the generation from Carty Block 1 and half of the generation from the Boardman Plant;

30 Case 4: Existing Boardman to Slatt transmission line and a new single-circuit transmission line  
31 paralleling the Boardman to Slatt line. This case also includes the construction of both proposed  
32 Blocks 1 and 2, and two single-circuit lines connecting those blocks to the proposed switchyard;

33 Case 5: Not feasible and was not analyzed by the applicant; and

34 Case 6: Existing Boardman to Slatt transmission line and a new double-circuit transmission line  
35 paralleling the Boardman to Slatt line. This case also includes the construction of both proposed  
36 Blocks 1 and 2, and two single-circuit lines connecting those blocks to the proposed switchyard.<sup>455</sup>

37 The applicant calculated the electric field that would be produced by the aboveground transmission  
38 lines, all of which would be supported on lattice-type towers, using the Corona and Field Effect Program  
39 developed by the Bonneville Power Administration (BPA).<sup>456</sup> This was calculated for all of the potential  
40 configurations of the facility and transmission line proposed by the applicant, as mentioned above, to

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<sup>455</sup> Final ASC, Section AA.2, p. AA-2

<sup>456</sup> Final ASC, Section AA.3, p. AA-5



1 assure that none would exceed the Council standard. These configurations include areas where there are  
 2 other additional lines within the right-of-way in which the new proposed line would be located; an  
 3 example is the connection to the Slatt substation, where, looking southwest, there are five existing  
 4 transmission lines within the right-of-way, excluding the proposed lines connecting to the Carty  
 5 Generating Station. The applicant’s analysis includes all effects of existing and proposed lines within the  
 6 right-of-way.<sup>457</sup>

7 The assumed maximum loading for the proposed 500-kV transmission line varied based on the  
 8 analysis configuration; this value ranged from 605 to 907 amperes.<sup>458</sup> The minimum conductor ground  
 9 clearance was assumed to be 35 feet for the proposed 500-kV single- or double-circuit transmission  
 10 lines.<sup>459</sup> The calculated maximum electric field strength at one meter above ground surface near the  
 11 proposed switchyard ranged from 7.680-kV per meter to 7.705-kV per meter; near the existing Slatt  
 12 substation, where a number of existing lines are present, these values ranged from 8.546-kV per meter to  
 13 8.548-kV per meter, as shown in the following table. None of the potential transmission line  
 14 configurations exceeded an electric field strength of 9.0-kV per meter at one meter above ground  
 15 surface.<sup>460</sup>

16 **Projected Electric Field Strengths (kV/meter)<sup>461</sup>**

Case	South Edge ROW	Maximum within ROW	North edge ROW
<b>Near Boardman Plant</b>			
Case 1	0.019	7.695	0.327
Case 2	0.019	7.695	0.327
Case 3	0.063	7.705	0.351
Case 4	0.063	7.705	0.351
Case 6	0.033	7.680	0.307
<b>Near Slatt Substation</b>			
Case 1	0.050	8.547	0.605
Case 2	0.050	8.547	0.605
Case 3	0.105	8.546	0.603
Case 4	0.105	8.546	0.603
Case 6	0.053	8.548	0.607

17 For the reasons discussed above, the Council finds that the applicant can design, construct, and  
 18 operate the proposed transmission line so that alternating current electric fields do not exceed 9 kV per  
 19 meter at one meter above the ground surface in areas accessible to the public.

20 **IV.O.1.b. Induced Current**

21 The magnetic and electric fields around alternating current transmission lines can induce current or  
 22 voltage in nearby objects made of conductive materials. Conductive materials near a transmission line  
 23 that are insulated from ground can build up an electrical charge, or induced *voltage*, due to the presence of

<sup>457</sup> Final ASC, Section AA.2, p. AA-1

<sup>458</sup> Final ASC, Appendix AA-1, Table 1, p. 5

<sup>459</sup> Final ASC, Appendix AA-1, p. 2

<sup>460</sup> Final ASC, Appendix AA-1, p. 17-18

<sup>461</sup> Final ASC, Appendix AA-1, Tables IV and V, p. 17-18

1 the electric field caused by the transmission lines. These insulated objects can include metal roofs,  
2 ungrounded fences, coated pipelines, and even construction or farming equipment with rubber tires. The  
3 larger the conductive object the greater its exposure to the electric field and the greater the induced  
4 voltage that can result. Induced voltage can be a hazard when the insulated material is shorted to ground.  
5 For example, if a person touches the metal exterior of a large vehicle that has been parked under an  
6 operating transmission line, the person may experience a nuisance shock as the charge passes through  
7 their body to ground. Grounding of potentially charged structures minimizes the hazard by providing a  
8 path for the electric current so that a charge is not building up on the insulated object. Passing current  
9 through the grounding wire minimizes the current that would otherwise flow through a person or animal  
10 that comes in contact with the object.

11 The proposed aboveground 500-kV transmission line could cause induced voltage. However, the  
12 applicant has documented that there are no structures within 200 feet of the proposed transmission  
13 centerline.<sup>462</sup> At 200 feet from the centerline the electric field is significantly reduced. The highest  
14 electric field noted within 200 feet of the transmission line, 0.193 kV/m, occurs near the proposed  
15 switchyard.<sup>463</sup>

16 Insulated conductive materials near a transmission line will build up an induced voltage, but if the  
17 objects are grounded or the impedance to ground is sufficiently low, an induced *current* is produced in the  
18 object. Examples of common objects that may experience an induced current include, but are not limited  
19 to, buried uncoated metal pipes, grounded fences, metal buildings, and wheeled irrigation systems. Well  
20 grounded objects continuously dissipate any induced voltage, thereby reducing the risk of shock to an  
21 individual or animal that may come in contact with the object. Proper grounding also provides a lower  
22 path of resistance for the electricity so that a person coming in contact with the object does not experience  
23 the current passing through their body.

24 The applicant has identified that there are no structures within 200 feet of the centerline of the  
25 transmission line, which should greatly reduce the induced current that could develop in a conductive  
26 structure. The National Electrical Safety Code (NESC) (2007) sets an induced current limit of five  
27 milliamps for objects in the vicinity transmission lines.<sup>464</sup> If the NESC code is adhered to, the induced  
28 currents could result in noticeable shock, but not serious injury, as shown in the table below.  
29 Electrocutation and serious injury or death can result when a sufficient current passes through the human  
30 body. When an individual touches, but cannot let go of an energized object, the involuntary loss of  
31 muscle control can keep the individual connected to the energized object leading to serious injury or  
32 death. The following table shows the quantitative effects of induced current on humans:  
33

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<sup>462</sup> Final ASC, Section AA.3, p. AA-3

<sup>463</sup> Final ASC, Appendix AA-1, Table IV, p. 17

<sup>464</sup> National Electric Safety Code, 2002.

1  
2

**Quantitative Effects of Electrical Current on Humans<sup>465</sup>**

Effect	Alternating Current (mA) at 60 Hz	
	Men	Women
Slight sensation in hand	0.4	0.3
Perception threshold- median	1.1	0.7
Shock-not painful, no loss of muscle control	1.8	1.2
Painful shock- muscle control loss by ½%	9	6
Painful shock, median let-go threshold	16	10.5
Painful and severe shock- breathing difficult, 99.5% muscle control lost	23	15

3

4 Council rule OAR 345-027-0023(4) provides standard condition language to address public safety for  
5 transmission lines, including the requirement to design transmission lines to reduce the risks from induced  
6 current. The Council adopts Conditions IV.O.2.1 and IV.O.2.2, which incorporates the language of the  
7 rule to reduce or manage human exposure to electric fields and induced currents.

8 For the reasons discussed above and based on the mandatory conditions of approval, the Council  
9 finds that induced currents from the proposed transmission line will be as low as reasonably achievable.

10 **IV.O.2. TRANSMISSION LINE SITING STANDARDS: SITE CERTIFICATE CONDITIONS**

11

12 IV.O.2.1 The certificate holder must design, construct and operate the transmission line in accordance  
13 with the requirements of the National Electrical Safety Code (American National Standards  
14 Institute, Section C2, 1997 Edition, or its successor document).  
15 [Site Certificate Condition 6.5] [Mandatory Condition OAR 345-027-0023(4)]

16 IV.O.2.2 The certificate holder must develop and implement a program that provides reasonable  
17 assurance that all fences, gates, cattle guards, trailers, or other objects or structures of a  
18 permanent nature that could become inadvertently charged with electricity are grounded or  
19 bonded throughout the life of the line. A current copy of the electrical protection plan must  
20 be available at the O&M building and provided upon request by ODOE staff.  
21 [Site Certificate Condition 7.9] [Mandatory Condition OAR 345-027-0023(4)]  
22

<sup>465</sup> Deleterious Effects of Electric Shock, C.F. Dalziel, Meeting of Experts on Electrical Accidents and Related Matters, October 23-31, 1961, Table II, Quantitative Effects of Electrical Current on Man.

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**IV.O.3. TRANSMISSION LINE SITING STANDARDS: CONCLUSIONS OF LAW**

Based on the foregoing findings of fact and conclusions, and subject to compliance with the site certificate conditions, the Council finds that the design, construction and operation of the transmission line for the proposed facility will not result in alternating current electric fields that exceed 9-kV per meter at one meter above the ground surface in areas accessible to the public and that induced currents resulting from the transmission lines will be as low as reasonably achievable.

Based on these findings and subject to compliance with the site certificate conditions described herein, the Council concludes that the proposed facility complies with the Siting Standards for Transmission Lines.

1 **IV.P. CARBON DIOXIDE STANDARD [OAR 345-024-0550 THROUGH 0600]**

2 ***OAR 345-024-0550 Carbon Dioxide Standard For Base Load Gas Plants***

3 *To issue a site certificate for a base load gas plant, the Council must find that the net carbon dioxide*  
4 *emissions rate of the proposed facility does not exceed 0.675 pounds of carbon dioxide per kilowatt-hour*  
5 *of net electric power output, with carbon dioxide emissions and net electric power output measured on a*  
6 *new and clean basis. For a base load gas plant designed with power or augmentation technology as*  
7 *defined in OAR 345-001-0010, the Council shall apply the standard for a non-base load power plant, as*  
8 *described in OAR 345-024-0590, to the incremental carbon dioxide emissions from the designed*  
9 *operation of the power augmentation technology. The Council shall determine whether the base load*  
10 *carbon dioxide emissions standard is met as follows:*

11 *(1) The Council shall determine the gross carbon dioxide emissions that are reasonably likely to*  
12 *result from the operation of the proposed energy facility. The Council shall base such determination on*  
13 *the proposed design of the energy facility. The Council shall adopt site certificate conditions to ensure*  
14 *that the predicted carbon dioxide emissions are not exceeded on a new and clean basis;*

15 *(2) For any remaining emissions reduction necessary to meet the applicable standard, the applicant*  
16 *may elect to use any of the means described in OAR 345-024-0560, or any combination thereof. The*  
17 *Council shall determine the amount of carbon dioxide emissions reduction that is reasonably likely to*  
18 *result from the applicant's offsets and whether the resulting net carbon dioxide emissions meet the*  
19 *applicable carbon dioxide emissions standard; \*\*\**

20 *\*\*\* (4) Before beginning construction, the certificate holder shall notify the Department of Energy in*  
21 *writing of its final selection of a gas turbine vendor and shall submit a written design information report*  
22 *to the Department sufficient to verify the facility's designed new and clean heat rate and its nominal*  
23 *electric generating capacity at average annual site conditions for each fuel type. In the report, the*  
24 *certificate holder shall include the proposed limits on the annual average number of hours of facility*  
25 *operation on distillate fuel oil, if applicable. In the site certificate, the Council may specify other*  
26 *information to be included in the report. The Department shall use the information the certificate holder*  
27 *provides in the report as the basis for calculating, according to the site certificate, the amount of carbon*  
28 *dioxide emissions reductions the certificate holder must provide under OAR 345-024-0560.*

29 ***345-024-0560: Means of Compliance for Base Load Gas Plants***

30 *The applicant may elect to use any of the following means, or any combination thereof, to comply*  
31 *with the carbon dioxide emissions standard for base load gas plants. For a base load gas plant designed*  
32 *with power augmentation technology, the applicant shall comply with the standard for a non-base load*  
33 *power plant in the manner as described in OAR 345-024-0600 for the incremental carbon dioxide*  
34 *emissions from the designed operation of the power augmentation technology. \*\*\**

35 *\*\*\* (3) Providing offset funds, directly or through a third party, in an amount deemed sufficient to*  
36 *produce the reduction in carbon dioxide emissions necessary to meet the applicable carbon dioxide*  
37 *emissions standard. The applicant or third party shall use the funds as specified in OAR 345-024-0710.*  
38 *The Council shall deem the payment of the monetary offset rate, pursuant to OAR 345-024-0580, to result*  
39 *in a reduction of one ton of carbon dioxide emissions. The Council shall determine the offset funds using*  
40 *the monetary offset rate and the level of emissions reduction required to meet the applicable standard. If*  
41 *the Council issues a site certificate based on this section, the Council may not adjust the amount of the*  
42 *offset funds based on the actual performance of offsets; \*\*\**

43 ***OAR 345-024-0590 Carbon Dioxide Standard For Non-Base Load Power Plants***

44 *To issue a site certificate for a non-base load power plant, the Council must find that the net carbon*  
45 *dioxide emissions rate of the proposed facility does not exceed 0.675 pounds of carbon dioxide per*

1 kilowatt-hour of net electric power output, with carbon dioxide emissions and net electric power output  
2 measured on a new and clean basis. For a base load gas plant designed with power augmentation  
3 technology as defined in OAR 345-001-0010, the Council shall apply this standard to the incremental  
4 carbon dioxide emissions from the designed operation of the power augmentation technology. The  
5 Council shall determine whether the carbon dioxide emissions standard is met as follows:

6 (1) The Council shall determine the gross carbon dioxide emissions that are reasonably likely to  
7 result from the operation of the proposed energy facility. The Council shall base such determination on  
8 the proposed design of the energy facility, the limitation on the hours of generation for each fuel type and  
9 the average temperature, barometric pressure and relative humidity at the site during the times of the  
10 year when the facility is intended to operate. For a base load gas plant designed with power  
11 augmentation technology, the Council shall base its determination of the incremental carbon dioxide  
12 emissions on the proposed design of the facility, the proposed limitation on the hours of generation using  
13 the power augmentation technology and the average temperature, barometric pressure and relative  
14 humidity at the site during the times of the year when the facility is intended to operate with power  
15 augmentation technology. The Council shall adopt site certificate conditions to ensure that the predicted  
16 carbon dioxide emissions are not exceeded on a new and clean basis; however, the Council may modify  
17 the parameters of the new and clean basis to accommodate average conditions at the times when the  
18 facility is intended to operate and technical limitations, including operational considerations, of a non-  
19 base load power plant or power augmentation technology or for other cause;

20 (2) For any remaining emissions reduction necessary to meet the applicable standard, the applicant  
21 may elect to use any of the means described in OAR 345-024-0600 or any combination thereof. The  
22 Council shall determine the amount of carbon dioxide emissions reduction that is reasonably likely to  
23 result from the applicant's offsets and whether the resulting net carbon dioxide emissions meet the  
24 applicable carbon dioxide emissions standard; \*\*\*

25 \*\*\* (4) Before beginning construction, the certificate holder shall notify the Department of Energy in  
26 writing of its final selection of an equipment vendor and shall submit a written design information report  
27 to the Department sufficient to verify the facility's designed new and clean heat rate and its nominal  
28 electric generating capacity at average annual site conditions for each fuel type. For a base load gas  
29 plant designed with power augmentation technology, the certificate holder shall include in the report  
30 information sufficient to verify the facility's designed new and clean heat rate, tested under parameters  
31 the Council orders pursuant to section (1), and the nominal electric generating capacity at average site  
32 conditions during the intended use for each fuel type from the operation of the proposed facility using the  
33 power augmentation technology. The certificate holder shall include the proposed limit on the annual  
34 average number of hours for each fuel used, if applicable. The certificate holder shall include the  
35 proposed total number of hours of operation for all fuels, subject to the limitation that the total annual  
36 average number of hours of operation per year is not more than 6,600 hours. In the site certificate, the  
37 Council may specify other information to be included in the report. The Department shall use the  
38 information the certificate holder provides in the report as the basis for calculating, according to the site  
39 certificate, the gross carbon dioxide emissions from the facility and the amount of carbon dioxide  
40 emissions reductions the certificate holder must provide under OAR 345-024-0600; \*\*\*

41 \*\*\* (6) For a base load gas plant designed with power augmentation technology, every five years  
42 after commencing commercial operation, the certificate holder shall report to the Council the facility's  
43 actual hours of operation using the power augmentations technology for each fuel type. If the actual  
44 gross carbon dioxide emissions, calculated using the new and clean heat rate, tested under parameters  
45 the Council orders pursuant to section (1), and the actual hours of operation using the power  
46 augmentation technology on each fuel during the five-year period exceed the projected gross carbon  
47 dioxide emissions for the five-year period calculated under section (4), the certificate holder shall offset  
48 any excess emissions for that period and shall offset estimated future excess carbon dioxide emissions  
49 using the monetary path as described in OAR 345-024-0600(3) and (4) or as approved by the Council.

1           **345-024-0600: Means of Compliance for Non-Base Load Power Plants**

2           *The applicant may elect to use any of the following means, or any combination thereof, to comply*  
3 *with the carbon dioxide emissions standard for non-base load power plants or for the incremental carbon*  
4 *dioxide emissions from the operation of a base load gas plant with power augmentation technology.\*\*\**

5           \*\*\* (3) *Providing offset funds, directly or through a third party, in an amount deemed sufficient to*  
6 *produce the reduction in carbon dioxide emissions necessary to meet the applicable carbon dioxide*  
7 *emissions standard. The applicant or third party shall use the funds as specified in OAR 345-024-0710.*  
8 *The Council shall deem the payment of the monetary offset rate, pursuant to OAR 345-024-0580, to result*  
9 *in a reduction of one ton of carbon dioxide emissions. The Council shall determine the offset funds using*  
10 *the monetary offset rate and the level of emissions reduction required to meet the applicable standard. If*  
11 *the Council issues a site certificate based on this section, the Council may not adjust the amount of the*  
12 *offset funds based on the actual performance of offsets;*

13           (4) *Notwithstanding sections (1), (2) or (3), if the certificate holder exceeds the projected gross*  
14 *carbon dioxide emissions calculated under OAR 345-024-0590(4) during any five-year reporting period*  
15 *described in OAR 345-024-0590(5) and (6), the certificate holder shall offset excess emissions for the*  
16 *specific reporting period according to subsection (a) and shall offset the estimated future excess*  
17 *emissions according to subsection (b). The certificate holder shall offset excess emissions using the*  
18 *monetary path as described in subsection (c) and OAR 345-024-0710 or as approved by the Council;*

19           (a) *In determining the excess carbon dioxide emissions that the certificate holder must offset for a*  
20 *five-year period, the Council shall credit the certificate holder with offsets equal to the difference between*  
21 *the carbon dioxide emissions allowed by the site certificate in previous periods and actual emissions, if*  
22 *actual emissions were lower than allowed. Once a certificate holder has used a credit, the certificate*  
23 *holder shall not use it again.*

24           (b) *The Council shall specify in the site certificate a methodology for estimating future excess carbon*  
25 *dioxide emissions. The Department of Energy shall calculate estimated future excess emissions. To*  
26 *estimate excess emissions for the remaining period of the deemed life of the facility, the Department shall*  
27 *use the annual average number of hours of operation during the five-year period in which the certificate*  
28 *holder exceeded the estimated gross carbon dioxide emissions described in OAR 345-024-0590(5) and*  
29 *the new and clean heat rate and capacity for the facility, adjusted for the average temperature,*  
30 *barometric pressure and relative humidity at the site during the times of the year when the facility is*  
31 *intended to operate. If the annual average hours exceed 6,600, the Department shall estimate emissions*  
32 *at 100 percent capacity for the remaining period of a deemed 30-year life of the facility. At the request of*  
33 *the certificate holder, the Council may, by amendment of the site certificate, use an alternative*  
34 *methodology to estimate future excess carbon dioxide emissions;*

35           (c) *The certificate holder shall pay for the net excess carbon dioxide emissions calculated pursuant to*  
36 *subsections (a) and (b) at the monetary path offset rate in real dollars for the quarter and year in which*  
37 *the Council issued the final order that applied the carbon dioxide standard. The Council shall specify in*  
38 *the site certificate the methodology for calculating the real dollar value of the monetary offset rate. The*  
39 *Department shall calculate the net excess carbon dioxide emissions and notify the certificate holder of the*  
40 *amount of the monetary path payment required to offset them. The certificate holder shall pay fully the*  
41 *required amount to the qualified organization within 60 days of notification by the Department of the*  
42 *amount. The certificate holder shall not be eligible for a refund of any monetary path payments due to the*  
43 *calculations in this rule.\*\*\**

44           **IV.P.1. CARBON DIOXIDE STANDARD: FINDINGS OF FACT**

45           The applicant provided information about compliance with the Council’s Carbon Dioxide Standard in  
46 Exhibit Y of the application. Because the proposed Carty Generating Station would be fueled by natural  
47 gas only and the applicant is not requesting conditions in the site certificate that would limit the hours of

1 operation for the generating facility, the proposed energy facility would be a base load gas plant as  
2 defined in OAR 345-001-0010(7).

3 The applicant may include power enhancement or augmentation to the base load gas plant in the form  
4 of duct burning. Duct burning would be fueled with natural gas, and is not expected to exceed 3,000  
5 hours per year.<sup>466</sup> The applicant may select a different limit for annual average hours of duct firing before  
6 beginning construction, pursuant to OAR 345-024-0590(4). Because the proposed base load gas plant is  
7 designed with power augmentation technology, as defined in OAR 345-001-0010, the standard for non-  
8 base load power plants shall be applied to the incremental carbon dioxide (CO<sub>2</sub>) emissions from the  
9 designed operation of the power augmentation technology.

#### 10 **IV.P.1.a. Carbon Dioxide Emissions**

11 Under OAR 345-024-0550, the Council applies the carbon dioxide emissions standard for a base  
12 load power plant to the net carbon dioxide emission rate of the proposed facility. The Council must  
13 find that the base load facility does not exceed 0.675 lb. CO<sub>2</sub>/kWh of net electric power output, with  
14 carbon dioxide emissions and net electric output measured on a new and clean basis. The Council  
15 adopts Condition IV.P.2.1., which limits base load power carbon dioxide emissions to this standard.

16 For a base load power plant with power augmentation technology, under OAR 345-024-0590, the  
17 Council applies the carbon dioxide emissions standard for a non-base load power plant to the  
18 incremental carbon dioxide emissions from the designed operation of the power augmentation  
19 technology. Thus, the Council must find that those incremental emissions do not exceed 0.675 lb.  
20 CO<sub>2</sub>/kWh of net electric power output, with carbon dioxide emissions and net electric output  
21 measured on a new and clean basis. The applicant has not specified that it intends to use the power  
22 augmentation technologies during any particular times of the year, so the analysis of the new and  
23 clean basis is for average annual conditions. The Council adopts Condition IV.P.2.2., which limits  
24 base load power with power augmentation technology carbon dioxide emissions to this standard.

#### 25 **IV.P.1.b. Average Annual Site Conditions**

26 OAR 345-024-0550 requires that the carbon dioxide emissions and net power output be measured  
27 on a “new and clean basis.” The Council’s definition of new and clean basis specifies average annual  
28 site conditions, including temperature, barometric pressure and relative humidity. OAR 345-001-  
29 0010(35). PGE could have specified times of the year during which it intends to operate power  
30 augmentation and could have provided site-specific conditions for those times, pursuant to OAR 345-  
31 024-0590(1). However, PGE does not propose to limit the times of the year when it would operate  
32 with power augmentation, so calculations for all emissions are at average annual conditions. In the  
33 application, the following site conditions were provided:

34	Temperature	55 degrees Fahrenheit
35	Barometric Pressure	14.328 psi
36	Relative Humidity	60 percent <sup>467</sup>

#### 37 **IV.P.1.c. Carbon Dioxide Emission Calculations**

38 The following discussion and table show a sample carbon dioxide emission calculation for the  
39 proposed Carty Generating Station. The table is only for illustrative purposes and does not necessarily  
40 reflect the actual emissions, offsets, or monetary path payments. The conditions relating to the carbon  
41 dioxide standard and other conditions in the Site Certificate allow the applicant flexibility in its

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<sup>466</sup> Final ASC, Section Y.1, p.Y-2.

<sup>467</sup> Final ASC, Section Y.8, p. Y-7



1 choice of equipment vendor and the facility’s design, within the parameters allowed pursuant to OAR  
2 345-027-0050.

3 Pursuant to OAR 345-024-0550(4) and -0590(4), before beginning construction of the Carty  
4 Generating Station, the applicant must submit to the Department an affidavit with the design  
5 parameters necessary to calculate the expected carbon dioxide emissions for the as-built energy  
6 facility, The Council adopts Condition IV.P.2.4 and Condition IV.P.2.5, which implement these  
7 requirements. These parameters determine the specific amount of the monetary path payment for  
8 offset funds, and selection and contracting funds, required, as calculated according to the conditions  
9 of the site certificate.

10 The Council must determine the carbon dioxide emissions that are reasonably likely to result  
11 from the operation of the proposed energy facility. For a base-load gas plant, OAR 345-001-0010(7)  
12 requires calculations of the annual gross carbon dioxide emissions of the facility and total carbon  
13 dioxide emissions for 30 years at 100-percent capacity. The gross carbon dioxide emissions rate is  
14 expressed as pounds of carbon dioxide per kilowatt-hour of net electric power output. Since the  
15 applicant would operate with power augmentation for part of the time, the gross carbon dioxide  
16 emissions are the sum of the emissions with operating at base-load alone and when operating with  
17 power augmentation. The applicant estimates it will use power augmentation 3,000 hours per year.  
18 Assuming 3,000 hours per year as an annual average, power augmentation would operate at a 34  
19 percent capacity factor. The table below breaks the year into two periods: 5,760 hours at the base-  
20 load heat rate and capacity and 3,000 hours per year at the power augmentation heat rate and capacity.  
21 Power augmentation is an increment of capacity above base-load and it includes base-load hours.

22 For this example, the gross carbon dioxide emissions were calculated using the heat rates  
23 provided in Table Y-3 of the application.<sup>468</sup> “Net electric power output” is defined as “the electric  
24 energy produced or capacity made available for use excluding electricity used in the production of  
25 electrical energy.” OAR 345-001-0010(33). For the gross carbon dioxide emissions rate, the table  
26 divides the combined net electric power output (kWh) into the combined carbon dioxide emissions  
27 (lb. CO<sub>2</sub>) to determine the gross carbon dioxide emissions rate (lb. CO<sub>2</sub>/kWh).

28 “Net carbon dioxide emissions” is defined as “gross carbon dioxide emissions of the proposed  
29 energy facility, less carbon dioxide emissions avoided, displaced or sequestered by any combination  
30 of cogeneration or offsets.” OAR 345-001-0010(32). In order to apply the standard, the Council must  
31 determine the excess carbon dioxide emissions rate of the energy facility and the excess carbon  
32 dioxide emissions for 30 years. Excess carbon dioxide emissions are those in excess of net carbon  
33 dioxide emissions allowed under the standard.

34 The applicant proposes to offset excess carbon dioxide emissions through the monetary path. The  
35 table below shows the preliminary calculation of the offsets as “Excess Tons of CO<sub>2</sub>.” Excess carbon  
36 dioxide emissions for the Carty Generating Station are 11.903 million tons over 30 years.  
37

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<sup>468</sup> Final ASC, Table Y-3, pp. Y-11 through Y-16

## CO<sub>2</sub> Standard for Carty Generating Station

### A. CO<sub>2</sub> Standard

CO <sub>2</sub> Standard for Base-Load Gas Plant (lb. CO <sub>2</sub> /kWh)	0.675
CO <sub>2</sub> Standard for Power Augmentation (lb. CO <sub>2</sub> /kWh)	0.675

### B. Parameters for Base Load Gas Plant

Net Power Output (kW)	760,000
New and Clean Heat Rate (Btu/kWh) HHV	6,645
Annual Hours of Operation	5,760

### C. Parameters for Power Augmentation

Net Power Output (kW)	861,000
New and Clean Heat Rate (Btu/kWh) HHV	6,910
Annual Hours of Operation	3,000

### Calculations

#### D. Base Load

Net Power Output (kW)	760,000
Annual Hours of Operation	5,760
Annual Generation (million kWh/yr.)	4,378
Deemed Life of Plant (years) by Statute or Rule	30
Total Plant Output (million kWh for 30 years)	131,328
Heat Rate (Btu/kWh) HHV	6,645
CO <sub>2</sub> Emissions Rate (lb. CO <sub>2</sub> /Btu)	0.000117
Total CO <sub>2</sub> Emissions (million lb. for 30 years)	102,103

#### E. Power Augmentation

Net Power Output (kW)	861,000
Capacity Factor	34%
Annual Hours of Operation	3,000
Annual Generation (million kWh/yr.)	2,583
Deemed Life of Plant (years) by Statute or Rule	30
Total Plant Output (million kWh for 30 years)	77,490
Heat Rate (Btu/kWh) HHV	6,910

**CO<sub>2</sub> Standard for Carty Generating Station**

CO <sub>2</sub> Emissions Rate (lb. CO <sub>2</sub> /Btu)	0.000117
Total CO <sub>2</sub> Emissions (million lb. for 30 years)	62,648
<b>F. Total Operations</b>	
Combined Output (million kW for 30 years)	208,818
Combined CO <sub>2</sub> Emissions (million lb. for 30 years)	164,751
Gross CO <sub>2</sub> Emissions Rate (lb. CO <sub>2</sub> /kWh)	0.789
CO <sub>2</sub> Standard (lb. CO <sub>2</sub> /kWh)	0.675
Excess CO <sub>2</sub> Emissions Rate (lb. CO <sub>2</sub> /kWh)	0.114
Excess Tons CO <sub>2</sub> (million tons over 30 years)	11.903
<b>G. Monetary Path</b>	
Offset Fund Rate (\$/ton CO <sub>2</sub> )	\$ 1.27
Offset Funds Required (\$ million)	\$ 15.117
Contracting and Selection Funds (\$ million)	\$ 0.676
<b>Monetary Path Requirement (\$ million)</b>	<b>\$ 15.793</b>

1  
2 This example calculation for excess carbon dioxide emissions of 11.903 million tons over 30  
3 years does not match the applicant’s excess carbon dioxide emission calculation of 10.9 million tons  
4 over 30 years, provided in Table Y-3 of the application. In calculating the “new and clean basis,” the  
5 applicant used lower heating value, not higher heating value, as is required in the definition of “New  
6 and clean basis” in OAR 345-001-0010(36). Since the facility has not been built yet and does not  
7 have actual 100-hour testing to use, the emission rate of 117 pounds of carbon dioxide per million Btu  
8 of natural gas (higher heating value) must be used and is used in the example calculation above.

9 The applicant has stated that the proposed Carty Generating Station will use only natural gas as a  
10 fuel.<sup>469</sup> The Council adopts Condition IV.P.2.15, which requires the certificate holder to use only  
11 pipeline-quality natural gas or synthetic gas, with a carbon content per million Btu no greater than  
12 pipeline-quality natural gas.

13 **IV.P.1.d. Offset Funds and Monetary Path Payment**

14 The applicant has elected to comply with the carbon dioxide emissions standard by providing  
15 offset funds to The Climate Trust as allowed by OAR 345-024-0560(3) and OAR 345-024-0600(3)  
16 and in compliance with the monetary path payment requirement of OAR 345-024-0710. The Council  
17 adopts Conditions IV.P.2.3 through IV.P.2.6, which implement OAR 345-024-0560 through 345-024-  
18 0710 and provide the mechanism for calculating the excess carbon dioxide emissions and the  
19 monetary path payment. The proposed conditions also address the information that the certificate  
20 holder must provide to the Department and the Council to demonstrate compliance with the standard.

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<sup>469</sup> Final ASC, Section Y.9, p. Y-8

1 Using the parameters that the applicant provided as a representative plant, the above table  
2 multiplies the excess tons of carbon dioxide for Carty by the offset fund rate, \$1.27 per ton of carbon  
3 dioxide. This determines the offset funds needed for the monetary path payment requirement,  
4 \$15.117 million (in 2011 dollars).

5 The table above applies the formula in OAR 345-024-0710(4) to determine the selection and  
6 contracting funds. The selection and contracting funds for the base load plant are \$0.676 million.

7 The initial monetary path payment is the combination of offset funds and the selection and  
8 contracting funds. PGE must pay the selection and contracting funds to The Climate Trust before  
9 beginning construction, pursuant to site certificate conditions. The total monetary path payment  
10 requirement for the estimated parameters of the facility with power augmentation is \$15.793 million.

11 Under ORS 469.503(2)(d) and OAR 345-024-0710(1), PGE must provide bond or letter of credit  
12 “reasonably acceptable to the Council to ensure the payment of the offset funds” to The Climate Trust  
13 before beginning construction. PGE indicated in its application that it would provide either a bond or  
14 letter of credit, and subsequently indicated that it would rely on a letter of credit.<sup>470</sup> The Council  
15 adopts Condition IV.P.2.7, which requires the site certificate holder to enter into an Memorandum of  
16 Understanding (MOU) and provide a bond or letter of credit reasonably acceptable to the Council  
17 before beginning construction of the facility.

18 Condition IV.P.2.7 also requires that the site certificate holder enter into a MOU “that establishes  
19 the disbursement mechanism” to transfer the required monetary path funds. That condition also  
20 requires that the MOU be substantially in the form approved by the Council. The recommended form  
21 of MOU is provided in Exhibit 3 to this Order. The MOU allows the parties some flexibility in  
22 structuring disbursement, either through direct payment by the site certificate holder or through the  
23 use of a letter of credit without requiring an amendment of the site certificate. Therefore, Exhibit 3  
24 contains both forms of letter of credit.

25 OAR 345-024-0710 (6) provides:

26 For monetary path payments a certificate holder must make before beginning construction,  
27 the certificate holder shall make all offset fund payments and all payments required by section (4)  
28 to the qualifying organization in real dollars of the year in which the Council issues a final order  
29 applying the carbon dioxide emissions standard to the energy facility. In the site certificate, the  
30 Council shall specify an appropriate inflation index for calculating real dollars. \* \* \*

31 To fulfill this requirement, the Council adopts Condition IV.P.2.3, which indexes the  
32 monetary path payments to 2011 dollars from the date the Council grants the site certificate to the  
33 time the certificate holder disburses funds to The Climate Trust. Because this requirement is  
34 similar to the requirement to index the security instrument under the financial assurance standard,  
35 Condition IV.P.2.3 cross-references to the Index used in Condition IV.G.2.9. That index is based  
36 on the U.S. Gross Domestic Product Implicit Price Deflator, Chain-Weight, as published by the  
37 Oregon Department of Administrative Services in its series, “Oregon Economic and Revenue  
38 Forecast.” That series provides a forecast of the Implicit Price Deflator for several quarters in  
39 advance. The forecast is useful because historical data are usually finalized at least a quarter late.  
40 Historical data are never current when The Climate Trust would have to draw down a bond or  
41 letter of credit. The Council adopts this index as the most generally applicable.

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<sup>470</sup> CGS-0109, 01-20-12, E-mail from Richard Allen, Ball Janik, LLP to Janet Prewitt, Oregon Department of Justice. Through its attorney PGE stated that it would rely on a “stand-by” letter of credit, indicating that the Climate Trust would apply directly to PGE for the monetary path payments, using the letter of credit only to secure payment.

1 The Council also adopts Conditions IV.P.2.8 through Condition IV.P.2.11, which specify how the  
2 certificate holder would disburse funds to The Climate Trust.

3 Condition IV.P.2.8 requires the certificate holder to submit monetary path payment calculations  
4 to the Department for verification. Condition IV.P.2.9, discussed above, implements the requirement  
5 of ORS 469.503(2)(d) and OAR 345-027-0710(1) to supply a bond to secure payment of the  
6 monetary path payment. Condition IV.P.2.10 addresses the monetary path security requirement in the  
7 event of a transfer of the facility approved by the Council under OAR 345-027-0100 and Condition  
8 IV.P.2.11 addresses disbursement of the monetary path funds to the qualified organization.

9 OAR 345-024-0710(3) contains additional requirements for disbursing the monetary path funds:  
10 requires the certificate holder to pay any funds to implement offsets when the qualified organization  
11 provides the certificate holder written notice that the organization is contractually obligated to  
12 implement offsets. The rule further imposes a restriction on the qualified organization that it cannot  
13 request more than the total amount of offset funds for which the certificate holder is obligated. The  
14 rule permits the qualified organization to request a partial payment of the total offset funds when it  
15 requests offset funds.

16 OAR 345-024-0710(3) provides a milestone for the release of offset funds to the qualified  
17 organization. When the qualified organization has reached the milestone of being contractually  
18 obligated for any amount of money to implement offsets using the offset funds, the qualified  
19 organization may, at its discretion, request, and the certificate holder shall disburse, up to the full  
20 amount of offset funds available.

#### 21 **IV.P.1.e. Qualified Organization**

22 The applicant proposes to provide offset funds and funds for the cost of selecting and contracting  
23 for offsets to The Climate Trust. The Council has previously found that The Climate Trust is a  
24 “qualified organization” in matters relating to ten other energy facilities. The Council finds that The  
25 Climate Trust continues to meet the requirements of a “qualified organization,” defined by ORS  
26 469.503 (2)(e)(N), as amended by 2011 Or. Laws Ch. 298, § 2 (HB 3538).<sup>471</sup> for the following  
27 reasons:

- 28 • The Climate Trust is exempt from federal taxation under section 501(c)(3) of the Internal  
29 Revenue Code. By letter dated November 19, 1997, the Internal Revenue Service determined that  
30 the Oregon Climate Trust (DBA “The Climate Trust”) is exempt from taxation under section  
31 501(c)(3). By letter dated August 3, 2002, the IRS affirmed The Climate Trust’s exempt status.
- 32 • The Climate Trust is incorporated in the state of Oregon. Articles of Incorporation are filed with  
33 the Oregon Secretary of State.
- 34 • The Articles of Incorporation of The Climate Trust require that offset funds received from  
35 certificate holders in accordance with ORS 469.503(2) be used for offsets.<sup>472</sup> The Articles of  
36 Incorporation of The Climate Trust require that decisions on the use of such funds be made by a  
37 body composed of seven voting members of which (1) three are appointed by the Council, (2)

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<sup>471</sup> OAR 345-001-0010 (48)(c)(A), to the extent it is inconsistent with the amended statutory definition, is preempted by the amended provision.

<sup>472</sup> In 2011 the legislature adopted HB 3538, which changed the definition of qualified organization slightly to incorporate changes to the definition of “offset” in ORS 469.503(2)(e)(L) by deleting “that will result in the direct, reduction, elimination, sequestration or avoidance of carbon dioxide emissions” in section 469.503(2)(e)(N), effective October 1, 2011. The Climate Trust provided information that it will update the articles of incorporation to conform to the new statutory language and any rules adopted by the Council to implement the requirements of HB 3538. See letter from Ben Vitale, January 30, 2012. [CGS-0131, 01-30-12, Memorandum from Ben Vitale, The Climate Trust, to Jan Prewitt, Oregon Department of Justice]

1 three are Oregon residents appointed by an environmental organization named by the board of  
2 directors, and (3) one member is appointed by applicants for Site Certificates that are subject to  
3 ORS 469.503(2)(d) and the holders of such Site Certificates.

- 4 • The Climate Trust has made available on an annual basis, beginning after the first year of  
5 operation, a signed opinion of an independent certified public accountant stating that the qualified  
6 organization's use of funds pursuant to ORS 469.503 conforms to generally accepted accounting  
7 principles.
- 8 • The Climate Trust has provided the Council with its five year report for the period between 2004  
9 and 2009. The report documents how the Climate Trust has met criteria for investing at least 60%  
10 of offset funds within two years. The report also lists the board of directors, verifying that they  
11 meet the selection criteria listed above.

#### 12 **IV.P.1.f. Monetary Path Payment Adjustment**

##### 13 *IV.P.1.f.i. 100-hour Tests True-Up*

14 When construction of the plant is complete, the certificate holder must perform tests ("100-  
15 hour tests") to ensure that the plant complies with the carbon dioxide standard on a new and clean  
16 basis, as defined in ORS 469.503 (2)(e)(G) and OAR 345-001-0010(36). The 100-hour test  
17 might result in a requirement to offset additional carbon dioxide emissions, as required in  
18 proposed Condition IV.P.2.13, discussed below. For a base-load facility with power  
19 augmentation, the Council may modify the parameters of the new and clean basis to  
20 accommodate average conditions at the times when the facility is intended to operate or to  
21 accommodate technical limitations, including operational considerations, pursuant to OAR 345-  
22 024-0590(1). Because modification of the testing parameters is an engineering issue, the Council  
23 authorizes the Department to review and approve modification of the testing parameters if  
24 circumstances warrant. In most cases, the 100-hour tests would occur two to three years after  
25 beginning construction. By then, The Climate Trust would have already contracted for a large  
26 part, if not all, of the offsets from the initial payment it received when the facility began  
27 construction. It would have completed its selection process and would have completed, or be in  
28 the final stages of completing, its contracting process.

29 If the results of the 100-hour tests after completing construction show that certificate holder  
30 must offset additional carbon dioxide emissions, additional selection and contracting funds would  
31 also be required. These amounts would be calculated based on the additional offset funds alone,  
32 and would be correspondingly smaller. Under OAR 345-024-0710(4), the Council could set a  
33 specific minimum payment amount for selection and contracting funds for excess emissions up to  
34 \$50,000. However, the Council is not setting a fixed minimum amount because the amount of  
35 offset funds, and the corresponding selection and contracting funds, are too speculative. To  
36 ensure adequate selection and contracting funds, the Council finds that, if there are excess  
37 emissions identified by the 100-hour tests, the payment for selection and contracting funds should  
38 be 10 percent of the first \$500,000 in offset funds and 4.286 percent of any offset funds over  
39 \$500,000.

40 The Council adopts conditions IV.P.2.12 and IV.P.2.13, which implement the 100-hour test  
41 monetary path payment adjustment.

##### 42 *IV.P.1.f.ii. Supplemental Offset Funds*

43 The applicant proposes to include power augmentation in the Carty Generating Station. The  
44 applicant will be required to report annual hours of operation with power augmentation at the end  
45 of each five year period under OAR 345-024-0590(6). The Department will use this report and

1 the new and clean heat rate to calculate excess carbon dioxide emissions for that reporting period.  
2 If actual emissions exceed the amount offset through the monetary path, then the Department will  
3 recalculate the monetary path payment and will require a supplemental payment.

4 As with the 100-hour test true-up funds, there would be a similar situation regarding selection  
5 and contracting funds and offset funds if the site certificate holder is required to provide  
6 supplemental offset funds following a 5-year reporting period. OAR 345-024-0590(6). In that  
7 case, the selection and contracting funds would be calculated based on the supplemental offset  
8 funds alone. The amount of required offset funds would be significantly less than the initial  
9 amount for the base-load plant, and the selection and contracting funds would be correspondingly  
10 smaller.

11 In each 5-year reporting period in which supplemental offset funds are required, the payment  
12 for supplemental selection and contracting funds should be 10 percent of the first \$500,000 in  
13 offset funds and 4.286 percent of any offset funds in excess of \$500,000. This formula should  
14 ensure adequate selection and contracting funds. This calculation procedure is in accordance with  
15 OAR 345-024-0710(4). The Council adopts Condition IV.P.2.14, to determine the amount of any  
16 supplemental monetary path payment.

#### 17 ***IV.P.1.f.iii. Modifications***

18 The Council adopts Condition IV.P.2.16, which allows the certificate holder to exercise the  
19 flexibility that the rules allow for minor changes. Specifically, OAR 345-027-0050 provides:

20 (2) Notwithstanding section (1), the Council does not require a site certificate amendment  
21 if the proposed change would not violate any condition of the site certificate and is a change:

22 (a) To an electrical generation facility that would increase the electrical generating  
23 capacity and would not increase the number of electric generators at the site, change fuel  
24 type, increase fuel consumption by more than 10%, or enlarge the facility site.

25 OAR 345-027-0050 requires information from the certificate holder about how the proposed  
26 changes would comply with applicable standards. Under OAR 345-027-0050(5), the certificate  
27 holder may request a determination by the Department that an amendment is not required.

28 Under OAR 345-027-0050(2)(a), a site certificate amendment is not required for incremental  
29 increases in generating capacity that “would not increase the number of electric generators at the  
30 site, change fuel type, increase fuel consumption by more than 10%, or enlarge the facility site.”  
31 If a certificate holder had not yet made monetary path requirement funds available to a qualified  
32 organization, it might take advantage of the flexibility that OAR 345-027-0050(2)(a) offers when  
33 it certifies the capacity and heat rate of the facility. However, an increase in capacity and heat  
34 rate after a certificate holder has already complied with the conditions relating to the carbon  
35 dioxide standard might require an amendment if the change in capacity and heat rate resulted in  
36 an increase in the monetary path payment requirement.

37 Condition IV.P.2.16 allows for a modification of the monetary path payment requirement  
38 without an amendment of the site certificate for incremental increases that otherwise fall within  
39 the limits specified in OAR 345-027-0050(2)(a) after a certificate holder has already complied  
40 with the conditions relating to the carbon dioxide standard before beginning construction. Per  
41 Condition IV.P.2.16, the certificate holder would request a determination by the Department that  
42 an amendment is not required, as described in OAR 345-027-0050(5), and demonstrate  
43 compliance with the appropriate carbon dioxide standard and monetary offset rate in effect at the  
44 time that the Department makes the determination. This approach achieves the same result as an  
45 amendment to allow an increase in capacity and heat rate, which would also require compliance  
46 with the carbon dioxide standard and monetary offset rate in effect at the time of decision.

1 However, the proposed condition uses the structure provided by the site certificate conditions,  
2 updated to current standards, without requiring an amendment process.

3 As discussed in Section III.C of this Order, the PGE proposes to construct the facility in two  
4 phases, Block 1 and Block 2 (“Construction of both phases of the facility depends on a number of  
5 factors, including PGE’s portfolio requirements, availability and cost of equipment, construction  
6 materials and labor, and accessibility of capital.”). PGE noted in its comments<sup>473</sup> on the Draft  
7 Proposed Order that the conditions recommended in Section IV.P did not seem to account for the  
8 phased construction approach as was done elsewhere in the Order (for example, recommended  
9 conditions in Section III.D regarding construction timelines, and the form of the draft MOU with  
10 The Climate Trust in Exhibit 3). PGE stated in its DPO comments that:

11 *“The Port Westward Generating Project (PWGP) provides a precedent for payment to*  
12 *The Climate Trust only for the phase that is being built. PWGP was originally proposed to*  
13 *be constructed in one phase. In PGE's Request for Amendment #1, PGE requested the ability*  
14 *to develop PWGP in two phases. As part of that request, PGE requested a site certificate*  
15 *condition authorizing compliance with the carbon dioxide emission standards on a unit-by-*  
16 *unit basis. The Council's Final Order of December 5, 2003 (p. 26, lines 9-18) state that a*  
17 *phased approach (in new Condition D.15(11)) "is consistent with OAR 345-024-0500*  
18 *because it ensures that the energy facility will comply with the CO2 emissions standard as*  
19 *each phase of the facility is constructed.”*

20 The Council finds that a phased approach is allowed under the carbon dioxide emissions rules  
21 and is consistent with the Council’s decision on Amendment #1 of the Port Westward Generating  
22 Project Site Certificate. Therefore, the Council adopts Condition IV.P.2.17, which allows the  
23 certificate holder to meet the requirements of Conditions IV.P.2.1 through IV.P.2.15 on a per-  
24 block basis.

25 For the reasons discussed above and based on compliance with the conditions of approval discussed  
26 here, the Council finds that the applicant can meet the standards and means of compliance for base load  
27 gas plants required in OAR 345-024-0550 and OAR 345-024-560, the standards and means of compliance  
28 for non-base load power plants of OAR 345-024-0590 and OAR 345-024-0600, and the monetary path  
29 payment requirements of OAR 345-024-0710.

30 **IV.P.2. CARBON DIOXIDE STANDARD: SITE CERTIFICATE CONDITIONS**

31  
32 IV.P.2.1 The net carbon dioxide emissions rate for the base load gas plant must not exceed 0.675  
33 pounds of carbon dioxide per kilowatt-hour of net electric power output, with carbon  
34 dioxide emissions and net electric power output measured on a new and clean basis, as  
35 defined in OAR 345-001-0010.

36 [Site Certificate Condition 12.1]

37 IV.P.2.2 The net carbon dioxide emissions rate for incremental emissions for the facility operating  
38 with power augmentation must not exceed 0.675 pounds of carbon dioxide per kilowatt-  
39 hour of net electric power output, with carbon dioxide emissions and net electric power  
40 output measured on a new and clean basis at the site during the times of year when the  
41 facility is intended to operate with power augmentation, subject to modification under  
42 Condition IV.P.2.12.

43 [Site Certificate Condition 12.2]

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<sup>473</sup> CGS-0114, 04-113-12, Comments from Portland General Electric on the Draft Proposed Order



- 1 IV.P.2.3 For the purposes of the site certificate, “monetary path payment requirement” means the  
2 amount of offset funds determined pursuant to OAR 345-024-0550, -0560, -0590 and -  
3 0600 and the amount of the selection and contracting funds that the certificate holder must  
4 disperse to The Climate Trust, as the qualified organization, pursuant to OAR 345-024-  
5 0710 and the site certificate. The certificate holder shall calculate the monetary path  
6 payment requirement using an offset fund rate of \$1.27 per ton of carbon dioxide in 2011  
7 dollars.
- 8 a. The certificate holder shall calculate 2011 dollars using the Index described in  
9 Condition IV.G.2.9.b.
- 10 b. The certificate holder shall increase the amount of the letter of credit described in  
11 Condition IV.P.2.9 by the percentage increase in the Index. The certificate holder  
12 shall index the funds from the date of the Council’s approval of the site certificate to  
13 the date of disbursement of funds to The Climate Trust.  
14 [Site Certificate Condition 12.3]
- 15 IV.P.2.4 Before beginning construction of the facility, the certificate holder shall submit to the  
16 Department information identifying its final selection of a gas turbine vendor and heat  
17 recovery steam generator vendor along with the following information, as appropriate:
- 18 a. For the base load gas plant, the certificate holder shall submit written design  
19 information, based on its contracts with vendors, sufficient to verify the plant’s  
20 designed new and clean heat rate (higher heating value) and its net power output at  
21 the average annual site condition. The certificate holder shall submit an affidavit  
22 certifying the heat rate and capacity.
- 23 b. For the base load gas plant designed with power augmentation, the certificate holder  
24 shall submit written design information, based on its contracts with vendors,  
25 sufficient to verify the facility’s designed new and clean heat rate (higher heating  
26 value) and its net power output at the site during the times of year when is facility is  
27 intended to operate with power augmentation. The certificate holder shall submit an  
28 affidavit certifying the heat rate and capacity.  
29 [Site Certificate Condition 12.4]
- 30 IV.P.2.5 Before beginning construction of the facility, the certificate holder shall specify to the  
31 Department the annual average hours and the times that it expects to operate with power  
32 augmentation.  
33 [Site Certificate Condition 12.5]
- 34 IV.P.2.6 To calculate the initial monetary path payment requirement, the certificate holder shall use  
35 the contracted design parameters for capacities and heat rates submitted under Condition  
36 IV.P.2.4 and the annual average hours and times of operation with power augmentation  
37 specified under Condition IV.P.2.5.  
38 [Site Certificate Condition 12.6]
- 39 IV.P.2.7 Before beginning construction of the facility, the certificate holder shall enter into a  
40 Memorandum of Understanding (MOU) with The Climate Trust that establishes the  
41 disbursement mechanism to transfer selection and contracting funds and offset funds to  
42 The Climate Trust.
- 43 a. The MOU must be substantially in the form of **Exhibit 3** to the *Final Order on the*  
44 *Application*. At the request of the certificate holder, the Council may approve a  
45 different form of a letter of credit and concurrent MOU without an amendment of the  
46 site certificate.

1 b. Either the certificate holder or The Climate Trust may submit to the Council for the  
2 Council's resolution any dispute between the certificate holder and The Climate Trust  
3 concerning the terms of the letter of credit, the MOU or any other issues related to the  
4 monetary path payment requirement. The Council's decision shall be binding on all  
5 parties.  
6

[Site Certificate Condition 12.7]

7 IV.P.2.8 The certificate holder shall submit all monetary path payment requirement calculations to  
8 the Department for verification in a timely manner before submitting a letter of credit for  
9 Council approval, before entering into the MOU with The Climate Trust as required by  
10 Condition IV.P.2.7, and before making disbursements to The Climate Trust.  
11

[Site Certificate Condition 12.8]

12 IV.P.2.9 Before beginning construction of the facility, the certificate holder shall submit to The  
13 Climate Trust a letter of credit in the amount of the offset funds of the monetary path  
14 payment requirement as determined under Condition IV.P.2.3.

15 a. The certificate holder shall use a form of letter of credit that is substantially in the  
16 form of Appendix B to the MOU described in Condition IV.P.2.7. At the request of  
17 the certificate holder, the Council may approve a different form of a letter of credit  
18 without an amendment of the site certificate.

19 b. The certificate holder shall use an issuer of the letter of credit approved by the  
20 Council.

21 c. The certificate holder shall maintain the letter of credit in effect until the certificate  
22 holder has disbursed the full amount of the offset funds to The Climate Trust. The  
23 certificate holder may reduce the amount of the letter of credit commensurate with  
24 payments it makes to The Climate Trust. The letter of credit must not be subject to  
25 revocation before disbursement of the full amount of the offset funds.  
26

[Site Certificate Condition 12.9]

27 IV.P.2.10 For any transfer of the site certificate approved under OAR 345-027-0100:

28 a. If The Climate Trust has not yet fully withdrawn the amount of the letter of credit of  
29 the current certificate holder at the time of the transfer, the new certificate holder shall  
30 submit to The Climate Trust a pro-rated letter of credit, subject to the requirements of  
31 Condition IV.P.2.9. The new certificate holder shall submit to Council for the  
32 Council's approval the identity of the issuer of the letter of credit. The Council may  
33 approve a new letter of credit without a site certificate amendment.

34 b. The new certificate holder shall enter into an MOU with The Climate Trust as  
35 described in Condition IV.P.2.7 unless the new certificate holder demonstrates to the  
36 satisfaction of the Department that there has been a valid assignment of the current  
37 certificate holder's MOU to the new certificate holder. The Council may approve a  
38 new MOU without a site certificate amendment.

39 c. For resolution of any dispute between the new certificate holder and The Climate  
40 Trust concerning the disbursement mechanism for monetary path payments or any  
41 other issues related to the monetary path payment requirement, either party may  
42 submit the dispute to the Council as provided in Condition IV.P.2.7(b).  
43

[Site Certificate Condition 12.10]

44 IV.P.2.11 The certificate holder shall disburse to The Climate Trust offset funds and selection and  
45 contracting funds when requested by The Climate Trust in accordance with Conditions  
46 IV.P.2.13 and IV.P.2.14 and the following requirements:

- 1 a. The certificate holder shall disburse selection and contracting funds to The Climate  
2 Trust before beginning construction and as appropriate when additional offset funds  
3 are required under Conditions IV.P.2.13 and IV.P.2.14.
- 4 b. Upon notice pursuant to subsection (c), The Climate Trust may request from the  
5 issuer of the letter of credit the full amount of all offset funds available or it may  
6 request partial payment of offset funds at its sole discretion. Notwithstanding the  
7 specific amount of any contract to implement an offset project, The Climate Trust  
8 may request up to the full amount of offset funds the certificate holder is required to  
9 provide to meet the monetary path payment requirement.
- 10 c. The Climate Trust may request disbursement of offset funds pursuant to paragraph  
11 (b) by providing notice to the issuer of the letter of credit that The Climate Trust has  
12 executed a letter of intent to acquire an offset project. The certificate holder shall  
13 require that the issuer of the letter of credit disburse offset funds to The Climate Trust  
14 within three business days of a request by The Climate Trust for the offset funds in  
15 accordance with the terms of the letter of credit.

16 [Site Certificate Condition 12.11]

17 IV.P.2.12 Within the first 12 months of commercial operation of the facility, the certificate holder  
18 shall conduct a 100-hour test at full power without power augmentation (Year One Test-1)  
19 and a test at full power with power augmentation (Year One Test-2). Tests performed for  
20 purposes of the certificate holder's commercial acceptance of the facility may suffice to  
21 satisfy this condition in lieu of testing after beginning commercial operation.

- 22 a. The certificate holder shall conduct the Year One Test-1 to determine the actual heat  
23 rate (Year One Heat Rate-1) and the net electric power output (Year One Capacity-1)  
24 on a new and clean basis, without degradation, with the results adjusted for the  
25 average annual site condition for temperature, barometric pressure and relative  
26 humidity. The certificate holder shall calculate carbon dioxide emissions using a rate  
27 of 117 pounds of carbon dioxide per million Btu of natural gas fuel.
- 28 b. The certificate holder shall conduct the Year One Test-2 to determine the actual heat  
29 rate (Year One Heat Rate-2) and net electric power output (Year One Capacity-2) for  
30 the facility operating with power augmentation, without degradation, with the results  
31 adjusted for the site condition for temperature, barometric pressure and relative  
32 humidity at the site during the times of year when the power augmentation is  
33 intended to operate. The certificate holder shall calculate carbon dioxide emissions  
34 using a rate of 117 pounds of carbon dioxide per million Btu of natural gas fuel.
- 35 c. The certificate holder shall notify the Department at least 60 days before conducting  
36 the tests required in subsections (a) and (b) unless the certificate holder and the  
37 Department have mutually agreed that less notice will suffice.
- 38 d. Before conducting the tests required in subsections (a) and (b), the certificate holder  
39 shall, in a timely manner, provide to the Department for its approval a copy of the  
40 protocol for conducting the tests. The Department may approve modified parameters  
41 for testing power augmentation on a new and clean basis and pursuant to OAR 345-  
42 024-0590(1) without a site certificate amendment. The certificate holder shall not  
43 conduct the tests until the Department has approved the testing protocols.
- 44 e. Within two months after completing the Year One Tests, the certificate holder shall  
45 provide to the Council reports of the results of the Year One Tests.

46 [Site Certificate Condition 12.12]

1 IV.P.2.13 Based on the data from the Year One Tests described in Condition IV.P.2.12, the  
2 certificate holder shall calculate an adjusted monetary path payment. The certificate  
3 holder shall submit its calculations to the Department for verification. If the adjusted  
4 amount exceeds the amount of the letter of credit provided according to Condition  
5 IV.P.2.9 before beginning construction, the certificate holder shall fully disburse the  
6 excess amount directly to The Climate Trust within 30 days of the Department's  
7 verification of the calculations.

8 a. The certificate holder shall include the appropriate calculations of the adjusted  
9 monetary path payment with its reports of the results of the Year One Tests required  
10 under Condition IV.P.2.12.

11 b. For calculating the adjusted monetary path payment, the certificate holder shall use  
12 an offset fund rate of \$1.27 per ton of carbon dioxide (in 2011 dollars) and shall  
13 calculate contracting and selecting funds based on 10 percent of the first \$500,000 in  
14 offset funds and 4.286 percent of any offset funds in excess of \$500,000 (in 2011  
15 dollars).

16 c. In no case shall the certificate holder diminish the value of the letter of credit it  
17 provided before beginning construction or receive a refund from The Climate Trust  
18 based on the calculations made using the Year One Capacities and the Year One Heat  
19 Rates.

20 [Site Certificate Condition 12.13]

21 IV.P.2.14 The certificate holder shall use the Year One Capacity-2 and Year One Heat Rate-2 that it  
22 reports for the facility, as described in Condition IV.P.2.12.b, to calculate whether it owes  
23 supplemental monetary path payments due to increased hours that it uses power  
24 augmentation.

25 a. Each five years after beginning commercial operation of the facility (five-year  
26 reporting period), the certificate holder shall report to the Department the annual  
27 average hours the facility operated with power augmentation during that five-year  
28 reporting period, as required under OAR 345-024-0590(6). The certificate holder  
29 shall submit five-year reports to the Department within 30 days after the anniversary  
30 date of beginning commercial operation of the facility.

31 b. If the Department determines that the facility exceeded the projected net total carbon  
32 dioxide emissions calculated under Conditions IV.P.2.4, IV.P.2.5 and IV.P.2.12,  
33 prorated for five years, during any five-year reporting period described in subsection  
34 (a), the certificate holder shall offset excess emissions for the specific reporting  
35 period according to paragraph (i) and shall offset the estimated future excess  
36 emissions according to paragraph (ii), as follows:

37 i. In determining whether there have been excess carbon dioxide emissions that the  
38 certificate holder must offset for a five-year reporting period, the Department  
39 shall apply OAR 345-024-0600(4)(a). The certificate holder shall pay for the  
40 excess emissions at \$1.27 per ton of carbon dioxide emissions (in 2011 dollars).  
41 The Department shall notify the certificate holder and The Climate Trust of the  
42 amount of supplemental payment required to offset excess emissions.

43 ii. The Department shall calculate estimated future excess emissions for the  
44 remaining period of the deemed 30-year life of the facility using the parameters  
45 specified in OAR 345-024-0600(4)(b). The certificate holder shall pay for the  
46 estimated excess emissions at \$1.27 per ton of carbon dioxide (in 2011 dollars).

1 The Department shall notify the certificate holder of the amount of supplemental  
2 payment required to offset future excess emissions.

3 iii. The certificate holder shall offset excess emissions identified in paragraphs (i)  
4 and (ii) using the monetary path as described in OAR 345-024-0710. The  
5 certificate holder shall pay selection and contracting funds of 10 percent of the  
6 first \$500,000 in offset funds and 4.286 percent of any offset funds in excess of  
7 \$500,000 (in 2010 dollars).

8 c. The certificate holder shall disburse the supplemental selection and contracting funds  
9 and supplemental offset funds to The Climate Trust within 30 days after notification  
10 by the Department of the amount that the certificate holder owes.

11 [Site Certificate Condition 12.14]

12 IV.P.2.15 The certificate holder shall use only pipeline quality natural gas or shall use synthetic gas  
13 with a carbon content per million Btu no greater than pipeline-quality natural gas to fuel  
14 the combustion turbines for the base-load gas plant and the power augmentation.

15 [Site Certificate Condition 12.15]

16 IV.P.2.16 After the certificate holder has complied with the conditions relating to the carbon dioxide  
17 standard before beginning construction of each generating block, incremental increases in  
18 capacity and heat rate that otherwise fall within the limits specified in OAR 345-027-  
19 0050(2) do not require an amendment of the site certificate if the certificate holder  
20 complies substantially with Conditions IV.P.2.1 through IV.P.2.15, except as modified  
21 below, and if:

22 a. The Department or the Council determines, as described in OAR 345-027-0050(5),  
23 that the proposed change in the facility does not otherwise require an amendment;  
24 and

25 b. The certificate holder complies with the appropriate carbon dioxide emissions  
26 standard and monetary offset rate in effect at the time the Department or the Council  
27 makes its determination under this condition.

28 [Site Certificate Condition 12.16]

29 IV.P.2.17 If the certificate holder begins construction of the first generator block but not the second  
30 block, the certificate holder shall comply with Conditions IV.P.2.1 through IV.P.2.15 for  
31 the first block. If the certificate holder later begins construction of the second generator  
32 block, the certificate holder shall comply with Conditions IV.P.2.1 through IV.P.2.15 for  
33 the second block.

34 [Site Certificate Condition 12.17]

35 **IV.P.3. CARBON DIOXIDE STANDARD: CONCLUSIONS OF LAW**

36 Based on the foregoing findings of fact, conclusions, and subject to compliance with the proposed site  
37 certificate conditions, the Council finds that the design, construction and operation of the proposed  
38 facility complies with the carbon dioxide standard for base load gas plants and, when using power  
39 augmentation, the carbon dioxide standard for non-base load gas plants.

40

1 **V. OTHER APPLICABLE REGULATORY REQUIREMENTS UNDER COUNCIL**  
2 **JURISDICTION**

3 Under ORS 469.503(3) and under the Council’s General Standard of Review (OAR 345-022-  
4 0000), the Council must determine whether the proposed facility complies with “all other Oregon statutes  
5 and administrative rules identified in the project order, as amended, as applicable to the issuance of a site  
6 certificate for the proposed facility.” This section addresses the applicable Oregon statutes and  
7 administrative rules that are not otherwise addressed in Sections IV of this order. They include the noise  
8 control regulations of the Department of Environmental Quality (Section V.A), the Department of State  
9 Lands’ regulations for removal or fill of material affecting waters of the state (Section V.B), the Water  
10 Resources Department’s regulations for appropriating ground water (V.C), the Council’s statutory  
11 authority to consider protection of public health and safety (V.D), and the wastewater discharge  
12 regulations of the Department of Environmental Quality (V.E).

13 **V.A. NOISE CONTROL REGULATIONS [OAR 340-035-0035]**

14 *(1) Standards and Regulations:*

15 \* \* \*

16 *(b) New Noise Sources:*

17 \* \* \*

18 *(B) New Sources Located on Previously Unused Site:*

19 *(i) No person owning or controlling a new industrial or commercial noise source located on a*  
20 *previously unused industrial or commercial site shall cause or permit the operation of that noise*  
21 *source if the noise levels generated or indirectly caused by that noise source increase the ambient*  
22 *statistical noise levels, L10 or L50, by more than 10 dBA in any one hour, or exceed the levels*  
23 *specified in Table 8, as measured at an appropriate measurement point, as specified in*  
24 *subsection (3)(b) of this rule, except as specified in subparagraph (1)(b)(B)(iii).*

25 *(ii) The ambient statistical noise level of a new industrial or commercial noise source on a*  
26 *previously unused industrial or commercial site shall include all noises generated or indirectly*  
27 *caused by or attributable to that source including all of its related activities. Sources exempted*  
28 *from the requirements of section (1) of this rule, which are identified in subsections (5)(b) - (f),*  
29 *(j), and (k) of this rule, shall not be excluded from this ambient measurement.*

30 \* \* \*

31 **V.A.1. NOISE CONTROL REGULATIONS: FINDINGS OF FACT**

32 The applicant for the Carty Generating Station addressed compliance with the Department of  
33 Environmental Quality (DEQ) noise regulations in Exhibit X of the application. The proposed facility  
34 would be a “new industrial or commercial noise source” under OAR 340-035-0035 because construction  
35 of the facility would begin after January 1, 1975.<sup>474</sup> The noise control regulations impose different limits  
36 on new noise sources constructed on a “previously used industrial or commercial site” compared to the  
37 limits imposed on new sources constructed on a “previously unused industrial or commercial site.” A site  
38 is considered a “previously unused industrial or commercial site” if the site has not been in an industrial  
39 or commercial use at any time during the 20 years preceding the construction of a new noise source on the  
40 site.<sup>475</sup> The applicant has concluded that the proposed Carty Generating Station site is a “previously

---

<sup>474</sup> OAR 340-035-0015(33) defines “new industrial or commercial noise source.”

<sup>475</sup> OAR 340-035-0015(47) defines “previously unused industrial or commercial site.”

1 unused” site.<sup>476</sup> Therefore, the noise generated by the proposed energy facility must comply with OAR  
 2 340-035-0035(1)(b)(B).

3 Under the DEQ regulation, the noise generated by a new energy facility located on a previously  
 4 unused site must comply with the limits specified in two sections of the regulation: the “ambient noise  
 5 level degradation rule” and the “maximum allowable noise level rule.” The “ambient noise level  
 6 degradation rule” states that the facility-generated noise must not increase the ambient hourly L<sub>10</sub> or L<sub>50</sub>  
 7 noise levels at any noise sensitive receiver by more than 10 decibels (on the A-weighted scale) (dBA)<sup>477</sup>  
 8 during any hour. Under the “maximum allowable noise level rule”, the power plant-generated noise and  
 9 the transmission line corona-generated noise must not exceed the noise limits specified in Table 8 of the  
 10 regulation. Table 8 of the regulation provides the following limits:

11

<b>Statistical Noise Limits for Industrial and Commercial Noise Sources</b>		
<b>Statistical Descriptor</b>	<b><u>Maximum Permissible Hourly Statistical Noise Levels (dBA)</u></b>	
	<b>Daytime (7:00 AM - 10:00 PM)</b>	<b>Nighttime (10:00 PM - 7:00 AM)</b>
L <sub>50</sub>	55	50
L <sub>10</sub>	60	55
L <sub>1</sub>	75	60

The hourly L<sub>50</sub>, L<sub>10</sub> and L<sub>1</sub> noise levels are defined as the noise levels equaled or exceeded 50 percent, 10 percent and 1 percent of the hour, respectively.

12 To quantify the ambient noise level degradation rule limits that would apply to the proposed energy  
 13 facility noise, the applicant measured ambient hourly statistical noise levels at the two noise sensitive  
 14 receptors nearest the site of the proposed energy facility: 1) the Threemile Canyon Farms Dairy Housing  
 15 located approximately 5.2 miles northwest of the proposed energy facility, and 2) a private residence at  
 16 68280 Immigrant Lane, approximately 4.9 miles south of the proposed energy facility site.<sup>478</sup> In addition,  
 17 to quantify the ambient noise level degradation rule limit that would apply at residences along the  
 18 transmission line path, the applicant predicted the corona noise currently found at two residences located  
 19 near the path of proposed corridor for the new transmission line (which happens to be the corridor for an  
 20 existing transmission line). Those residences were: 1) the residence located at 73280 Route 74 (Heppner

<sup>476</sup> Final ASC, Section X.4, p. X-2.

<sup>477</sup> In this discussion, “dBA” refers to sound levels in decibels as measured on a sound level meter using the A-weighted filter network, which corresponds closely to the frequency response of the human ear. The regulation applies the test “as measured at an appropriate measurement point.” The “appropriate measurement point,” as defined by OAR 340-035-0015 (3), is “25 feet (7.6 meters) toward the noise source from that point on the noise sensitive building nearest the noise source” or “that point on the noise sensitive property line nearest the noise source,” whichever is farther from the source. OAR 340-035-0015 (38) defines “noise sensitive property” as “real property normally used for sleeping, or normally used as schools, churches, hospitals, or public libraries.” Private residences are the only “noise sensitive properties” potentially affected by the proposed Carty Generating Station. We refer to these as the “noise sensitive receivers.”

<sup>478</sup> Final ASC, Appendix X-1, p. 4

1 Highway), and 2) the residence located at 74475 Route 74.<sup>479</sup> The quietest hour ambient noise levels  
 2 measured at the two noise sensitive receivers nearest the proposed power plant site and the DEQ noise  
 3 level limits based on those results are presented in the following table:

<b>Ambient Noise Measurement Results<sup>480</sup></b>		
<b>Ambient Noise Measurement Location</b>	<b>Lowest Measured Hourly L<sub>50</sub> Noise Level</b>	<b>DEQ Hourly L<sub>50</sub> Noise Level Limit Based on Ambient</b>
Threemile Canyon Farms Dairy Housing	27 dBA	37 dBA
68280 Immigrant Lane Residence	16 dBA	26 dBA

4 The existing corona noise levels predicted at the two residences located along the proposed  
 5 transmission line corridor and the DEQ noise level limits based on those results are presented in the  
 6 following table:

<b>Ambient Corona Noise Levels At Residences Near Transmission Line Corridor<sup>481</sup></b>			
<b>Residence Location</b>	<b>Weather Condition</b>	<b>Predicted Ambient Corona Noise Level</b>	<b>DEQ Hourly L<sub>50</sub> Noise Level Limit Based on Ambient Corona Noise</b>
73280 Route 74	Fair Weather	16 dBA	26 dBA
	Foul Weather	41 dBA	51 dBA
74474 Route 74	Fair Weather	13 dBA	23 dBA
	Foul Weather	38 dBA	48 dBA

7 The ambient corona noise levels shown above do not include the contribution of noise from any  
 8 sources other than corona noise that may be present at different times of the day and night. Therefore, the  
 9 ambient noise degradation limits shown in the table are considered conservative.

10 Because the proposed energy facility would operate on a 24-hour basis the noise generated by the  
 11 facility will be controlled by the maximum allowable nighttime noise limits (the 10:00 PM to 7:00 AM  
 12 limits) which are more restrictive than the daytime limits. Thus, to comply with the “maximum allowable  
 13 noise level rule”, the noise radiating from the proposed Carty Generating Station facilities (including the  
 14 noise radiating from the transmission line) must not exceed a maximum hourly L<sub>50</sub> noise level of 50 dBA  
 15 at any noise sensitive receiver.

16 In the case of corona noise during foul weather at 73280 Route 74, the DEQ maximum allowable  
 17 noise level limit of 50 dBA may actually be more restrictive than the ambient noise degradation limit of  
 18 51 dBA so the maximum allowable noise level limit is considered the controlling limit. At all other  
 19 locations, the ambient noise degradation limit would be the controlling limit.

<sup>479</sup> Final ASC, Appendix X-1, p. 10

<sup>480</sup> Final ASC, Appendix X-1, p. 5

<sup>481</sup> Final ASC, Appendix X-1, Table 4-4, p. 12



1 OAR 340-035-0035(5)(g) specifically exempts noise caused by construction activities. Construction  
2 of the proposed Carty Generating Station would produce localized, short duration noise levels similar to  
3 those produced by any large construction project with heavy construction equipment. Much of the  
4 construction would be far from any noise sensitive receivers. Nevertheless, to mitigate noise impacts at  
5 local residences, the Council adopts Condition V.A.2.1, which would require the certificate holder to  
6 confine the noisiest construction activities to daylight hours and to establish a complaint response system  
7 to address noise complaints during construction.

8 The applicant retained Ecology and Environment, Inc. of Portland, Oregon to conduct a noise study  
9 and address the ODEQ noise regulations. The Department consulted with Kerrie G. Standlee, P.E., of  
10 Daly Standlee & Associates, Inc. (DSA) to review and confirm the findings submitted by Ecology and  
11 Environment, Inc.<sup>482</sup>

12 Ecology and Environment, Inc. used the CADNA/A Version 3.7.124 program developed by  
13 Datakustik, GmbH of Munich, Germany to predict noise levels that will radiate from the proposed energy  
14 facility.<sup>483</sup> The program includes sound propagation factors specified in the ISO 9613-2 standard to  
15 account for distance attenuation, atmospheric attenuation, ground attenuation and terrain attenuation.  
16 According to the noise study report, a temperature of 50°F and a relative humidity of 70% were assumed  
17 in the calculation of atmospheric attenuation.<sup>484</sup> A ground attenuation factor of 0.5 was included in the  
18 calculation of the ground attenuation. Finally, the report states that the calculation did not include any  
19 terrain attenuation for the topography between the sources and the receivers.<sup>485</sup> Octave band sound data  
20 supplied by the power plant engineering firm Black & Veatch were used as reference data in predicting  
21 the maximum sound levels expected at the receivers.<sup>486</sup>

22 In addition to predicting the noise that would be generated by the proposed new power plant, the  
23 applicant predicted corona noise that would radiate from the new transmission line expected to serve the  
24 power plant. Four transmission line options were studied. Reference sound data for the calculation was  
25 developed using the BPA Corona and Field Effects program and information contained in Exhibit AA of  
26 the application.<sup>487</sup> The highest hourly L<sub>50</sub> noise levels predicted to radiate from the proposed Carty  
27 Generating Station to the two nearest noise sensitive receivers along with the controlling DEQ noise  
28 regulation limit that would apply at each receiver is presented in the following table:  
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<sup>482</sup> CGS-0134, 08-05-11, Memorandum from Kerrie Standlee of Daly Standlee & Associates, Inc., Review of Exhibit X of the Carty Generating Station Final ASC

<sup>483</sup> Final ASC, Appendix X-1, p. 12

<sup>484</sup> Final ASC, Appendix X-1, p.13

<sup>485</sup> CGS-0097, Supplemental information for the Carty Generating ASC submitted October 20, 2011 by Ecology and Environment (includes Exhibit X Addendum, and table of responses to ODOE comments and inquiries), p. 3

<sup>486</sup> Final ASC, Appendix X-1, p. 13

<sup>487</sup> Final ASC, Appendix X-1, p. 11

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<b>Predicted Carty Generation Station Sound Levels<sup>488</sup></b>			
<b>Residence</b>	<b>Loudest Energy Facility Generated Hourly L<sub>50</sub> Noise Level</b>	<b>Sum of Ambient Noise and Energy Facility Noise</b>	<b>DEQ Hourly L<sub>50</sub> Noise Level Limit</b>
Threemile Canyon Farms Dairy Housing	27 dBA	30 dBA	37 dBA <sup>1</sup>
68280 Immigrant Lane Residence	24 dBA	25 dBA	26 dBA <sup>1</sup>

2 Note 1: This limit applies to the sum of the ambient noise and the energy facility noise.

3 The highest hourly L<sub>50</sub> corona noise levels predicted to radiate from the proposed transmission line to  
 4 the two noise sensitive receivers considered in the study along with the controlling DEQ noise regulation  
 5 limit that would apply at each receiver is presented in the following table:

<b>Corona Noise Levels Predicted at Residences with New Transmission Line<sup>489</sup></b>				
<b>Residence</b>	<b>Transmission Line Option#</b>	<b>Loudest Energy Facility Generated Hourly L<sub>50</sub> Noise Level</b>	<b>Sum of Existing Corona Noise and New Corona Noise</b>	<b>DEQ Hourly L<sub>50</sub> Noise Level Limit</b>
73280 Route 74	2	Fair Weather	15.7 dBA	26 dBA <sup>1</sup>
		Foul Weather	40.7 dBA	50 dBA <sup>2</sup>
	3	Fair Weather	19.1 dBA	26 dBA <sup>1</sup>
		Foul Weather	44.1 dBA	50 dBA <sup>2</sup>
	4	Fair Weather	19.1 dBA	26 dBA <sup>1</sup>
		Foul Weather	44.1 dBA	50 dBA <sup>2</sup>
	6	Fair Weather	21.1 dBA	26 dBA <sup>1</sup>
		Foul Weather	46.1 dBA	50 dBA <sup>2</sup>

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<sup>488</sup> CGS-0097, Supplemental information for the Carty Generating ASC submitted October 20, 2011 by Ecology and Environment (includes Exhibit X Addendum, and table of responses to ODOE comments and inquiries), Revised Table 6-1, p. 4

<sup>489</sup> Final ASC, Appendix X-1, Table 4-4, p. 12

1

<b>Corona Noise Levels Predicted at Residences with New Transmission Line</b>				
<b>Residence</b>	<b>Transmission Line Option#</b>	<b>Loudest Energy Facility Generated Hourly L<sub>50</sub> Noise Level</b>	<b>Sum of Existing Corona Noise and New Corona Noise</b>	<b>DEQ Hourly L<sub>50</sub> Noise Level Limit</b>
74474 Route 74	2	Fair Weather	12.7 dBA	23 dBA <sup>1</sup>
		Foul Weather	37.7 dBA	48 dBA <sup>1</sup>
	3	Fair Weather	16.0 dBA	23 dBA <sup>1</sup>
		Foul Weather	41.0 dBA	48 dBA <sup>1</sup>
	4	Fair Weather	16.0 dBA	23 dBA <sup>1</sup>
		Foul Weather	41.0 dBA	48 dBA <sup>1</sup>
	6	Fair Weather	18.0 dBA	23 dBA <sup>1</sup>
		Foul Weather	43.0 dBA	48 dBA <sup>1</sup>

2 Note 1: This limit applies to the sum of the ambient noise and the energy facility noise.

3 Note 2: This limit applies to the corona sound generated by the new transmission line without adding the existing  
4 corona noise.

5 The predicted energy facility generated noise levels shown in the tables above will comply with the  
6 50-dBA maximum allowable noise level rule at all noise sensitive receivers. In addition, the total noise  
7 levels shown in the tables above (the sum of the ambient noise and the energy facility generated noise) are  
8 less than the ambient noise level degradation rule limits at all receivers. Thus, the results shown in the  
9 applicant's noise study demonstrate that the noise associated with the proposed energy facility would  
10 comply with the DEQ noise level limits at all noise sensitive receivers.

11 Under Condition III.D.4 (discussed in Section III, Description of the Facility), the certificate holder is  
12 required to operate the facility in accordance with all applicable state laws and administrative rules,  
13 inclusive of the requirements of OAR 340-035-0035.<sup>490</sup> Under OAR 340-035-0035(4)(a), DEQ has  
14 authority to require the owner of an operating noise source to monitor and record the statistical noise  
15 levels upon written notification. In the event of a complaint regarding noise levels during operation of the  
16 Carty Generating Station, the Council has the authority to act in the place of DEQ to enforce this  
17 provision to verify that the certificate holder is operating the facility in compliance with the noise control  
18 regulations. However, the Council adopts specific site certificate conditions to address Noise Control  
19 Regulations, including Condition V.A.2.2, requiring the certificate holder to maintain a noise complaint  
20 response system and promptly notify the Department of any complaints, and Condition V.A.2.3, which  
21 expressly allows the Council to require the certificate holder to conduct noise monitoring during operation  
22 of the facility to verify compliance with the noise regulations.  
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<sup>490</sup> Condition III.D.4 is a mandatory condition that is required under OAR 345-027-0020(3).

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**V.A.2. NOISE CONTROL REGULATIONS: SITE CERTIFICATE CONDITIONS**

- V.A.2.1 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.  
[Site Certificate Condition 13.1]
- V.A.2.2 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.  
[Site Certificate Condition 13.2]
- V.A.2.3 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.  
[Site Certificate Condition 13.3]

**V.A.3. NOISE CONTROL REGULATIONS: CONCLUSIONS OF LAW**

Based on the foregoing findings of fact and conclusions, and subject to compliance with the site certificate conditions, the Council finds that the proposed facility complies with the Noise Control Regulations in OAR 340-035-0035(1)(b)(B).

1           **V.B.       REMOVAL-FILL LAW**

2           The Oregon Removal-Fill Law (ORS 196.795 through 196.990) and regulations (OAR 141-085-0500  
3 through 141-085-0785) adopted by the Oregon Department of State Lands (DSL) require a permit if 50  
4 cubic yards or more of material is removed, filled or altered within any “waters of the state.”<sup>491</sup> The  
5 Council must determine whether a permit is needed and whether the applicant has demonstrated that the  
6 proposed facility is consistent with the protection, conservation and best use of the water resources of this  
7 state, and, to the extent the proposed facility is on state-owned lands, would not unreasonably interfere  
8 with the paramount policy of this state to preserve the use of its waters for navigation, fishing and public  
9 recreation.

10          Federal law may require a Nationwide or Individual fill permit for the proposed facility if waters of  
11 the United States are affected. The U.S. Army Corps of Engineers administers Section 404 of the Clean  
12 Water Act, which regulates the discharge of fill into waters of the United States (including wetlands), and  
13 Section 10 of the Rivers and Harbors Appropriation Act of 1899, which regulates placement of fill in  
14 navigable waters. A single application form (a Joint Permit Application Form) is used to apply for both  
15 the State and federal permits.

16           **V.B.1.       REMOVAL-FILL LAW: FINDINGS OF FACT**

17           **V.B.1.a.   Delineation of Waters of the State**

18          The applicant provided information about wetlands and other waters of the state in Exhibit J of the  
19 application. The analysis area for Exhibit J is the area within the site boundary. The applicant’s  
20 contractor, Ecology and Environment Inc. (E&E), conducted a field investigation following the  
21 procedures in the *U.S. Army Corps of Engineers Wetlands Delineation Manual* (Environmental  
22 Laboratory 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid  
23 West Region (Version 2.0)*(U.S. Army Corps of Engineers (USACE), 2008) and the *Oregon Streamflow  
24 Duration Field Assessment Method*.<sup>492</sup> Before conducting the field investigation, E&E reviewed available  
25 literature on the area, including ortho-aerial photographs, U.S. Geological Survey (USGS) topographic  
26 maps, the National Cooperative Soil Survey web soil survey (NRCS 2009), National Wetlands Inventory  
27 (NWI) data (USFWS 2009), the Soil Survey of the Morrow County Area (Hosler 1983), and the Soil  
28 Survey of Gilliam County (Hosler 1984).<sup>493</sup>

29          E&E staff used site-specific survey methods which included surveying the area within the energy  
30 facility site boundary that included a minimum 250 foot buffer around the proposed footprint of the Carty  
31 Generating Station and a 350 foot buffer from the center line of the proposed transmission line.<sup>494</sup> Site  
32 surveys were performed between May 5 and November 11, 2009 to identify and delineate the wetlands  
33 discovered during the literature review and to identify any other wetlands or drainages not found during  
34 the literature search.<sup>495</sup>

35          Six wetlands (totaling approximately four acres) were identified that occur entirely or partially within  
36 the proposed Carty facility site and associated transmission corridor. Four of these wetlands (2.8 acres,  
37 wetlands A, B, H, and J) are located within the proposed Carty facility site and two wetlands (1.1 acres,

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<sup>491</sup> ORS 196.800(14) defines “Waters of this state.” The term includes wetlands and certain other water bodies.

<sup>492</sup> Final ASC, Appendix J-1, *Wetland Delineation Report, Carty Generating Station*, December 2009, Section 1.4, p. 1-7 and Section 1.5.2, p. 1-11

<sup>493</sup> Final ASC, Appendix J-1, Section 1.4, p. 1-7

<sup>494</sup> Final ASC, Appendix J-1, Section 1.4, p. 1-7

<sup>495</sup> Final ASC, Appendix J-1, Executive Summary, p. v

1 wetlands C and D) are located within the proposed transmission corridor.<sup>496</sup> All of the identified wetlands  
2 are potentially jurisdictional.

3 E&E also identified two ephemeral drainages and one perennial stream. Sixmile Canyon drainage is  
4 an approximately 10 foot wide ephemeral drainage which flows north from the base of the Carty  
5 Reservoir embankment. There was no flow present in this drainage during site visits, but facultative  
6 vegetation was found intermittently in the drainage channel. The Eightmile Canyon drainage would be  
7 crossed by the proposed transmission line approximately 471 meters west of Highway 74 in Gilliam  
8 County. This drainage was mapped by the NWI as an emergent wetland and is categorized by the USGS  
9 as a perennial drainage; however, during field surveys there was no flow and no indication of recent flow  
10 or riparian or wetland vegetation. The channel shows signs of erosion from historical water flow, and dirt  
11 road crossings have been constructed within this drainage in two places.<sup>497</sup>

12 Willow Creek is a perennial stream that would be crossed by the proposed transmission line corridor.  
13 It contains a resident rainbow trout population and is classified by USGS as a level 2 stream and is  
14 mapped by the NWI as a riverine wetland; however, E&E found that the stream bed was unvegetated.<sup>498</sup>

15 E&E's determinations of potential State jurisdiction for delineated wetlands and other waters are  
16 preliminary until they are confirmed by the Oregon Department of State Lands (DSL). The wetland  
17 delineation performed by E&E was submitted to DSL for review and concurrence. The Department  
18 received comment from DSL that the wetlands delineation has not been approved pending the submittal  
19 of new information by the applicant.<sup>499</sup> PGE responded to the DSL comment letter and has requested that  
20 the additional information be submitted and concurrence given by DSL before construction occurs.<sup>500</sup>  
21 Because the Department has not yet received concurrence with the wetland and waters delineation from  
22 DSL, the Council adopts Condition V.B.2.1, which would require approval of the wetland delineation  
23 report by the DSL prior to construction.

#### 24 **V.B.1.b. Removal/Fill Permit**

25 If any of the identified wetlands or streams are determined by DSL to be jurisdictional, a  
26 Removal/Fill permit would be required if 50 cubic yards or more of material were to be removed from or  
27 filled into the jurisdictional stream channels. DSL is currently reviewing the delineation report and has  
28 not yet determined whether the identified drainages and wetlands are jurisdictional. The applicant,  
29 however, proposes to avoid impacts to all drainages and wetlands identified within the proposed project  
30 area and associated transmission line corridor.

31 The wetlands identified within the proposed Carty facility site are not expected to be impacted by  
32 construction or operation of the transmission line or generating facility. The applicant proposes to avoid  
33 these features by siting the facility away from such features and by utilizing existing roads where possible  
34 and constructing new ones outside water feature boundaries. The energy facility-to-switchyard  
35 transmission interconnection would span the area over identified wetlands B and H, as well as Sixmile  
36 Canyon; the applicant proposes to site these transmission towers greater than 100 feet outside water  
37 feature boundaries. Stringing of transmission cable across water features is proposed to be done by  
38 helicopter or on foot to minimize impacts during construction.

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<sup>496</sup> Final ASC, Appendix J-1, Executive Summary, p. v

<sup>497</sup> Final ASC, Appendix J-1, Section 1.5.2, p. 1-11

<sup>498</sup> Final ASC, Appendix J-1, Section 1.5.2, p. 1-11

<sup>499</sup> CGS-0090, 05-16-11, email from Sarah Kelly, Oregon Department of State Lands Comment on Carty  
Generating Station Application for Site Certificate

<sup>500</sup> CGS-0125, 08-04-11, PGE's Response to Agency Comments on the Carty Generating Station Application for  
Site Certificate, submitted by Ecology and Environment

1 The applicant proposes to use an existing road crossing the Sixmile Canyon drainage for construction  
2 and operation of the transmission line. No modifications or improvements would be required at this road  
3 crossing, so no impacts are anticipated. Within the proposed transmission line corridor, Wetland C would  
4 be avoided by a proposed construction and maintenance road; the proposed road surface would not impact  
5 the wetland and no structures would be placed within 100 feet of the water feature. Wetland D extends  
6 across the transmission corridor and would be avoided during construction and operation though use of an  
7 existing road crossing with a culvert already in place. No proposed improvements to the road would  
8 impact the wetland.

9 The proposed transmission line would cross wetlands C and D and Willow Creek, as well as the  
10 Sixmile Canyon Drainage and Eightmile Canyon drainage. The applicant proposes to use existing access  
11 roads to reach transmission line construction areas, including an existing bridge at Rhea Road. The  
12 applicant proposes to string transmission line by helicopter or by foot to minimize possible impacts to  
13 wetlands and drainages. The applicant also proposes to locate towers more than 100 feet outside of water  
14 feature boundaries.<sup>501</sup> Based on the wetland and waters avoidance proposed by the applicant and  
15 discussed here, the Council adopts Condition V.B.2.2, which would incorporate the measures proposed  
16 by the applicant to avoid impacts to delineated wetlands and ephemeral streams.

17 The applicant proposes to avoid all removal or fill activities in all identified wetlands and waterways,  
18 and therefore would not be required to obtain a Removal/Fill Permit based on the current proposal.<sup>502</sup> To  
19 ensure that a Removal/Fill Permit would not be needed for construction that might occur within the site  
20 boundary based on final construction plans, The Council adopts Condition V.B.2.3 requiring the  
21 certificate holder to submit a pre-construction investigation report to DSL after determining the final  
22 design locations of facility components and construction disturbance. The condition would ensure that  
23 the facility would have no impact on any State-jurisdictional waters identified in the pre-construction  
24 investigation.

25 Because the applicant proposes to avoid all impacts to identified wetlands and waterways, there will  
26 be no removal or fill requiring a Removal/Fill Permit. The Council finds that a Removal/Fill Permit  
27 would not be needed for the proposed Carty Generating Station.

28 **V.B.2. REMOVAL-FILL LAW: SITE CERTIFICATE CONDITIONS**

29  
30 V.B.2.1 Before beginning construction, the certificate holder shall receive approval of the wetlands  
31 delineation report by the Department of State Lands and provide an approval letter to the  
32 Department.  
33 [Site Certificate Condition 10.25]

34 V.B.2.2 The certificate holder shall avoid impacts to waters of the state in the following manner:  
35 a. The certificate holder shall avoid any disturbance to delineated wetlands.  
36 b. The certificate holder shall construct stream crossings for transmission lines substantially  
37 as described in the *Final Order on the Application*. In particular, the certificate holder  
38 shall not remove material from waters of the State or add new fill material to waters of  
39 the State such that the total volume of removal and fill exceeds 50 cubic yards for the  
40 project as a whole.  
41 c. The certificate holder shall construct support structures for aboveground lines outside of  
42 delineated stream channels and shall avoid in-channel impacts.

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<sup>501</sup> Final ASC, Section J.3, p. J-5

<sup>502</sup> Final ASC, Section J.5, p. J-7

1 [Site Certificate Condition 10.26]

2 V.B.2.3 Before beginning construction, the certificate holder shall provide to the Department a map  
3 showing the final design locations of all components of the facility and the areas that would  
4 be disturbed during construction and showing the wetlands and stream channels previously  
5 surveyed by Ecology and Environment, Inc. as described in the *Final Order on the*  
6 *Application*. For areas to be disturbed during construction that lie outside of the previously-  
7 surveyed areas, the certificate holder shall hire qualified personnel to conduct a pre-  
8 construction investigation to determine whether any jurisdictional waters of the State exist in  
9 those locations. The certificate holder shall provide a written report on the pre-construction  
10 investigation to the Department and the Department of State Lands for approval before  
11 beginning construction. The certificate holder shall ensure that construction and operation of  
12 the facility will not impact any jurisdictional water identified in the pre-construction  
13 investigation in a manner that would require a Removal-Fill Permit.

14 [Site Certificate Condition 10.27]

15 **V.B.3. REMOVAL-FILL LAW: CONCLUSIONS OF LAW**

16 Based on the foregoing findings of fact, conclusions, and subject to the compliance with the site  
17 certificate conditions, the Council finds that the proposed facility would comply with the Oregon  
18 Removal-Fill Law (ORS 196.795 through 196.990) and regulations (OAR 141-085-0500 through 141-  
19 085-0785) and that a Removal-Fill Permit would not be required.



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**V.C. GROUND WATER ACT**

Through the provisions of the Ground Water Act of 1955, ORS 537.505 to 537.795 and 537.992, and OAR Chapter 690, the Oregon Water Resources Department (OWRD) administers water rights for appropriation and use of the water resources of the state. Under OAR 345-022-0000(1), the Council must determine whether the proposed Carty facility would comply with these statutes and administrative rules.

**V.C.1. GROUND WATER ACT: FINDINGS OF FACT**

The applicant provided information about anticipated water use for construction and operation of the proposed facility in Exhibit O of the application. The applicant expects to use approximately 10,000,000 gallons of water during the construction of each block of the proposed two-block Carty facility (20,000,000 gallons total). This estimate includes water for dust control, washing equipment and vehicles, fire suppression, and water supply for testing and commissioning.<sup>503</sup> Water for construction purposes would be obtained from the Carty Reservoir, for which the applicant has an existing reservoir storage water right; the applicant applied for a change of use notification to OWRD to permit the use of Carty Reservoir water for this purpose, which was acknowledged on March 23, 2011.<sup>504</sup> The applicant also submitted an application for a permit to use surface water to OWRD on February 11, 2011.<sup>505</sup>

During operation, water would be used primarily for steam generation, cooling tower makeup, demineralized water production, potable water, and fire tank supply. The applicant proposes to obtain all potable water from the existing potable water system located at the adjacent Boardman Plant, which is supplied by an existing well northwest of the Boardman Plant. All other water would be withdrawn from the Carty Reservoir. The applicant proposes to withdraw this water under the secondary water use permit discussed in the paragraph above.<sup>506</sup> The applicant expects to use approximately 3,334,000 gallons per day (gpd) under average conditions and 5,771,000 gpd under worst case conditions.<sup>507</sup> The applicant proposes to obtain both potable and process water from existing sources that have been permitted by OWRD, and has obtained approval to change the use to general industrial as required to use Carty Reservoir as a source for construction and operation of the proposed facility. For this reason, the Council finds that the Carty facility can comply with the applicable rules and statutes related to appropriation and use of water resources. The Council adopts Condition V.C.2.1, which requires the certificate holder to obtain and use water as proposed in the application.

The applicant proposes to reduce water consumption during operation by using cooling tower blow down, plant and equipment drain waste water, evaporative cooling blowdown, and other process wastewater either as process water at the existing Boardman Plant, or discharging such water back to Carty Reservoir, where it would eventually be re-used. Water that cannot be reused would be discharged to evaporation ponds. Some internal process wastewater streams would be of adequate quality to be used as cooling tower makeup, and this water is proposed to be reused within the Carty Generating Plant cooling cycle.<sup>508</sup>

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<sup>503</sup> Final ASC, Section O.2.1, p. O-1  
<sup>504</sup> CGS-0065, 03-23-11, Oregon Water Resources Department Response Regarding PGE Notice of Change of Water Use  
<sup>505</sup> Final ASC, Appendix O-2  
<sup>506</sup> Final ASC, Section O.2.2, pp. O-2-3  
<sup>507</sup> Final ASC, Table O.2-1, p. O-3  
<sup>508</sup> Final ASC, Section V.5, p. V-16

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**V.C.2. GROUND WATER ACT: SITE CERTIFICATE CONDITIONS**

V.C.2.1 During construction and operation of the Carty Generating Station, the certificate holder shall obtain potable water from the existing well located approximately 750 feet northwest of the Boardman Plant. 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.  
[Site Certificate Condition 10.23]

**V.C.3. GROUND WATER ACT: CONCLUSIONS OF LAW**

Based on the foregoing findings of fact, proposed conditions, and conclusions, and subject to compliance with the site certificate conditions listed in Section V.C.2, the Council concludes that the proposed use of water for the construction and operation of the proposed facility complies with the Ground Water Act of 1955 as administered by the Oregon Water Resources Department.

1           **V.D.       PUBLIC HEALTH AND SAFETY**

2           Under ORS 469.310 the Council is charged with ensuring that the “siting, construction and operation  
3 of energy facilities shall be accomplished in a manner consistent with protection of the public health and  
4 safety.” State law further provides that “the site certificate shall contain conditions for the protection of  
5 the public health and safety.” ORS 469.401(2).

6           **V.D.1.       PUBLIC HEALTH AND SAFETY: FINDINGS OF FACT**

7           The site certificate contain conditions for the protection of the public health and safety with respect to  
8 several Council standards. However, certain public health and safety issues that are not otherwise  
9 addressed in Council standards warrant special attention: (1) the potential health concerns regarding  
10 electric and magnetic fields from transmission lines; (2) the certificate holder’s coordination with the  
11 Oregon Public Utility Commission (PUC) to ensure that the certificate holder designs and builds the  
12 electrical transmission lines in accordance with the appropriate codes and standards; (3) the potential for  
13 cooling tower fogging and icing to affect driving conditions on public roads; (4) the applicant’s  
14 compliance with applicable Federal Aviation Administration requirements; and (5) the applicant’s  
15 compliance with regulations governing the storage and management of hazardous substances. Each of  
16 these issues is discussed below.

17           **V.D.1.a.   Magnetic Fields**

18           The applicant provided information regarding magnetic fields from the proposed transmission line in  
19 Exhibit AA of the application. The proposed Carty Generating Station includes 500-kV overhead  
20 transmission line(s) connecting step-up transformers located at the generation buildings to the proposed  
21 switchyard, and from the switchyard, a proposed overhead 500-kV transmission line would connect to  
22 BPA’s Slatt substation. There are no known occupied buildings, residences, or other sensitive receptors  
23 within 200 feet of the proposed routes of the 500-kV lines.<sup>509</sup>

24           Electric transmission lines create both electric and magnetic fields. The electric fields associated with  
25 the proposed transmission lines are addressed above at Section IV.O Siting Standards for Transmission  
26 Lines, and for the reasons discussed there, the proposed 500-kV transmission lines would not exceed the  
27 Council’s electric field standard of 9-kV per meter at one meter above the ground surface in areas  
28 accessible to the public.

29           The strength of a magnetic field is a function of the current (amperage) in the electric transmission  
30 line (the higher the current, the greater the strength of the magnetic field), as well as the geometry of the  
31 transmission line tower structures, the degree of cancellation from other conductors, and the distance from  
32 the conductors. The magnetic field strength decreases as the distance from the conductor increases. The  
33 strength of a magnetic field fluctuates hourly and daily with changes in the amount of current in the  
34 transmission line. Magnetic field strength is measured in units of milligauss (mG).<sup>510</sup>

35           The applicant calculated estimates of the maximum possible electromagnetic field strengths that  
36 would be produced by distributing energy from the proposed Carty Generating Station using the five  
37 possible scenarios addressed above at Section IV.O. The minimum conductor ground clearance was  
38 assumed to be 35 feet for the proposed 500-kV single- or double-circuit transmission lines.<sup>511</sup> For double-  
39 circuit runs, the phasing of circuits can be arranged to reduce the magnetic field compared to a single-  
40 circuit run. The magnetic field strength is at its maximum directly below the transmission line, at

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<sup>509</sup> Final ASC, Section AA.3, p. AA-3

<sup>510</sup> In some research reports, magnetic fields are measured in units of microtesla. One microtesla is equal to 10 mG.

<sup>511</sup> Final ASC, Appendix AA-1, p. 2

1 approximately mid-span between pole structures, and field strength diminishes with distance from the  
2 centerline.

3 Based on the analysis provided by the applicant on the different scenarios, the predicted maximum  
4 magnetic field strengths near the proposed switchyard were 204.6 mG at centerline, then diminishing to  
5 12.9 mG at 75 feet, which is the edge of the right of way. The predicted maximum magnetic field  
6 strengths near the Slatt substation, where a number of exiting lines are present, were 313.7 mG, then  
7 rapidly dropped to a maximum of 20.6 mG at the edge of the right of way.<sup>512</sup>

8 The Council has previously considered whether exposure to magnetic fields causes health risks, and  
9 this issue has been the subject of considerable scientific research and discussion.<sup>513</sup> The Council has not  
10 found sufficient information upon which to set health-based limits for exposure to magnetic fields.<sup>514</sup>  
11 Nevertheless, the Council has encouraged applicants to propose and implement low-cost ways to reduce  
12 or manage public exposure to magnetic fields from transmission lines under the Council's jurisdiction.  
13 The Council adopts Condition V.D.2.1, which addresses reasonable steps to reduce or manage human  
14 exposure to electric and magnetic fields. To prevent exposure of the public to electrical hazards posed by  
15 the facility switchyard, the Council adopts Condition V.D.2.2.

16 For these reasons, and subject to compliance with the condition of approval, the Council finds the  
17 applicant can site, construct, and operate the facility in a manner consistent with protection of the public  
18 health and safety for magnetic fields.

19 **V.D.1.b. Coordination with the PUC**

20 The Oregon Public Utility Commission Safety and Reliability Section (PUC) has requested that the  
21 Council ensure that certificate holders coordinate with PUC staff on the design and specifications of  
22 electrical transmission lines. Under ORS 757.035, the PUC administers power line safety rules contained  
23 in OAR Chapter 860, Division 24. The PUC has explained in the past inadvertent, but costly, mistakes  
24 have been made in the design and specifications of power lines and pipelines that could have easily been  
25 corrected early if the developer had consulted with the PUC staff responsible for the safety codes and  
26 standards. Under the PUC rules, the certificate holder would be an "operator" of power lines and would  
27 be subject to ongoing requirements for the operation, maintenance, emergency response and alteration of  
28 the facility power lines.<sup>515</sup> The Council adopts Condition V.D.2.3 to ensure coordination of the design of  
29 electric transmission lines with the PUC. The Council has also adopted Conditions IV.O.2.1 and IV  
30 O.2.2 to ensure compliance with ongoing requirements regarding power lines during facility operation.

31 Subject to compliance with the site certificate conditions, the Council finds the applicant can site,  
32 construct, and operate the facility in a manner consistent with protection of the public health and safety in  
33 coordination with the Oregon Public Utility Commission to ensure that the electrical transmission lines  
34 are designed and built in accordance with the appropriate codes and standards.  
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<sup>512</sup> Final ASC, Appendix AA-1, Tables IV and V, p. 17-18

<sup>513</sup> A discussion of magnetic field effects is included in the *Final Order on the Application for the Shepherds Flat Wind Farm* (July 25, 2008), pp. 139-141

<sup>514</sup> A recent review of the scientific literature confirmed the Council's earlier findings (Golder Associates, EMF Report, November 23, 2009)

<sup>515</sup> The PUC has outlined some of these operational requirements (email from Jerry Murray, PUC, February 22, 2010).

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**V.D.1.c. Cooling Tower Fogging and Icing**

The applicant provided information about cooling tower effects in Exhibit Z of the application. Carty would utilize mechanical-draft wet cooling towers. It is expected that two blocks of power will be built, with each block expected to have a cooling tower arranged in a single housing with seven cells. Mechanical-draft cooling towers use fans to force air into the cooling tower and through a fine spray of heated water, where evaporation cools the water stream and transfers heat to the air. The warm, moist air exhausts vertically, dispelling excess heat.<sup>516</sup> Ground level fogging can occur when a cooling tower plume approaches ground level. Icing can occur during periods when ground level fogging coincides with freezing surface temperatures. Either event may adversely affect local driving conditions. The closest road potentially affected is Tower Road, a service road that leads to the existing Boardman Plant.

The Seasonal/Annual Cooling Tower Impact (SACTI) model was used by the applicant to predict fogging and ice formation from the cooling towers. The model uses actual meteorological data to conservatively predict the occurrence of fogging and ice formation, and is based on the assumption that when a visible plume from a cooling tower extends to the ground surface under freezing conditions, a potential traffic hazard may be created on nearby roadways. SACTI calculates fogging and ice formation by the number of hours during which the visible plume reaches the ground.<sup>517</sup>

The model showed that the area of land potentially affected by fogging would be limited to an area northeast and, to a lesser extent, southwest of Carty’s cooling towers. The SACTI model’s total predicted duration of fogging at 500 meters (the closest edge of the site boundary) from the cooling towers is expected to be less than 25 hours per year. The only road that would be potentially affected is the Tower Road service road and there would be little opportunity for fogging to interfere with other roadways. The traffic hazard of roadways is expected to be negligible, and no significant potential adverse impacts due to fogging are anticipated.<sup>518</sup>

The horizontal and temporal extent of ice formation due to the cooling tower plume is expected to be quite limited, occurring only toward the south and southwest for a period of time of one hour or less per year at 500 meters. There are no public roads within 500 meters and few service roads in the area. The traffic hazard due to ice formation on roadways is expected to be negligible, and no potential significant adverse impacts are anticipated.<sup>519</sup>

While the likelihood of ground level fogging or icing is small, it is not zero. Because weather patterns may vary from those applied in the modeling analysis, the Council adopts Condition V.D.2.4, which requires the implementation of reasonable safety measures if the Council finds that the facility contributes significantly to ground-level fogging or icing along public roads and causes a significant threat to public safety.

Subject to compliance with the site certificate conditions, the Council finds the applicant can site, construct, and operate the facility in a manner consistent with protection of the public health and safety from cooling tower fogging and icing.

**V.D.1.d. Federal Aviation Administration Review**

Because installation of the facility’s exhaust stack would require the use of a crane over 200 feet in height, the Federal Aviation Administration (FAA) must prepare a review designed to determine whether

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<sup>516</sup> Final ASC, Section Z.2, p. Z-1  
<sup>517</sup> Final ASC, Section Z.3, p. Z-5  
<sup>518</sup> Final ASC, Section Z.3.2, p. Z-6  
<sup>519</sup> Final ASC, Section Z.3.3, p. Z-6

1 construction of the exhaust stack could interfere with flight paths and present a hazard to aviation. The  
2 Oregon Department of Aviation shares that responsibility.<sup>520</sup> The Council adopts Condition V.D.2.5  
3 requiring the certificate holder to submit a construction notice to the FAA and the Oregon Department of  
4 Aviation and to notify the Department of the responses to the notice.

5 **V.D.1.e. Storage and Management of Hazardous Substances**

6 Review of Table G-1 in Exhibit G of the ASC indicates that the facility will use several hazardous  
7 chemicals at quantities that trigger reporting requirements under federal law, and require the facility to  
8 closely coordinate emergency response plans with local agencies.

9 The Emergency Planning and Community Right-to-Know Act (EPCRA) is a federal regulation which  
10 applies to handling of certain hazardous chemicals. EPCRA Section 302 requires emergency planning  
11 and notification of local and state emergency planning commissions if extremely hazardous chemicals, as  
12 defined by the regulation, are present above a set threshold planning quantity (TPQ). Section 304  
13 provides reportable quantities (RQ) for these chemicals. If quantities equal to or greater than the RQ of  
14 these chemicals are released, state and local reporting requirements must be met.

15 Review of Table G-1 in the ASC indicates that the facility will store two chemicals that are defined as  
16 “extremely hazardous chemicals” in EPCRA: sulfuric acid and anhydrous ammonia. The EPCRA  
17 Section 302 TPQ for each of these chemicals is 1,000 pounds, and based on the information provided in  
18 Table G-1 of Exhibit G the facility intends to store over 1,000 pounds of each of these chemicals in  
19 above-ground storage tanks. Because amounts of these chemicals greater than the TPQ would be stored  
20 on-site, the Council adopts Condition V.D.2.6, which would require the certificate holder to comply with  
21 all emergency response planning and notification requirements of EPCRA Section 302. The storage  
22 amounts of sulfuric acid and anhydrous ammonia also exceed the Reportable Quantity (RQ) for any  
23 events regarding a spill or release. Therefore, the Council also adopts Condition V.D.2.7, which requires  
24 the certificate holder to comply with all reporting requirements of EPCRA Section 304 in the event of a  
25 release or spill event.

26 EPCRA Section 313 (or the Toxic Release Inventory (TRI) implements community right-to-know  
27 provisions and requires emissions, transfers, and waste management data for certain chemicals to be  
28 reported annually. Chemicals which require reporting under Section 313 of EPCRA are also subject to  
29 reporting under Section 6607 of the Pollution Prevention Act. Table G-1 of the ASC indicates that the  
30 applicant would use chemicals subject to EPCRA Section 313 at the facility and that the quantities to be  
31 used might exceed the TRI threshold for an “otherwise use” chemical. The Council adopts Condition  
32 V.D.2.8, which requires the site certificate holder to comply with all applicable reporting requirements  
33 provided by Section 313.

34 The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) is a  
35 federal regulation which requires an operator to report the release of hazardous substances in quantities  
36 equal to or greater than the reportable quantity (RQ) as defined by in the regulation. As listed in Table G-  
37 1 of the application, several chemicals subject to CERCLA reporting would be stored on-site. These  
38 chemicals include sulfuric acid, sodium hydroxide, and sodium hypochlorite, and sodium bisulfite. Some  
39 of these chemicals would be stored in quantities equal to or greater than the CERCLA RQ. For this  
40 reason, it is possible that release of these substances in amounts equal to or greater than the RQ could  
41 occur. Therefore, the Council adopts Condition V.D.2.9, which requires the certificate holder to comply  
42 with all CERCLA reporting requirements in the event of a chemical release.

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<sup>520</sup> ORS 836.530 authorizes the Oregon Department of Aviation to adopt rules to “define physical hazards to air navigation and determine whether specific types of classes of objects or structures constitute hazards.” The agency has adopted rules in OAR Chapter 738, Division 70, regarding physical hazards to air safety.

1 In addition to the reporting requirements under federal rules, the Council adopts Condition V.D.2.10  
2 (a mandatory condition under Council rules), requiring the certificate holder to notify the Department and  
3 Morrow and Gilliam Counties within 72 hours of an incident at the facility involving interference with  
4 operations; injuries or fatalities; or natural or human-caused events that might affect public health and  
5 safety or the environment.

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7 **V.D.2. PUBLIC HEALTH AND SAFETY: SITE CERTIFICATE CONDITIONS**

8 V.D.2.1 The certificate holder shall take the following steps to reduce or manage human exposure to  
9 electromagnetic fields:

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

20 [Site Certificate Condition 7.1]

21 V.D.2.2 To protect the public from electrical hazards, the certificate holder must enclose the facility  
22 switchyard with appropriate fencing and locked gates.

23 [Site Certificate Condition 7.2]

24 V.D.2.3 In advance of, and during, preparation of detailed design drawings and specifications for the  
25 500-kV transmission line, the certificate holder shall consult with the Utility Safety and  
26 Reliability Section of the Oregon Public Utility Commission to ensure that the designs and  
27 specifications are consistent with applicable codes and standards.

28 [Site Certificate Condition 6.4]

29 V.D.2.4 If the Council finds, at any time during facility operation, that cooling tower emissions are  
30 likely to contribute significantly to ground-level fogging or icing along public roads and to  
31 cause a significant threat to public safety, the certificate holder shall cooperate with  
32 appropriate local public safety authorities regarding implementation of reasonable safety  
33 measures, such as posting warning signs on affected roads. Cooperation may include, but is  
34 not necessarily limited to, the reimbursement of expenses for posting warning signs and  
35 implementing other safety measures.

36 [Site Certificate Condition 7.3]

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

42 [Site Certificate Condition 5.6]

43 V.D.2.6 The certificate holder must comply with all emergency planning and notification  
44 requirements of Emergency Planning and Community Right-to-Know Act (EPCRA) Section  
45 302.

46 [Site Certificate Condition 7.4]

- 1 V.D.2.7 The certificate holder must comply with all reporting requirements of the Emergency  
2 Planning and Community Right-to-Know Act (EPCRA) Section 304, including reporting of  
3 any chemical release in an amount equal to or greater than the EPCRA reportable quantity for  
4 that chemical.  
5 [Site Certificate Condition 7.5]
- 6 V.D.2.8 The certificate holder must report emissions, transfer, and waste management data for  
7 chemicals used and stored onsite as required by Section 313 of the Emergency Planning and  
8 Community Right-to-know Act (EPCRA) and Section 6607 of the Pollution Prevention Act.  
9 [Site Certificate Condition 7.6]
- 10 V.D.2.9 The certificate holder must comply with all reporting requirements of the Comprehensive  
11 Environmental Response, Compensation, and Liability Act (CERCLA), including reporting  
12 of any chemical release in an amount equal to or greater than the CERCLA reportable  
13 quantity for that chemical.  
14 [Site Certificate Condition 7.7]
- 15 IV.D.2.10 The certificate holder shall notify the Department of Energy and Morrow and Gilliam  
16 Counties within 72 hours of any occurrence involving the facility if:
- 17 a. There is an attempt by anyone to interfere with its safe operation;
- 18 b. A natural event such as an earthquake, flood, tsunami or tornado, or a human-caused  
19 event such as a fire or explosion affects or threatens to affect the public health and safety  
20 or the environment; or
- 21 c. There is any fatal injury at the facility.  
22 [Site Certificate Condition 7.8] [Mandatory Condition OAR 345-026-0170]

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24 **V.D.3. PUBLIC HEALTH AND SAFETY: CONCLUSIONS OF LAW**

25 Based on the foregoing findings of fact and conclusions, and subject to compliance with the site  
26 certificate conditions in Section V.D.2, the Council finds that the siting, construction and operation of  
27 the proposed facility can be accomplished in a manner that is consistent with protection of public health  
28 and safety.  
29



1           **V.E.        WATER POLLUTION CONTROL FACILITIES PERMIT**

2           The applicant provided information regarding plans wastewater management during construction and  
3 operation of the proposed facility in Exhibit V.<sup>521</sup> The facility will produce both process wastewater and  
4 sanitary wastewater. Management and Disposal of both wastewater streams would require a Water  
5 Pollution Control Facilities (WPCF) Permit from the Department of Environmental Quality (DEQ). PGE  
6 has proposed to dispose of wastewater in Carty Reservoir, an existing wastewater treatment facility  
7 associated with the Boardman coal-fired power plant (Boardman Power Plant). Concurrent with the  
8 application for site certificate for the Carty Generating Station, PGE has applied to DEQ to renew the  
9 WPCF for the Boardman Power Plant. For the Carty Generating Station, the decision to issue a WPCF  
10 Permit, and the conditions to be imposed in a WPCF Permit, is under the jurisdiction of the Council.  
11 DEQ retains enforcement authority over the permit. ORS 469.401.

12           **V.E.1.        WPCF PERMIT: FINDINGS OF FACT**

13           The applicant submitted a WPCF permit application for the Carty Generating Station to DEQ on  
14 April 27, 2010, and DEQ provided comment and requests for additional information on the Preliminary  
15 ASC and WPCF permit application on July 12, 2010.<sup>522</sup> DEQ also provided comment on the wastewater-  
16 related portions of the Final ASC on June 8, 2011, and provided the Department with recommended  
17 WPCF permit conditions. PGE and representatives of DEQ and ODOE held a number of discussions  
18 regarding, among other issues, the appropriate form for the WPCF Permit. After considerable discussion,  
19 the parties determined that a joint WPCF Permit covering all of the wastewater facilities for the  
20 Boardman Power Plant and the Carty Generating Station provided the best solution.

21           On February 23, 2012, DEQ provided the Department with a WPCF Permit Evaluation Report (PER)  
22 and draft WPCF Permit that covers both facilities, incorporated here as Exhibit 4. DEQ’s recommended  
23 draft joint WPCF Permit includes Waste Disposal Limitations (Schedule A), Minimum Monitoring and  
24 Reporting Requirements (Schedule B), Compliance Conditions and Schedules (Schedule C), Special  
25 Conditions (Schedule D), and Standard Conditions (Schedule F).<sup>523</sup>

26           As noted above, PGE has also applied to renew the WPCF Permit for the Boardman Power Plant.<sup>524</sup>  
27 Boardman and CGS will share certain existing facilities and certain additional facilities will be  
28 constructed specifically to serve the CGS. The WPCF PER identifies the Boardman settling ponds,  
29 vehicle wash water pond and coal yard ponds as facilities that will not be shared with CGS. The Council  
30 adopts proposed Condition V.E.2.3, which prohibits the use of those facilities for CGS wastewater  
31 disposal.

32           DEQ has determined that Carty Reservoir is a wastewater disposal facility and has based its  
33 comments and draft joint permit on the assumption that DEQ will impose certain conditions as a  
34 condition of renewal of the WPCF for Boardman and use of the shared facilities by CGS, with additional

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521 Production of wastewater during construction and operation of the Carty Generating Station is also discussed  
above in section IV.N.1.b (Waste Minimization).

522 CGS-0030, 07-12-10, Comments from Carl Nadler of the Oregon Department of Environmental Quality on the  
Carty Generating Station Application for Site Certificate

523 The WPCF permit also addresses wastewater issues related to the Boardman Power Plant ash pile, which are not  
applicable to the proposed facility.

524 Pursuant to the site certificate for the Boardman Power Plant the renewal of WPCF and any new conditions  
imposed are under DEQ’s jurisdiction. DEQ maintains authority to determine the contents of the permits for  
the treatment and disposal of wastewater and the disposal of ash at the Boardman Power Plant and the Council  
will determine the requirements of the WPCF permit as it applies to the Carty Generating Station. WPCF Permit  
Evaluation Report, p. 1.

1 conditions required to address new facilities to be built solely to serve CGS. The Council has jurisdiction  
2 over the determination for application of the joint permit to CGS.

3 In the staff evaluation report, DEQ discussed the sources of wastewater from the CGS as follows:

4 During construction of Carty Generating Station, wastewater will result from sanitary waste,  
5 storm water, testing and commissioning of water supply systems, hydrostatic testing, flushing of  
6 the water supply pipelines, washing equipment and vehicles, and washing concrete trucks after  
7 delivery of concrete loads. The amount of wastewater produced will vary depending on the  
8 number of construction workers and weather conditions.

9 During operation, Carty Generating Station will produce sanitary sewage, cooling tower  
10 blowdown, HRSG blowdown, demineralized water production wastes (from a reverse osmosis  
11 unit and neutralization tank), combustion turbine water wash wastes, plant and equipment drain  
12 wastes, service water (evaporative cooling), multimedia filtration backwash, and storm water.<sup>525</sup>

13 After reviewing the studies submitted by the applicant, DEQ has determined to renew the Boardman  
14 WPCF Permit and recommended that the Council approve the joint permit and adopt certain conditions  
15 that will apply to the CGS.<sup>526</sup> DEQ's evaluation of the wastewater characteristics, issues and  
16 recommended findings are contained in the combined WPCF Permit Evaluation Report.<sup>527</sup>

17 In the WPCF Permit Evaluation Report, DEQ identified three main environmental concerns for  
18 process wastewater disposal for the combined facilities:

19 The first concern involves potential impact to surface water either by wastewater discharge to surface  
20 water or by recharge of impacted groundwater to surface water. The second concern involves potential  
21 impact from seepage of untreated or inadequately treated wastewater (including landfill leachate) to  
22 groundwater. The third concern involves potential impacts to wildlife and other beneficial uses of Carty  
23 Reservoir wastewater. All three concerns have been addressed in the proposed WPCF permit. To remedy  
24 the surface water concerns, DEQ recommends that PGE be required to inspect dikes and wastewater  
25 containment structures and monitor various wastewater parameters, as described in the permit.<sup>528</sup>

26 To remedy ground water concerns, DEQ recommends that PGE be required to prepare a Hydrogeologic  
27 Characterization Report and propose concentration limits at downgradient locations and the implementation  
28 of a groundwater monitoring plan.<sup>529</sup> Finally, to remedy the concerns regarding impacts to beneficial use of  
29 Carty Reservoir wastewater, DEQ recommends the adoption of "trigger levels for selected parameters at  
30 historic high concentrations and compliance limits at a percentage above those concentrations."<sup>530</sup> These  
31 limitations are set out in the WPCF Permit in Schedule A.8.<sup>531</sup> The Council approves these measures as  
32 applicable to the Carty Generating Station.

33 The draft WPCF permit establishes compliance dates, which the site certificate holder is required to  
34 meet, unless alternative compliance dates are approved by DEQ in advance. That proposed condition also  
35 requires the certificate holder to give notice to DEQ of noncompliance with the compliance dates. The

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<sup>525</sup> The PER also contains Table 1, showing the estimated volumes of wastewater, based on a permanent staff of approximately 20 to 30 people and two blocks of combined cycle generation and indicates the disposal systems and structures for the associated wastewaters.

<sup>526</sup> See WPCF Permit Evaluation Report, p. xx.

<sup>527</sup> On February 24, 2012, PGE notified DEQ and ODOE that it agreed that the WPCF Permit Evaluation Report and Draft Joint Permit should be included in the Draft Proposed Order [e-mail from Lenna Cope to Sue Oliver].

<sup>528</sup> See WPCF Permit, Schedule A.

<sup>529</sup> See WPCF Permit Evaluation Report, p. 11; WPCF Permit, Schedule C.5, p. 11.

<sup>530</sup> See WPCF Permit Evaluation Report, p. 12;

<sup>531</sup> See WPCF Permit, Schedule A.8, p. 3

1 Council adopts Condition V.E.2.4, which requires the certificate holder to meet compliance dates, unless an  
 2 alternative date has been agreed to and to submit to the Department of Energy and DEQ a notice of  
 3 noncompliance with the schedule within 14 days of the lapsed compliance date.

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 5 **PROCESS WASTEWATER**

6 The primary facility for disposal of wastewater for both Boardman and CGS is Carty Reservoir. In  
 7 order to control mineral buildup, the Boardman site certificate allows for agricultural irrigation of  
 8 reservoir water. Also, under the site certificate, Carty Reservoir is subject to specific constituent  
 9 limitations to protect wildlife, which are included in the Boardman WPCF. The applicant provided an  
 10 analysis of impacts to Carty Reservoir water quality based on the wastewater stream from the proposed  
 11 energy facility in Exhibit V of the application. The applicant’s modeled constituent concentrations in the  
 12 Reservoir after 30 days and 60 days of discharge from both operating blocks of the proposed facility are  
 13 shown in the table below. The applicant also modeled an increase in total hardness in the Carty Reservoir  
 14 of less than 1 mg/L after 30 days of discharge. During a 60-day period, wastewater discharge from Carty  
 15 Station is expected to increase the overall Carty Reservoir hardness by less than 3 mg/L.

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 17 **Carty Reservoir Water Quality Projection**

	<b>Initial Reservoir Quality</b>	<b>Expected Wastewater Quality</b>	<b>Reservoir Quality – 30 Days</b>	<b>Reservoir Quality – 60 Days</b>	<b>Reservoir Permit Requirement</b>
<b>Calcium, mg/L</b>	63	562	63	64	<500
<b>Magnesium, mg/L</b>	90	813	91	92	<250
<b>Sodium, mg/L</b>	87	781	88	89	<1000
<b>Potassium, mg/L</b>	7	61	7	7	n/a
<b>M-Alkalinity, mg/L</b>	148	183	148	148	<500
<b>Sulfate, mg/L</b>	47	608	48	48	<200
<b>Chloride, mg/L</b>	44	393	44	45	<100
<b>Nitrate, mg/L</b>	0.2	1.5	0.2	0.2	<45
<b>Silica, mg/L</b>	3.1	23	3.1	3.2	n/a
<b>Conductivity</b>	444	3993	449	453	n/a
<b>TDS, mg/L</b>	261	2347	264	266	<1000
<b>Fluoride, mg/L</b>	0.6	5.4	0.6	0.6	<1
<b>Iron, mg/L</b>	0.11	0.99	0.11	0.11	n/a
<b>Copper, mg/L</b>	0.006	0.054	0.006	0.006	<0.1
<b>Zinc, mg/L</b>	0.012	0.108	0.012	0.012	<0.1
<b>Arsenic, mg/L</b>	0.005	0.045	0.005	0.005	<1
<b>Boron, mg/L</b>	0.10	0.90	0.10	0.10	<0.5

	<b>Initial Reservoir Quality</b>	<b>Expected Wastewater Quality</b>	<b>Reservoir Quality – 30 Days</b>	<b>Reservoir Quality – 60 Days</b>	<b>Reservoir Permit Requirement</b>
<b>Cadmium, mg/L</b>	<0.001	<0.002	<0.001	<0.001	<0.01
<b>Chromium, mg/L</b>	0.001	0.008	0.001	0.001	<0.05
<b>Mercury, mg/L</b>	<0.0002	<0.0005	<0.0002	<0.0002	<0.01

1 The model used by the applicant assumes a combined wastewater flow rate of 248 gallons per minute  
2 from both blocks of the Carty Generating Station. The model also assumes that the reservoir is not  
3 replenished during the discharge periods. Currently, the Carty Reservoir operates eight months of the year  
4 with replenishment from the Columbia River (March-October) to maintain the water level, and four  
5 months with no replenishment (November-February). In September and October the reservoir level is  
6 normally lowered to purge the reservoir; this water is used for irrigation. Following this period, river  
7 water is added to the reservoir in sufficient quantity to replace the normal water usage plus the  
8 purge/irrigation water, and to provide additional storage for the four months of operation with no  
9 replenishment.<sup>532</sup>

10 Blowdown and process waters from CGS would be discharged to Carty Reservoir and/or evaporation  
11 ponds under a WPCF permit obtained from DEQ.<sup>533</sup> The applicant estimates that impacts to Carty  
12 Reservoir water quality, with all wastewater from the proposed Carty Generating Station (two blocks)  
13 sent to the reservoir and no river water makeup (over a 30-day to 60-day period), would be within the  
14 constituent limits required by the Boardman site certificate. Based on wastewater discharge rates from  
15 the proposed energy facility, and current and projected water consumption rates from the Carty Reservoir  
16 that are provided in the application, the Council finds that Columbia River recharge of the Carty  
17 Reservoir would be sufficient to maintain the quality of the water in the reservoir concurrent with facility  
18 operation.<sup>534</sup>

19 The Boardman WPCF permits PGE to dispose of wastewater in existing lined evaporation ponds as  
20 well as Carty Reservoir.<sup>535</sup> The applicant has proposed the alternative of building additional lined  
21 evaporation ponds for use by Carty Generating Station in the event of future imposed limits to the  
22 quantity of facility wastewater that would limit discharge to the Reservoir. The applicant proposes  
23 locations for up to four evaporation ponds with a total evaporative surface area of up to approximately 50  
24 acres. The proposed evaporation ponds are sized based on a net ambient evaporation rate of 48 inches per  
25 year, a pond depth of 8 feet, and an annual average wastewater flow of 124 gallons per minute, or  
26 178,500 gallons per day.

27 The expected evaporation rate is based on reported lake evaporation rates for this area. The pond size  
28 is calculated using an evaporation pond sizing program that accounts for the design criteria noted above  
29 as well as pond geometry, impact to evaporation rate based on accumulating salt content in the ponds,  
30 desired pond life (30 years) and storage volume for accumulated solids. The applicant states, that this  
31 capacity is adequate for the total wastewater from a single block of the proposed facility in one year.<sup>536</sup> If  
32 the applicant elects to discharge wastewater from both proposed facility blocks to evaporation ponds

<sup>532</sup> Final ASC, Section V.4.2, pp. V-10 to V-14.

<sup>533</sup> Final ASC, Section V.4.2, pp. V-14 and V-15.

<sup>534</sup> As discussed in the WPCF PER, DEQ has identified additional constituent limits relating to use of Carty Reservoir water for irrigation. These limits are a requirement of the joint permit.

<sup>535</sup> See WPCF Permit, Schedule A, p. 4.

<sup>536</sup> Final ASC, Section V.4.2, p. V-14.

1 during operation, the applicant proposes to install necessary wastewater treatment equipment to reduce  
2 discharge quantity.<sup>537</sup>

3 In the WPCF Permit Evaluation Report, DEQ recommends that the WPCF permit contain conditions  
4 requiring detailed plans and specifications to be submitted to and approved by DEQ prior to constructing  
5 wastewater management, treatment and disposal facilities, including the proposed evaporation ponds.<sup>538</sup>  
6 The Council adopts Condition V.E.2.5, which would incorporate that requirement.<sup>539</sup> In addition, DEQ  
7 recommends that PGE be required to submit a wastewater characterization before discharging wastewater  
8 to the evaporation ponds. The Council adopts Condition V.E.2.6 which requires a wastewater  
9 characterization prior to discharge to the evaporation ponds.<sup>540</sup> Finally, DEQ recommends that the permit  
10 specify the wastes from the operation of the Carty Generating Station that may be discharged to the  
11 evaporation ponds. The Council adopts Condition V.E.2.7, which specifies the wastes that are permitted  
12 to be disposed in the CGS lined evaporation ponds.<sup>541</sup>

### 13 **SANITARY WASTE**

14 As discussed in Section IV.A, Waste Minimization, PGE has proposed to dispose of sanitary waste in  
15 during operation of the facility in sanitary waste facilities already in place at the Boardman plant.<sup>542</sup> That  
16 facility is subject to the Boardman WPCF currently under review for renewal by DEQ. In its review of  
17 the WPCF and the applicant's plan to use the system for CGS, DEQ questioned the integrity of the three-  
18 cell facultative lagoon system because of historic low flows from the Boardman plant relative to design  
19 flow.<sup>543</sup> As a result, DEQ recommends conditioning the permit to ensure the integrity of the sewage  
20 lagoon system prior to discharge of CGS sewage to the lagoons by removing vegetation, and either leak  
21 testing the clay-lined cells or reconditioning them. In addition, DEQ recommends a condition requiring  
22 the site certificate holder to submit a long term plan to ensure the integrity of the clay-lined cells. The  
23 Council adopts proposed Condition V.2.E.8, which requires the site certificate holder to remove  
24 vegetation, and either test or recondition the clay lined cells, and to submit a long term plan to ensure the  
25 integrity of the system before discharge of CGS sewage to the lagoons.

26 The Council authorizes the issuance of a WPCF permit containing conditions of approval  
27 substantially in the form of Exhibit 4, and adopts Conditions V.E.2.1 and V.E.2.2 requiring WPCF permit  
28 compliance.

### 29 **V.E.2. WPCF PERMIT: SITE CERTIFICATE CONDITIONS**

30 V.E.2.1 Before beginning operation of the facility, the certificate holder shall demonstrate that the  
31 Oregon Department of Environmental Quality has issued to the certificate holder a Water  
32 Pollution Control Facilities (WPCF) Permit substantially in the form of Exhibit 4 to this  
33 Order, allowing for wastewater discharge from the Carty Generating Station.  
34 [Site Certificate Condition 10.28]  
35

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<sup>537</sup> Final ASC, Section V.4.2, p. V-15.

<sup>538</sup> Draft Wastewater Treatment Permit, Schedule A, paragraph 3 and

<sup>539</sup> See WPCF Permit, Schedule D, p. 13.

<sup>540</sup> See WPCF Permit, Schedule C, p. 10.

<sup>541</sup> See WPCF Permit, Schedule A.10.

<sup>542</sup> Final ASC, Exhibit V., p. V-8.

<sup>543</sup> WPCF PER, P. 14.

- 1 V.E.2.2 The certificate holder shall comply with state laws and rules applicable to Water Pollution  
2 Control Facilities Permits that are adopted in the future to the extent that such compliance is  
3 required under the respective statutes and rules.  
4 [Site Certificate Condition 10.29]
- 5 V.E.2.3 The certificate holder may not dispose of wastewater into the Boardman settling ponds,  
6 vehicle wash water pond or coal yard ponds unless the site certificate and the WPCF Permit  
7 are amended to permit such use.  
8 [Site Certificate Condition 10.30]
- 9 V.E.2.4 The certificate holder must meet the compliance dates set out in the WPCF Permit unless  
10 alternative compliance dates have been approved in advance in writing by DEQ. Either prior  
11 to or not later than 14 calendar days following any lapsed compliance date, the site certificate  
12 holder must submit a notice of noncompliance with the established schedule to the  
13 Department of Energy and DEQ. Any report of noncompliance must include the cause of  
14 noncompliance.  
15 [Site Certificate Condition 10.31]
- 16 V.E.2.5 Prior to constructing or modifying wastewater management treatment and disposal facilities,  
17 detailed plans must be submitted to and approved by the Department of Environmental  
18 Quality.  
19 [Site Certificate Condition 10.32]
- 20 V.E.2.6: Prior to discharge of wastewater treatment system wastewater to lined evaporation ponds for  
21 the Carty Generating Station, the certificate holder shall submit a wastewater characterization  
22 to the Department of Environmental Quality for review and approval.  
23 [Site Certificate Condition 10.33]
- 24 V.E.2.7 Unless otherwise approved in writing by the Department of Environmental Quality, the site  
25 certificate holder is permitted to manage and dispose only of the following wastes from  
26 operation of the Carty Generating Station in lined ponds construction in accordance with the  
27 plans that are approved by the Department of Environmental Quality:
- 28 a. Water treatment wastewater  
29 b. Facility sumps and drains wastewater  
30 c. Laboratory and sampling wastewater  
31 d. Evaporative cooling wastewater  
32 e. Equipment cleaning wastewater  
33 f. Storm water  
34 [Site Certificate Condition 10.34]
- 35 V.E.2.8 Prior to discharge of Carty Generating Station sewage to the lagoons, the certificate holder  
36 must:
- 37 a. submit a work plan to remove vegetation from the Clay-lined cells and either leak test the  
38 cells or recondition them; and  
39 b. submit a long-term plan to ensure the integrity of the clay lined cells. The plan may  
40 include evaluating system capacity requirements and modifying system capacity  
41 accordingly prior to discharge of Carty Generating Station sewage to lagoons.  
42 [Site Certificate Condition 10.35]  
43

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**V.E.3. WPCF PERMIT: CONCLUSIONS OF LAW**

The Council finds that, subject to compliance with the site certificate conditions and the conditions contained in draft Water Pollution Control Facilities (WPCF) Permit, incorporated herein as Exhibit 4, the proposed facility meets the requirements for a WPCF permit for wastewater discharges, as defined in Exhibit 4, and for sanitary waste disposal. The Council authorizes DEQ to issue the applicant a WPCF permit substantially in the form of Exhibit 4 to this Order, pursuant to ORS 469.401.

1 **VI. CONDITIONS REQUIRED BY COUNCIL RULES**

2 This section lists conditions to be included in the site certificate as specifically required by OAR 345-  
3 027-0020 (Mandatory Conditions in Site Certificates), OAR 345-027-0023 (Site Specific Conditions),  
4 OAR 345-027-0028 (Monitoring Conditions) and in OAR Chapter 345, Division 26 (Construction and  
5 Operation Rules for Facilities). These conditions should be read together with the specific facility  
6 conditions listed in Sections IV to VII to ensure compliance with the siting standards of OAR Chapter  
7 345, Divisions 22 and 24, and to protect the public health and safety.

8 VI.1 The Council shall not change the conditions of the site certificate except as provided for  
9 in OAR Chapter 345, Division 27.

10 [Site Certificate Condition 2.13] [Mandatory Condition OAR 345-027-0020(1)]

11 VI.2 The following general monitoring conditions apply:

- 12 a. The certificate holder shall consult with affected state agencies, local governments  
13 and tribes and shall develop specific monitoring programs for impacts to resources  
14 protected by the standards of divisions 22 and 24 of OAR Chapter 345 and resources  
15 addressed by applicable statutes, administrative rules and local ordinances. The  
16 certificate holder must submit the monitoring programs to the Department of Energy  
17 and receive Department approval before beginning construction or, as appropriate,  
18 operation of the facility.
- 19 b. The certificate holder shall implement the approved monitoring programs described  
20 in OAR 345-027-0028(1) and monitoring programs required by permitting agencies  
21 and local governments.
- 22 c. For each monitoring program described in OAR 345-027-0028(1) and (2), the  
23 certificate holder shall have quality assurance measures approved by the Department  
24 before beginning construction or, as appropriate, before beginning commercial  
25 operation.
- 26 d. If the certificate holder becomes aware of a significant environmental change or  
27 impact attributable to the facility, the certificate holder shall, as soon as possible,  
28 submit a written report to the Department describing the impact on the facility and  
29 any affected site certificate conditions.

30 [Site Certificate Condition 14.1] [Mandatory Condition OAR 345-027-0028]

31 VI.3 Following receipt of the site certificate or an amended site certificate, the certificate  
32 holder shall implement a plan that verifies compliance with all site certificate terms and  
33 conditions and applicable statutes and rules. As a part of the compliance plan, to verify  
34 compliance with the requirement to begin construction by the date specified in the site  
35 certificate, the certificate holder shall report promptly to the Department of Energy when  
36 construction begins. Construction is defined in OAR 345-001-0010. In reporting the  
37 beginning of construction, the certificate holder shall describe all work on the site  
38 performed before beginning construction, including work performed before the Council  
39 issued the site certificate, and shall state the cost of that work. For the purpose of this  
40 exhibit, “work on the site” means any work within a site or corridor, other than  
41 surveying, exploration or other activities to define or characterize the site or corridor. The  
42 certificate holder shall document the compliance plan and maintain it for inspection by  
43 the Department or the Council.

44 [Site Certificate Condition 15.7] [Mandatory Condition OAR 345-026-0048]

45 VI.4 The certificate holder shall report according to the following requirements:

- 46 a. General reporting obligation for energy facilities under construction or operating:  
47 i. Within six months after beginning construction, and every six months  
48 thereafter during construction of the energy facility and related or supporting



1 facilities, the certificate holder shall submit a semiannual construction  
2 progress report to the Department of Energy. In each construction progress  
3 report, the certificate holder shall describe any significant changes to major  
4 milestones for construction. The certificate holder shall include such  
5 information related to construction as specified in the site certificate. When  
6 the reporting date coincides, the certificate holder may include the  
7 construction progress report within the annual report described in OAR 345-  
8 026-0080.

9 ii. By April 30 of each year after beginning construction, the certificate holder  
10 shall submit an annual report to the Department addressing the subjects listed  
11 in OAR 345-026-0080. The Council Secretary and the certificate holder may,  
12 by mutual agreement, change the reporting date.

13 iii. To the extent that information required by OAR 345-026-0080 is contained  
14 in reports the certificate holder submits to other state, federal or local  
15 agencies, the certificate holder may submit excerpts from such other reports  
16 to satisfy this rule. The Council reserves the right to request full copies of  
17 such excerpted reports.

18 b. In the annual report, the certificate holder shall include the following information for  
19 the calendar year preceding the date of the report:

20 i. Facility Status: An overview of site conditions, the status of facilities under  
21 construction, and a summary of the operating experience of facilities that are  
22 in operation. In this section of the annual report, the certificate holder shall  
23 describe any unusual events, such as earthquakes, extraordinary windstorms,  
24 major accidents or the like that occurred during the year and that had a  
25 significant adverse impact on the facility.

26 ii. Reliability and Efficiency of Power Production: For electric power plants, the  
27 plant availability and capacity factors for the reporting year. The certificate  
28 holder shall describe any equipment failures or plant breakdowns that had a  
29 significant impact on those factors and shall describe any actions taken to  
30 prevent the recurrence of such problems.

31 iii. Fuel Use: For thermal power plants:

32 1. The efficiency with which the power plant converts fuel into electric  
33 energy. If the fuel chargeable to power heat rate was evaluated when the  
34 facility was sited, the certificate holder shall calculate efficiency using  
35 the same formula and assumptions, but using actual data; and

36 2. The facility's annual hours of operation by fuel type and, every five  
37 years after beginning operation, a summary of the annual hours of  
38 operation by fuel type as described in OAR 345-024-0590(5).

39 iv. Status of Surety Information: Documentation demonstrating that bonds or  
40 letters of credit as described in the site certificate are in full force and effect  
41 and will remain in full force and effect for the term of the next reporting  
42 period.

43 v. Monitoring Report: A list and description of all significant monitoring and  
44 mitigation activities performed during the previous year in accordance with  
45 site certificate terms and conditions, a summary of the results of those  
46 activities and a discussion of any significant changes to any monitoring or  
47 mitigation program, including the reason for any such changes.

48 vi. Compliance Report: A description of all instances of noncompliance with a  
49 site certificate condition. For ease of review, the certificate holder shall, in  
50 this section of the report, use numbered subparagraphs corresponding to the  
51 applicable sections of the site certificate.

- 1                   vii.           Facility Modification Report: A summary of changes to the facility that the  
2   certificate holder has determined do not require a site certificate amendment  
3   in accordance with OAR 345-027-0050.
- 4                   viii.           Nongenerating Facility Carbon Dioxide Emissions: For nongenerating  
5   facilities that emit carbon dioxide, a report of the annual fuel use by fuel type  
6   and annual hours of operation of the carbon dioxide emitting equipment as  
7   described in OAR 345-024-0630(4).  
8   [Site Certificate Condition 14.2] [Mandatory Condition OAR 345-026-0080]

9    VI.5           The certificate holder and the Department of Energy shall exchange copies of all  
10   correspondence or summaries of correspondence related to compliance with statutes,  
11   rules and local ordinances on which the Council determined compliance, except for  
12   material withheld from public disclosure under state or federal law or under Council  
13   rules. The certificate holder may submit abstracts of reports in place of full reports;  
14   however, the certificate holder shall provide full copies of abstracted reports and any  
15   summarized correspondence at the request of the Department.  
16   [Site Certificate Condition 14.3] [Mandatory Condition OAR 345-026-0105]

17                   **Summary of Required Monitoring Programs.** As required under Council rule OAR 345-027-0028,  
18                   the certificate holder is required to have specific monitoring programs for impacts to resources protected  
19                   by Council standards and to resources addressed by other applicable statutes, administrative rules and  
20                   local ordinances. The certificate holder must have the following monitoring programs in place and ensure  
21                   that the monitoring programs include all information required to comply with site certificate conditions:

- 22                   •   **Cultural resources:** The certificate holder must monitor construction activities to ensure that  
23   construction personnel cease all ground-disturbing activities in the immediate area if any  
24   archaeological or cultural resources are found.
- 25                   •   **Operational safety:** The certificate holder must develop and implement an operational safety  
26   monitoring program.
- 27                   •   **Fire control and prevention:** The certificate holder must have fire safety plans for  
28   construction and operation of the facility, including monitoring the site to minimize the risk of  
29   fire and to respond appropriately to any fires that occur on the site.
- 30                   •   **Hazardous materials:** The certificate holder must monitor the use of hazardous materials to  
31   ensure protection of public health, safety and the environment.
- 32                   •   **Soil impacts:** The certificate holder must implement an Erosion and Sediment Control Plan  
33   during construction to minimize adverse impacts to soils and must monitor the facility site  
34   during operation to maintain or repair erosion control measures.
- 35                   •   **Post-construction revegetation:** The certificate holder must restore areas temporarily  
36   disturbed during construction as described in the *Revegetation and Weed Control Plan*,  
37   including monitoring of the revegetated areas to ensure that success criteria are met.
- 38                   •   **Weed control:** The certificate holder must monitor the facility site during construction and  
39   operation to control the spread of noxious weeds.
- 40                   •   **Wildlife monitoring:** The certificate holder must monitor the facility site for impacts to  
41   wildlife species in accordance with a Wildlife Monitoring and Mitigation Plan.
- 42                   •   **Habitat mitigation:** The certificate holder must monitor any required habitat mitigation areas  
43   to ensure that success criteria are met and maintained for the life of the facility.

1 **VII. CONCLUSION AND ORDER OF THE COUNCIL**

2 The applicant has submitted an application to construct a natural gas fuel combined-cycle generating  
3 plant producing up to 900 megawatts of electrical power. The Council includes in the site certificate the  
4 conditions listed in Sections III through VI of this Order and finds that a preponderance of evidence on  
5 the record supports the following conclusions:

- 6 1. The Carty Generating Station complies with the requirements of the Oregon Energy Facility  
7 Siting statutes, ORS 469.300 to 469.520.
- 8 2. The Carty Generating Station complies with the standards adopted by the Council pursuant to  
9 ORS 469.501.
- 10 3. The Carty Generating Station complies with the statewide planning goals adopted by the Land  
11 Conservation and Development Commission.
- 12 4. The Carty Generating Station complies with all other Oregon statutes and administrative rules  
13 identified in the project order as applicable to the issuance of a site certificate for the proposed  
14 facility.

15 Based on the findings of fact, reasoning, conditions, and conclusions of law in this Order, the Council  
16 concludes that the applicant has satisfied the requirements for issuance of a site certificate for the  
17 proposed Carty Generating Station, subject to compliance with the conditions stated in this Order.

18 The Council grants issuance of a site certificate, subject to the terms and conditions set forth above, to  
19 Portland General Electric Company, for the proposed Carty Generating Station.

20 Issued this 29<sup>th</sup> day of June, 2012.

THE OREGON DEPARTMENT OF ENERGY

By: \_\_\_\_\_/s/\_\_\_\_\_

W. Bryan Wolfe  
Chair  
Oregon Energy Facility Siting Council

**Notice of the Right to Appeal**

*You have the right to appeal this order to the Oregon Supreme Court pursuant to ORS 469.403. To appeal you must file a petition for judicial review with the Supreme Court within 60 days from the day this order was served on you. If this order was personally delivered to you, the date of service is the date you received this order. If this order was mailed to you, the date of service is the date it was mailed, not the day you received it. If you do not file a petition for judicial review within the 60-day time period, you lose your right to appeal.*

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**EXHIBIT 1**  
**WILDLIFE AND HABITAT MONITORING AND MITIGATION PLAN**

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Carty Generating Station  
Final Order  
EXHIBIT 1—Draft Wildlife and Habitat Monitoring and Mitigation Plan

**Carty Generating Station: Wildlife and Habitat Monitoring and Mitigation  
Plan**<sup>544</sup>

**June 29, 2012**

---

1 This Wildlife and Habitat Monitoring and Mitigation Plan (Plan) describes wildlife monitoring that  
2 the certificate holder shall conduct during operation of the Carty Generating Station. The monitoring  
3 objectives are to determine whether the facility causes significant fatalities of wildlife species or results in  
4 a loss of habitat quality.

5 This Plan also describes methods and standards for preservation and enhancement of an area of land  
6 near the Carty Generating Station to mitigate for impacts of the facility on wildlife habitat and addresses  
7 mitigation for both the permanent impacts of facility components and the temporal impacts of facility  
8 construction. The certificate holder shall protect and enhance the mitigation area as described herein.  
9 This Plan specifies habitat enhancement actions and monitoring procedures to evaluate the success of  
10 those actions. Remedial action may be necessary if the mitigation area does not demonstrate progress  
11 toward habitat enhancement success.

12 **DESCRIPTION OF THE FACILITY**

13 The Carty Generating Station Site is located in Morrow and Gilliam Counties, Oregon, approximately  
14 13 miles southwest of the town of Boardman, Oregon. The generating facility and associated transmission  
15 line would be located on an upland plateau at an elevation of approximately 650 feet above sea level. The  
16 project facilities would be located entirely on private lands that are characterized as shrub-steppe  
17 rangeland, weedy agricultural and shrub, or agricultural cropland. Soil types in the area consist primarily  
18 of sandy loam, silt loam, and very stony loam.

19 The project boundary contains shrub-steppe habitat, agriculture cropland, and riparian areas and  
20 wetlands. Much of the native shrub-steppe vegetation within the project boundary has been modified by  
21 livestock grazing and past wildfires. Functional mature shrub-steppe habitat is patchy and is dominated by  
22 big sagebrush (*Artemisia tridentata*), bluebunch wheatgrass (*Pseudoroegneria spicata*), cheatgrass  
23 (*Bromus tectorum*), gray rabbitbrush (*Chrysothamnus viscidiflorus*), needle-and-thread grass  
24 (*Hesperostipa comata*), and Sandberg's bluegrass (*Poa secunda*). The transmission line area consists of  
25 irrigated agriculture crops, weedy/grazed shrub-steppe, and a riparian zone with mixed upland and water-  
26 tolerant plants, a few wetlands, and Willow Creek. Wetland areas are dominated by Russian olive  
27 (*Elaeagnus angustifolia*), Pacific willow (*Salix lucida ssp.*), Canada goldenrod (*Solidago canadensis*),  
28 amaranth (*Amaranthus sp.*), and broadleaf cattail (*typha latifolia*).

29 The Oregon Department of Fish and Wildlife (ODFW) describe habitat categories in their Wildlife  
30 Habitat Mitigation Policy (OAR 635-415-0025). Approximately 115.3 acres of Category 4 shrub-steppe,  
31 and 52.2 acres of Category 6 agricultural cropland and weedy shrub would be impacted. Permanent  
32 impacts, primarily due to the permanent foundation of the energy facility, would total approximately 91  
33 acres of shrub-steppe habitat, nearly all in Category 4 shrub-steppe habitat.

34 **WILDLIFE MITIGATION AND MONITORING MEASURES**

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<sup>544</sup> This plan is incorporated by reference in the site certificate for the Carty Generating Station and must be understood in that context. It is not a "stand-alone" document. This plan does not contain all mitigation required of the certificate holder.



Carty Generating Station  
Final Order  
EXHIBIT 1—Draft Wildlife and Habitat Monitoring and Mitigation Plan

1 The certificate holder shall hire a qualified investigator (an independent botanist, wildlife biologist, or  
2 revegetation specialist) to conduct monitoring for Washington ground squirrel and avian use of the project  
3 area and HMA. Specific monitoring and mitigation measures for these species are described below:

4 **Washington Ground Squirrel Monitoring**

5 The certificate holder shall conduct post-construction surveys on known colonies in the Carty facility  
6 area as described in the Site Certificate. Surveyors shall record evidence of Washington ground squirrel  
7 activity, current land use, and evidence of conditions caused by the project that might increase erosion or  
8 result in a decline in vegetation quality and adversely affect a Washington ground squirrel colony.

9 **Raptor Nest Monitoring**

10 During construction, the certificate holder shall provide an annual sensitive species raptor nest  
11 monitoring report to ODFW and the US Fish & Wildlife Service (USFWS). The report will document the  
12 nest productivity of sensitive raptor species, including golden eagle (*Aquila chrysaetos*), nests occurring  
13 within 1 mile of the Carty facility, ferruginous hawk nests occurring within 0.6 mile of the facility, and  
14 other sensitive raptor species nests occurring within 1,300 feet of the facility site. The certificate holder  
15 shall consult with USFWS and ODFW regarding any active protected bird nests found within the  
16 construction disturbance area.

17 If nest monitoring detects nest site abandonment or other adverse impact to nesting activity caused by  
18 project activity, the certificate holder shall implement appropriate mitigation, in consultation with ODFW  
19 and subject to the approval of the Department. The certificate holder shall propose and implement  
20 mitigation for the affected species in consultation with the Department, ODFW, and USFWS. Mitigation  
21 shall be designed to benefit the affected species or contribute to overall scientific knowledge and  
22 understanding of what causes nest abandonment or nest failure. Mitigation may be designed to proceed in  
23 phases over several years. It may include, but is not be limited to, additional raptor nest monitoring,  
24 protection of natural nest sites from human disturbance or cattle activity (preferably within the general  
25 area of the facility), or participation in research projects designed to improve scientific understanding of  
26 the needs of the affected species.

27 All bird mortalities found in association with project facilities shall be documented and reported  
28 consistent with PGE's adopted Avian Protection Plan. All eagle and sensitive raptor species mortalities  
29 shall be reported immediately to USFWS and ODFW.

30 **Avian Protection**

31 The certificate holder maintains an adopted company-wide Avian Protection Plan (APP) to reduce  
32 impacts to avian species from electrocutions and collisions with electric utility power lines and  
33 equipment. The APP is hereby adopted by reference and is attached to this Plan as Appendix A. The APP  
34 includes the following three-phased approach to address avian risks that will be applied to the  
35 development of the Carty Generating Station:

- 36
- 37 • Preventive – Emphasize compliance with applicable laws, regulations, and permits. Use avian-  
safe standards in areas identified as having high avian risk;
  - 38 • Reactive – Implement the Avian Reporting System (report bird mortalities and conduct remedial  
39 measures as appropriate); and
  - 40 • Proactive – Conduct employee training and risk assessments of existing lines, modify lines when  
41 necessary, and contribute to research of avian/electrical equipment interactions.

42 Electrocutation from high-voltage transmission lines is very rare because the distances between  
43 conductors, and between conductors and grounded hardware, are greater than the wingspan of any raptor  
44 (APLIC 1996). However, transmission lines do present a collision risk for birds. Consistent with the APP,

Carty Generating Station  
Final Order  
EXHIBIT 1—Draft Wildlife and Habitat Monitoring and Mitigation Plan

1 the certificate holder shall employ pre-construction measures to protect raptors in the design and  
2 construction of transmission lines. Protection measures to reduce the potential risks to raptors and other  
3 birds will include the following:

- 4 • Design and construct all above-ground transmission line support structures following the  
5 practices suggested by the Avian Powerline Interaction Committee (APLIC), including a  
6 minimum separation of 9 feet between all energized transmission conductors;
- 7 • Install perch guards or other deterrents as needed and safe alternative perching or nesting  
8 locations, as appropriate; and
- 9 • Install bird flight diverters and line marking devices where necessary to minimize areas of bird  
10 collision risk, such as bird concentration areas (wetland/riparian areas) and known flight routes.

11 A nest management procedure, which identifies steps facility employees must take when a nest is  
12 encountered on utility structures, is also included in the APP. As described in the APP, the certificate  
13 holder will track avian mortalities, nest management issues, and remedial actions taken using an internal  
14 reporting system and database, the Avian Reporting System. This reporting database allows: (1) tracking  
15 of incidents and remedial actions to ensure that all measures are completed and documented, (2)  
16 accumulation of a long-term data set, and (3) compliance with the reporting requirements of the USFWS  
17 Special Purpose Permit currently held by the certificate holder. The reporting system also provides data  
18 on the location and frequency of bird mortalities and problem nests.

19 Where feasible, the certificate holder shall conduct site preparation for construction of the Carty  
20 Generating Station and transmission line in a manner that minimizes potential for impacting nesting  
21 native birds protected by the Migratory Bird Treaty Act, such as conducting initial site clearing outside of  
22 the typical bird breeding season (generally March to July). Prior to commencement of construction  
23 activity during the breeding season, a qualified biologist shall survey the construction site to determine  
24 the presence of any active protected bird nests. Construction personnel shall be trained in avian  
25 awareness, reporting of protected bird nests, and the proper procedures if dead birds are found at the  
26 construction site.

#### 27 **CALCULATION OF THE SIZE OF THE MITIGATION AREA**

28 The Habitat Mitigation Area (HMA) must be large enough and have the characteristics to meet the  
29 standards set by ODFW's Wildlife Habitat Mitigation Policy. These standards include "no net loss" of  
30 habitat for Category 4 habitat. Mitigation standards for Category 6 involve minimizing direct habitat loss  
31 and avoiding impacts to off-site habitat.

32 Within the site boundary, permanent facility components (the "footprint") would occupy  
33 approximately 91 acres. Temporary construction-related impacts would occur on approximately 208  
34 acres. For the footprint impacts, the mitigation area shall include one acre for every acre of permanent  
35 impacts to Category 4 habitat (a 1:1 ratio). This 1:1 ratio is intended to meet the ODFW goal of "no net  
36 loss" of habitat. Mitigation for temporary impacts shall include one-half acre for every acre of temporary  
37 impacts to Category 4 habitat (a 0.5:1 ratio).

38 The acreages of impact in this Plan are based on the current estimate of the maximum affected area.  
39 The actual areas of disturbance will be determined based on the final design layout of the project. The  
40 certificate holder will provide the Oregon Department of Energy (ODOE, or Department) and ODFW the  
41 final design layout of the facility and the associated impact acreages (as demonstrated below) prior to the  
42 beginning of project construction.

43 Current maximum habitat impact estimates of the Carty Generating Station (including the  
44 transmission line) are shown in the table below (Table 1).  
45

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Table 1. Estimated Habitat Impacts of the Carty Generating Station

Habitat Type	Temporary Impacts (acres)		Total
	Energy Facility	Transmission Line	
Category 4	40	115	155
Category 6*	0	52	52
Total	40	167	207
Habitat Type	Permanent Impacts (acres)		Total
	Energy Facility	Transmission Line	
Category 4	90	1	91
Category 6*	0	0	0
Total	90	1	91

\* no mitigation area required

Based on these impact estimates, calculation of the mitigation area requirement is as follows:

Category 4

Permanent Impacts: 91 acres to be mitigated at a 1:1 ratio.

Temporary Impacts: 155 acres to be mitigated at a 0.5:1 ratio.

Mitigation area required:  $91 + (155 \times 0.5) = 168.5$  acres

**Total mitigation area required (to nearest whole acre): 169 acres**

**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 4 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 that would be maintained, enhanced, and monitored throughout the life of the Carty facility<sup>545</sup> through implementation of the habitat enhancement actions described in this Plan. The certificate holder shall provide appropriate legal documentation to the Department showing the legal right to create, maintain, and protect the HMA for the life of the Carty facility, prior to construction. The certificate holder shall not undertake any development activities within the HMA throughout the life of the Carty facility.

The proposed HMA 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 property is currently owned by the certificate holder and co-owners of the existing Boardman Plant. It is abutted by the existing PGE Conservation Area on the north and east sides, and a by 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 is also occasional green rabbitbrush (*Chrysothamnus teretifolia*) and gray rabbitbrush, big sagebrush, fiddleneck (*Amsinckia menziesii*), and yarrow (*Achillea millefolium*). In 2010, Washington ground squirrel (*Spermophilus washingtoni*) burrows were identified within the HMA. Approximately 80 percent of the HMA area is located within 785 feet of identified Washington ground squirrel burrows, and is therefore considered Category 1 habitat. The remainder of the HMA is included

<sup>545</sup> As used in this plan, “life of the facility” means continuously until the facility site is restored and the site certificate is terminated in accordance with OAR 345-027-0110.

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1 in the buffer area for previously-occupied Washington ground squirrel habitat and is therefore designated  
2 as Category 2 habitat.

3 **HABITAT ENHANCEMENT ACTIONS**

4 The objectives of habitat enhancement and restoration are to protect habitat within the mitigation area  
5 from degradation and improve the habitat quality of the mitigation area. The certificate holder shall  
6 initiate the habitat enhancement actions for the facility as soon as the design configuration is finalized and  
7 the size of the mitigation area has been determined and approved by the Department. The certificate  
8 holder shall restrict uses of the mitigation area that are inconsistent with the goal of no net loss of  
9 Category 4 habitat. The certificate holder shall implement habitat enhancement actions as described in  
10 this Plan and as specified in the Site Certificate.

11 **MITIGATION AREA MONITORING**

12 The certificate holder shall hire a qualified investigator (an independent botanist, wildlife biologist or  
13 revegetation specialist) to conduct a comprehensive monitoring program for the HMA. The purpose of  
14 this monitoring is to evaluate on an ongoing basis the protection of habitat quality, the results of  
15 enhancement actions, and the use of the area by avian and mammal species, especially during the wildlife  
16 breeding season.

17 The investigator shall monitor the HMA for the life of the facility following the beginning of  
18 construction of the Carty Generating Station. The investigator shall visit the HMA as necessary to  
19 complete the required monitoring during the first, third, and fifth year following the beginning of  
20 construction, and every fifth year thereafter (unless otherwise specified for specific measures).  
21 Monitoring activity shall include an assessment of the following:

22 General quality of vegetation cover (dominant species, structural age, etc.), as determined by ocular  
23 estimates and photo points (see below);

- 24 1) Success of weed control efforts;
  - 25 2) Success of remedial actions to restore habitat quality in damaged areas (such as managed  
26 weed infestations and any necessary seeding/planting areas), as determined by vegetation  
27 cover (ocular estimate) and photo points (see below). Areas where remedial actions involve  
28 soil disturbance and reseeding would be monitored consistent with the revegetation  
29 monitoring methods and schedule as described in the Carty Generating Station Revegetation  
30 and Noxious Weed Plan.
  - 31 3) Photos taken from established photo points within the HMA, including 1) a minimum of five  
32 permanent photo points distributed to show general vegetation status throughout the HMA,  
33 and 2) additional photo points as needed to monitor success of significant enhancement  
34 activities, such as managed weed infestations and/or any necessary seeding/planting areas;
  - 35 4) Incidental wildlife occurring within the HMA (counts concurrent with all other monitoring  
36 work);
  - 37 5) Environmental factors found on site during monitoring activities and annual summary records  
38 (such as precipitation);
  - 39 6) Surveys of resident special status wildlife species (Washington ground squirrel) that have  
40 been documented during previous monitoring or survey efforts within the HMA, using  
41 existing protocols approved by ODFW; and,
  - 42 7) Avian point counts during the breeding season conducted annually as part of the existing  
43 Boardman Plant Ecological Monitoring Program (four existing point count stations are  
44 located in the immediate vicinity of the proposed HMA).
- 45

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1    **DATA REPORTING**

2           The certificate holder shall submit a report including wildlife and habitat monitoring data and analysis  
3 to the Department and ODFW during each monitoring year according to the general monitoring schedule  
4 (first, third, and fifth years following construction, and every five years thereafter). The certificate holder  
5 shall notify USFWS and ODFW immediately if any federal or state endangered or threatened species are  
6 killed or injured on the facility site or within the HMA. The certificate holder may include the reporting  
7 of wildlife monitoring data and analysis in the report required under OAR 345-026-0080, or submit this  
8 information as a separate document concurrent with the submittal of the report. In addition, the certificate  
9 holder shall provide the Department with any data or record generated by the investigators in carrying out  
10 this Plan upon request by the Department.

11    **AMENDMENT OF THE PLAN**

12           This Wildlife and Habitat Monitoring and Mitigation Plan may be periodically amended by  
13 agreement of the certificate holder and the Department. Such amendments may be made without  
14 amendment of the Site Certificate. The Council authorizes the Department to agree to amendments to this  
15 plan and to mitigation actions that may be required under this Plan. The Department shall notify the  
16 Council of all amendments and mitigation actions, and the Council retains the authority to approve, reject,  
17 or modify any amendment of this plan or mitigation action agreed to by the Department.

## Appendix A

# **Avian Protection Plan Portland General Electric**

*Prepared by:  
PGE Environmental Services  
April 2007*

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## INTRODUCTION

The purpose of the Portland General Electric (PGE) Avian Protection Plan (APP) is to reduce risks to avian (bird) species that can result from electrocutions and collisions with electric utility power lines and equipment. Through development and implementation of an Avian Protection Plan, PGE intends to benefit through regulatory compliance, reliability improvements, and positive recognition from regulators and the public.

The Portland General Electric (PGE) distribution service area covers portions of six counties in northwest Oregon and includes the Portland and Salem metro areas. PGE also owns and operates electrical generation facilities and transmission lines in northwest Oregon on the lower Columbia, Sandy, Willamette and Clackamas rivers and in central Oregon. The extensiveness of the company's system, especially its electrical distribution lines, creates substantial potential for interactions with large birds.

PGE's APP includes a three-phased approach that addresses avian risk issues while maintaining the company's focus on system reliability and operational excellence. The three aspects of this approach include:

- **Preventive:** Emphasize compliance with all applicable laws, regulations, and permits. Construct all new or rebuilt lines (and other electrical equipment/facilities as appropriate) in identified areas with high avian risk (which may include rural areas, areas of known raptor use, etc.) to avian-safe standards (see Construction Design Standards section and APLIC 2006 for discussions of avian-safe standards).
- **Reactive:** Document all bird mortalities and problem nests associated with PGE electrical facilities through an avian reporting system. Conduct remedial measures to the extent practicable and feasible. Notify resource agencies according to applicable APP procedures, permits and regulations.
- **Proactive:** Provide the necessary training and resources to improve employees' knowledge and awareness of avian protection issues and APP procedures. Conduct risk assessments of existing lines (and other electrical equipment/facilities as appropriate) in potential raptor use areas. Based on such risk assessments, modify existing structures to raptor-safe standards where appropriate and feasible. Seek opportunities to contribute to research on bird/electrical equipment interactions and enhance avian habitat associated with company projects and facilities.

The foundation of PGE's APP consists of company-wide procedures for documenting and tracking avian mortalities and problem nests. Procedures are designed to guide company personnel in the appropriate response to and documentation of incidents involving birds and electrical equipment. The resulting accumulation of company experience and bird incident data will be a valuable asset in accomplishing the preventative, reactive, and proactive aspects of the plan. The focus of this plan is on large birds (i.e. raptors, crows/ravens, waterfowl, etc.).

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## BACKGROUND

Power lines and associated electrical equipment can cause mortality of raptors, eagles, and other migratory birds through electrocution and collisions. Various statutory authorities establish civil, criminal, or administrative penalties for the unauthorized take of migratory birds. The following general discussion of avian risks and applicable regulations provides some background on the need for an Avian Protection Plan (APP).

### *Avian Risks: Electrocution and Collision*

Birds, especially open-country raptors such as eagles, hawks, and ospreys, use power poles and other electrical equipment for a variety of purposes. Poles and other electrical equipment may be used for nesting or as perches for resting, hunting, roosting or territorial defense. A bird can be electrocuted when it completes an electrical circuit by simultaneously touching two energized parts or an energized part and a grounded part. Most electrocutions occur on medium-voltage distribution lines (4 to 34.5 kilovolts), because the spacing between conductors on such lines can be small enough to be bridged by birds. To be raptor-safe, structures must provide adequate clearance between energized parts and/or grounded parts to accommodate a large bird. Raptor species (i.e. eagles, hawks, ospreys and owls), due to their behavior and large wingspans, are most often considered when addressing electrocution risk. However, other large birds, such as crows, ravens, waterfowl, and wading birds, can also be electrocuted by insufficiently spaced conductors. Electrical equipment, such as transformers, that have numerous, closely-spaced energized parts can present a risk to even small birds.

Collisions with electrical lines also present a risk of injury or mortality for migratory birds. The risk of collision depends on a variety of factors related to the behaviors of the species of bird involved, the surrounding environment and weather conditions, and the location and configuration of lines. Raptors generally are agile fliers with keen eyesight, and therefore their risk of collision with power lines is low. On the other hand, large, heavy-bodied birds such as cranes and herons have relatively higher risk for collisions due to their large wingspans and lack of agility. Also, flocking behavior by waterfowl may limit maneuverability and ability to avoid collision hazards, particularly if flocks are taking off or landing under conditions of limited visibility. Therefore, power lines in proximity to bodies of water frequented by wading birds and waterfowl, or in terrestrial feeding areas used by such species, likely pose a higher risk for collision than lines in other areas.

### *Applicable Regulations*

The Migratory Bird Treaty Act (MBTA) protects listed migratory birds (and their parts, nests and eggs) that occur in North America (Appendix A-1). There are 836 species listed for protection under the act as currently amended, including all birds native to North America. The MBTA prohibits the “take” (defined as “pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt any of these acts”), possession, or transportation of any migratory bird or any part, nest, or egg of a migratory bird. It is a strict liability law, meaning that proof of intent is not a necessary element of a violation. Violations can result in fines (which may be doubled for organizations) of up to \$15,000 and/or up to six months imprisonment for a misdemeanor, and up to \$250,000 and/or up to 2 years imprisonment for a felony.

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In addition to being covered under the MBTA, bald and golden eagles are protected by the Bald and Golden Eagle Protection Act (BGEPA) (Appendix A-2). The BGEPA includes prohibitions and fines similar to those in the MBTA. Also, the Endangered Species Act (ESA) protects species that are listed as endangered or threatened under the act (Appendix A-3). Bald eagles in the lower 48 states are currently (February 2007) listed as threatened under the ESA. The bald eagle has been proposed for delisting under the ESA. However, the ESA delisting will not affect protections for the bald eagle under the MBTA and BGEPA.

The USFWS is the federal agency principally responsible for enforcement of the MBTA, BGEPA and ESA. USFWS has worked with the Avian Power Line Interaction Committee (APLIC) to develop guidelines for voluntary APP's. In April 2005, APLIC and USFWS finalized the Avian Protection Plan Guidelines (APLIC & USFWS 2005). USFWS is advising utilities to use the guidelines to develop a plan that is specific to their needs and demonstrates their commitment to reducing risks to protected migratory birds.

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**PROGRAM OVERVIEW**

This Avian Protection Plan (APP) focuses on PGE’s policies and procedures for 1) responding to and documenting bird/electrical equipment interactions when they occur, and 2) reducing overall avian risk associated with the company’s facilities. PGE has developed this document with reference to the guidelines developed cooperatively by APLIC and USFWS (APLIC & USFWS 2005). Consistent with the guidelines, the PGE APP includes the following elements:

- *Corporate Policy* – A statement of PGE’s commitment to avian protection and effective implementation of the plan.
- *Training* – Programs and resources in place for increasing employees’ knowledge and awareness of avian protection issues and APP procedures.
- *Permit Compliance* – A review of current permit requirements and procedures for permit compliance.
- *Construction Design Standards* – Standards to be used for design of new construction in areas of avian risk and for retrofitting equipment where bird mortality has occurred.
- *Nest Management* – Procedures for assessing and managing nests on utility structures.
- *Avian Reporting System* – Procedures and data systems used to report, document, and track bird mortality incidents.
- *Risk Assessment Methodology* – Methods for using the Avian Reporting System data and additional data on bird activity areas to assess avian risk and prioritize areas for avian-safe new construction standards and proactive retrofit efforts.
- *Mortality Reduction Measures* – Steps the company will take, if warranted by risk assessment results, to develop an avian mortality reduction plan for areas of concern.
- *Avian Enhancement Options* – Procedures for evaluating, and implementing where feasible, potential proactive measures to enhance migratory bird populations or habitat.
- *Quality Control* – Procedures that may be used to periodically assess the effectiveness of the APP program and possible areas for improvement.
- *Public Awareness* – Methods that may be used to educate the public about avian protection issues, PGE’s APP, and the company’s successful avian protection efforts.
- *Key Resources* – Resources to be used by PGE in implementing the APP.

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**PGE CORPORATE BIRD MANAGEMENT POLICY**

A successful Avian Protection Plan (APP) requires management endorsement and support to ensure that resources are allocated as necessary, there is a unified company strategy for implementing the plan, and the necessary oversight is in place to ensure the plan is effective. PGE is committed to complying with legal requirements for protecting avian species while also improving customer service and distribution system reliability. PGE management and employees are committed to minimizing detrimental impacts of bird interactions with power lines and other electrical equipment.



Commitments in PGE's existing Environmental Policy (Appendix B) directly applicable to responsible bird management include:

- Requiring strict adherence to environmental laws, regulations and standards by all employees and contractors;
- Ensuring that our employees receive adequate training and are aware of the importance of their roles in protecting our environment;
- Working cooperatively with environmental and community organizations to further mutual goals for resource protection;
- Maintaining open and constructive dialogue with regulatory agencies, public officials, environmental groups and customers to identify and respond to emerging issues and concerns;
- Incorporating environmental considerations into the planning and design of new projects and the upgrade of existing projects; and,
- Clearly establishing accountability within the Company for environmental planning, performance and oversight.

To fulfill the above commitments in regard to avian protection, PGE will:

- Implement and comply with its APP;
- Ensure its actions comply with applicable laws, regulations, permits, and APP procedures;
- Document bird mortalities, problem poles/lines/electrical equipment, and problem nests;
- Provide information, resources and training to improve its employees' awareness of avian protection issues and APP content and procedures;
- Conduct risk assessments to determine areas of high avian risk.
- Construct all new or rebuilt lines (and other electrical equipment as appropriate) in identified areas with high avian risk (which may include rural areas, areas of known raptor use, etc.) to PGE raptor-safe standards;
- As practicable, modify or retrofit power poles (and other electrical equipment as appropriate) where a raptor or other large bird has died or been injured; and,
- Inform the community about PGE's avian protection efforts in order to raise public awareness about migratory bird protection issues and regulations.

Through these proactive procedures, PGE will strive to reduce risk to migratory birds while providing reliable electrical service in a cost-effective manner.

	<u>Name</u>	<u>Title</u>	<u>Date</u>
Signed:		SR. VICE PRESIDENT	5-1-2007
	 Arleen N. Barnett	Vice President	5/7/07
	_____	_____	_____



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**TRAINING**

Training is an important element of the PGE Avian Protection Plan. All appropriate personnel, including managers, supervisors, line and electrical maintenance crews, dispatch, engineering, and design personnel, will be trained in avian protection issues as applicable to their work. Training will include information on: avian electrocution/collision risks; applicable laws and permit requirements; protected birds in the PGE service territory; avian mortality reporting, recordkeeping, and carcass disposal; remedial action procedures; company design standards; and nest management protocols. Training will be conducted on a periodic basis to ensure that new employees are trained and to address any significant changes to regulations, permit conditions, or internal procedures.

Training materials will include: 1) flow diagrams and/or written instructions detailing company procedures for nest management and the handling and reporting of dead birds (Appendix C-1 & C-2); and, 2) photos and identification information for common raptors and endangered species occurring in PGE's service area, or at other project sites as applicable (Appendix C-3). Training format will consist of multimedia presentations at departmental meetings and compliance trainings. As the training program progresses, various training materials and formats, including brochures, videos, and computer-based training exercises will likely be developed and used. Additional ongoing training opportunities will consist of follow-up and "lessons learned" communications to employees about bird-related incidents.

PGE's training efforts to date have included:

- Distribution of interim dead bird reporting and disposal procedures to company line and electrical maintenance personnel in December 2005;
- Subsequent discussions of the interim procedures in crew safety meetings in early 2006;
- Brief presentations on migratory bird laws and company reporting procedures by a PGE wildlife biologist at repairman safety meetings in August and September 2006; and,
- Case-by-case discussions between company biologists and field personnel regarding management of osprey nests on power poles and bird mortality incidents.

PGE's plans for future training include:

- Initial formal training sessions (to occur Jan – Dec 2007) for all relevant work groups to introduce the completed APP, the overall need for avian protection efforts, and applicable procedures;
- Inclusion of avian protection content in the training of new employees beginning in 2007; and,
- Refresher trainings to occur every year if possible, or as needed to review current and/or new regulations and procedures.

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**PERMIT COMPLIANCE**

PGE will work with resource agencies (i.e. USFWS Regional Migratory Bird Permit Office and Oregon Department of Fish and Wildlife (ODFW)) as necessary to identify and obtain required permits for operational activities that impact protected avian species. PGE currently holds a Special Purpose permit (No. MB117979-0) from the USFWS Region 1 Migratory Bird Permit Office (Appendix D). The permit outlines authorized procedures for handling and disposal of dead birds and relocation of problem nests when necessary for bird safety and/or system reliability.

*Handling and Disposal of Dead Birds*

PGE's Special Purpose permit authorizes Company personnel (under advisement of a PGE wildlife biologist) to pick up and bury non-eagle carcasses at the site where they are found. The permit requires an annual report detailing the locations and dates that bird carcasses were found and buried. Consistent with the permit and applicable laws, ODFW and USFWS Law Enforcement Office, will be notified of all eagle mortalities (or other threatened/endangered species) when they occur. Eagle carcasses will be turned over to one of the two agencies. PGE's dead bird reporting and disposal procedures provide a mechanism for documenting bird mortalities and ensuring that bird carcasses are handled and disposed of according to permit restrictions (see Avian Reporting System section & Dead Bird Reporting and Disposal Procedures, Appendix C-1).

*Injured Birds and Specimen Salvage*

Transport of injured birds to rehabilitators may be necessary and will be coordinated with the appropriate agencies. The Special Purpose permit allows authorized PGE personnel to pick up and transfer injured raptors and other birds to a federal or state licensed rehabilitation facility. If an injured eagle is involved, PGE must notify ODFW and the USFWS Law Enforcement Office. Only permitted rehabilitators will be used, and injured birds will be transported by wildlife agency personnel or a permitted rehabilitator whenever possible. PGE may choose on a case-by-case basis to offer carcasses as specimens for scientific or educational purposes. Such salvage activities will be conducted in coordination with another organization that holds a valid salvage permit (i.e. an educational institution with a salvage permit) and consistent with the requirements of that permit.

*Nest Relocation*

PGE's Special Purpose permit authorizes PGE to relocate active (containing eggs or chicks) migratory bird nests from transformers and conductors when the threat of fire hazard and power outages is present at the current nest location. The USFWS permit office must be informed of the nest location and relocation details within 72 hours of the action. Relocation of eagle nests (or nests of other threatened or endangered species), whether active or inactive, are not authorized under the permit. Additional permitting is required if management of an eagle or endangered/threatened species nest is absolutely necessary. To ensure that permitting requirements are followed, all nest relocation/removal activities will be performed and documented according to established company procedure (see Nest Management section and Nest Management Procedures, Appendix C-2).



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**CONSTRUCTION DESIGN STANDARDS**

PGE considers avian interactions in the design and installation of new facilities as well as in the operation and maintenance of existing facilities. PGE will implement accepted avian-safe design standards for: 1) new construction in identified areas with high avian risk (which may include rural areas, areas of known raptor use, etc.), and; 2) as practicable, retrofitting existing structures where bird mortalities have occurred. PGE's avian-safe design standards have been developed with reference to APLIC guidance documents (*Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006* and *Mitigating Bird Collisions with Power Lines: The State of the Art in 1994*) and standards used by other electrical utilities.

*New Construction*

Avian-safe design will be used for all new construction and line rebuilds in identified areas with high avian risk (which may include rural areas, areas of known raptor use, etc.). High avian risk areas will be determined by bird mortality data and avian risk assessments (see Avian Reporting System section, Risk Assessment section). The objective of avian-safe design is to provide 60 inches (1.5 meters) of separation between energized conductors and/or energized conductors and grounded hardware, or to insulate energized parts and grounded hardware if adequate spacing is not possible. If other system design considerations prohibit avian-safe design for a particular line segment, other measures, such as perch guards and installation of safe alternative perch locations, may be implemented to minimize the potential for birds perching in unsafe locations.

In addition, risk factors for avian collisions with power lines should be considered when siting new lines. When possible, new line placement will avoid bird concentration areas (such as wildlife refuges, wetlands and riparian areas) and known flight routes. When such areas can not be avoided, the use of bird flight diverters and line marking devices may effectively reduce collision risk. Site specific factors such as vegetation and topographic features can also be evaluated to determine the line placement that minimizes collision risk.

*Retrofitting Existing Facilities*

Any PGE power line structure or other equipment involved in an avian electrocution or collision incident will be evaluated and modified as practicable and feasible. Other structures in the vicinity with similar design and in similar habitat will also be modified when practicable and feasible. Other "problem poles" or high-risk equipment may be identified through the bird mortality database (i.e. multiple electrocutions/collisions documented in one area or on a particular circuit), avian risk assessments, and/or feedback from field personnel, wildlife agencies, and concerned customers.

Proactive retrofits of equipment identified as high risk to birds will be conducted as feasible, particularly when work can coincide with routine maintenance activities or when significant system reliability improvements may result. In fact, concurrent with the development of this plan, PGE is planning to conduct proactive retrofits of distribution lines in the vicinity of selected public wildlife refuge areas in the Company's service area (see Mortality Reduction section). Also, PGE is incorporating avian risk criteria into the Company's ongoing pole inspection and treatment (FITNES)

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program, through which each pole in the distribution system is reviewed every 10-15 years. The data collected will be used for targeting future retrofit efforts (see Risk Assessment section).

A remedial action should accomplish the following objectives in order to prevent or reduce the risk of avian electrocution and/or collision:

- Provide 60 inches of separation between energized conductors and/or energized conductors and grounded hardware;
- Cover/insulate hardware or conductors to reduce risk of simultaneous contact if adequate spacing is not possible;
- Discourage birds from perching in unsafe locations;
- As practicable, provide alternative locations for perching and/or nesting; and, if applicable,
- Increase the visibility of conductors or shield wires to prevent avian collisions.

With the above objectives in mind, PGE engineering, operations, and environmental personnel will consult on each problem line or equipment situation to determine the most appropriate remedial action in consideration of site-specific factors (i.e. bird species involved, local land use, habitat and topography, line and equipment configuration, design constraints, etc.). Retrofit measures may include one or a combination of the following: reframing or replacing a structure to achieve adequate spacing of conductors; covering jumper wires, conductors, and equipment; installing perch guards to discourage perching in unsafe locations; install bird flight diverter and/or line marker devices to increase line visibility and reduce collision risk; and, other modifications as appropriate.

See Appendix E for illustrations of the types of avian-safe specifications/construction designs/retrofit techniques that PGE uses for avian protection retrofits.

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**NEST MANAGEMENT**

Raptors and some other birds occasionally nest on distribution and transmission structures. All active nests (eggs or young present) of migratory birds are protected by the Migratory Bird Treaty Act. PGE has an established history of responsibly managing nests, especially osprey nests, on utility poles and communicating with agencies concerning nest locations and management needs. PGE has also provided crews and bucket trucks to assist USGS research biologists with osprey management and research projects, including collecting eggs from nests and taking blood samples from chicks.

PGE's APP includes procedures for nest management on utility structures (See Nest Management Procedure, Appendix C-2.1 & C-2.2). To ensure that all permitting requirements are followed, all nest relocation/removal activities will be performed and documented according to established company procedure. PGE's federal Special Purpose permit authorizes PGE to relocate active (containing eggs or chicks) migratory bird nests from transformers and conductors when the threat of fire hazard and power outages is present at the current nest location. However, PGE must report active nest relocations to USFWS within 72 hours. Relocation of bald or golden eagle nests, or nests of threatened or endangered species, whether active or inactive, are not authorized under the permit. Additional permitting is required if management of an eagle or endangered/threatened species nest is absolutely necessary. Relocation of eagle and other endangered/threatened species nests will be conducted only under the advisement of a PGE wildlife biologist and after any additional required permits or authorizations have been obtained.

Osprey nesting platforms are valuable tools for reducing electrocution risk for nesting birds and improving electrical system reliability. PGE has successfully used osprey nest platforms many times in the past, and will continue to do so as necessary in the future. Typically, a separate pole with a nest platform is located nearby a "problem nest" pole, with the platform higher than the existing structure to make it desirable to the nesting ospreys. If an established nest is present, it is then relocated to the new platform, and the existing structure is retrofitted to reduce risk of injury or to discourage perching or nest building in unsafe locations. If the specific location can not accommodate a separate nest platform pole, a combination of avian-safe retrofits and addition of a platform on a pole-top extension has been successfully used. The Company's experience indicates that ospreys readily adapt to new nest platforms.

Timing of nest management activities is also an important consideration. Whenever possible, PGE plans nest management activities to avoid disturbance of active migratory bird nests. For example, relocation of osprey nests is conducted prior to egg laying or delayed until after the breeding season, unless immediate relocation is necessary due to public safety, system reliability, or bird safety concerns. Often, simple retrofits such as insulating conductors can minimize risk to nesting birds, and, if necessary, the nest can be moved at a later date outside of the active nesting season.

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**AVIAN REPORTING SYSTEM**

PGE has developed an internal reporting system and database for tracking avian mortalities, nest management issues, and remedial actions taken. The Dead Bird Reporting and Disposal Procedure (Appendix C-1.1) directs Company personnel to report bird mortalities to the System Control Center (Load Dispatch). Load Dispatch then notifies a PGE wildlife biologist via pager, and the biologist contacts field personnel to provide guidance on bird identification, handling and disposal (Appendix C-1.2). The biologist records incident information on the Avian Mortality Data Form (Appendix C-1.3) and forwards the form to the appropriate distribution or other facility manager. The manager consults with the appropriate personnel to determine the necessary remedial action and schedule. Throughout this process, information on the incident and remedial action is recorded on the Avian Mortality Data Form and entered into the Avian Protection Database by a PGE wildlife biologist or other designated database manager.

A similar process is followed to document problem nest situations and nest management activities. The Nest Management Procedure (Appendix C-2.1) directs personnel to consult a PGE wildlife biologist prior to removing or relocating a migratory bird nest (see Nest Management Section). The biologist advises field personnel on appropriate nest management with regard to migratory bird laws and permit requirements. Information on the problem nest situation and management actions taken are documented on the Nest Management Data Form (Appendix C- 2.2) and entered into the Avian Protection Database.

These reporting and data management procedures allow documentation of bird mortalities, problem nest situations, and remedial actions conducted to make the facilities involved more avian-safe. The resulting database will allow: 1) tracking of incidents and remedial actions to ensure that all measures are completed and documented; 2) accumulation of a long-term data set; and, 3) compliance with the reporting requirements of the federal USFW Special Purpose permit. The reporting system also will provide data on the location and frequency of bird mortalities and problem nests. Such data will be necessary for conducting the proactive risk assessment and mortality reduction measures described below.

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**RISK ASSESSMENT METHODOLOGY**

An effective APP should incorporate methods for assessing avian risk. Rather than simply reacting to bird mortalities as they occur, avian risk assessments can be used to identify areas of relatively high avian risk and prioritize them for proactive retrofit efforts. PGE's APP includes methods for evaluating risks to migratory birds and identifying areas and issues of particular concern.

The Avian Reporting System discussed above will be an important part of the PGE's risk assessment approach. As the Company collects data on bird mortalities and problem nests over time, patterns will likely emerge indicating areas in the distribution system that may pose relatively high avian risk. The data may also indicate particular equipment types and/or configurations that are most dangerous to birds.

The Company will use information (both from existing data sets and information collected by company biologists) on bird concentration areas (such as wildlife refuges, wetlands, riparian areas, known flight routes, etc.) to determine areas where high bird use may result in relatively high avian risk. Information considered in a risk assessment may include structure configuration, level of avian use, avian mortality, nesting problems, established flyways, adjacent wetlands, prey populations, perch availability, effectiveness of existing procedures, remedial actions, and other factors that affect avian interactions with utility facilities. These types of analyses would allow PGE to focus efforts in a cost effective manner on areas that pose the greatest risk to migratory birds. For instance, risk of bird electrocutions and collisions may be of particular concern where the company's power lines are located near high use raptor foraging and breeding areas, such as bald eagle and osprey activity areas along the Columbia and Willamette rivers and their tributaries.

PGE also is incorporating avian risk criteria into the Company's ongoing pole inspection and treatment (FITNES) program. Through this program, each pole in the distribution system is reviewed every 10-15 years. During FITNES surveys, avian risk information will be collected for each pole. The data collected can be used for targeting future retrofit efforts.

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**MORTALITY REDUCTION MEASURES**

The avian reporting and risk assessment procedures detailed in this APP will help PGE identify areas of high avian risk that warrant mortality risk reduction measures. Examples of mortality risk reduction measures include system monitoring to further define risk, system retrofits, and avian-safe standards for new construction. If necessary, PGE will develop risk reduction plans that address where retrofit efforts should be focused and where new construction warrants special attention to avian issues. Risk reduction plans will identify areas where mortality reduction measures should be implemented, the specific measures that will be implemented, and an implementation schedule.

During development of this APP, a general consensus emerged among PGE personnel and wildlife agency contacts regarding three areas within PGE's service area that warrant proactive mortality reduction measures. These three areas are the Tualatin River National Wildlife Refuge (including the Wapato Lake Unit added to the Refuge in 2007), Sauvie Island, and Jackson Bottom Wetlands. PGE anticipates spending up to \$100,000 per year during the next three-four years (2007-2010) to reduce avian risks in the vicinity of these wildlife refuge areas. The following measures will be conducted for each of the three wildlife areas.

- Review maps and conduct field surveys of the PGE distribution and transmission systems in the area and review existing information on wildlife use areas in the vicinity in order to assess the avian risk potential of various portions of the system.
- Retrofit poles in the vicinity of the wildlife area as practicable to reduce avian risk. If practicable, mark transmission lines that may present high risk of avian collisions.

Over time PGE will use the avian reporting and risk assessment procedures described in this APP to identify other areas that warrant mortality reduction measures. Prior to conducting more comprehensive risk assessment efforts, the Company regards the three areas described above to be of sufficient priority to justify proceeding with proactive mortality reduction measures.

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**AVIAN ENHANCEMENT OPTIONS**

In addition to the goal of reducing avian mortalities, PGE's APP may also address opportunities for enhancing avian populations or habitat. Such proactive efforts for avian habitat conservation could include developing nest platforms, managing habitat to benefit migratory birds, or participating in research on bird populations and habitat management. PGE may identify avian habitat enhancement opportunities during the course of mortality reporting, risk assessment and mortality reduction planning. Avian habitat enhancement measures will be encouraged and explored where practical and economically feasible, especially in cases where they can contribute to improved electrical system reliability (such as construction of nest platforms).

PGE has an established history of successfully managing osprey nests using nest platforms. Company bucket truck crews also have assisted USGS research biologists with osprey management and research projects, including collecting eggs from nests and taking blood samples from chicks.

Other PGE programs related to avian population monitoring and habitat management include:

- Annual occupancy and productivity surveys of eagle, osprey, and prairie falcon nests associated with PGE hydro project reservoirs in central Oregon;
- Annual bald eagle and waterfowl winter use surveys at PGE hydro project reservoirs in central Oregon;
- Annual sponsorship of the Eagle Watch public event at Lake Billy Chinook;
- Periodic financial contributions to support the statewide bald eagle nest site monitoring program;
- Annual surveys of bald eagle fall and winter communal roosts at PGE hydro project reservoirs in central Oregon;
- A commitment to develop bald eagle nest site and roost site management plans for nest and roost sites monitored at PGE hydro project reservoirs in central Oregon; and,
- Participation in a Multi-Species Candidate Conservation Agreement with Assurances (MSCCAA) including habitat protection, management and monitoring activities intended to benefit populations of ferruginous hawks, loggerhead shrikes, and sage sparrows on PGE-owned and adjacent lands at PGE's Boardman Coal Plant.

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**QUALITY CONTROL**

Effective database management will be the primary tool through which PGE assesses and maintains the quality of Company avian protection procedures and activities. Documentation and tracking of bird mortalities, nest problems, and remedial actions will allow assessment of the effectiveness of avian management actions. For example, tracking of nest management problems will help determine whether nest management actions have been effective or whether nest-related problems are re-occurring at specific locations. The Avian Protection Database will allow Company wildlife biologists to identify re-occurrence of bird mortalities at sites that have been retrofitted. The database will be a key tool for determining the effectiveness of specific retrofit techniques.

In addition to tracking reported mortalities and nest problems, company wildlife biologists will regularly monitor the Company's Outage Management System to detect any outage-related avian issues that are not reported under the APP reporting procedures. In addition, ongoing communications with employees through trainings and follow-up communications to avian incidents will provide an ongoing feedback loop to aid in the evaluation and improvement of avian protection procedures.



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**PUBLIC AWARENESS**

PGE's efforts at avian protection will undoubtedly provide opportunities for educating the public about avian electrocution issues, the company's APP, and the company's successes in avian protection. A substantial increase in awareness among Company employees in general is expected to result from APP trainings and internal communications about avian protection initiatives. PGE communicates news to employees on a weekly basis through the company intranet. Therefore, news about avian protection related initiatives, projects, and events can be conveyed to employees as relevant on an ongoing basis.

PGE may publicize information about its APP and avian protection projects through the company internet site or through fliers distributed in customer mailings or at community events. In addition, direct interaction with customers during the course of avian protection activities (such as investigating bird mortalities, conducting system retrofits, and performing nest management work on customer property) will provide opportunity for raising public awareness about avian protection issues.

The company will also seek sponsorship and participation in community events or symposiums with avian conservation themes. Current examples include: PGE's sponsorship (in cooperation with Cove Palisades State Park and the Confederated Tribes of Warm Springs) of the annual Eagle Watch public event at Lake Billy Chinook; and, sponsorship of the Oregon Zoo's Wild Life Live! bird show.

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**KEY RESOURCES**

Communication between avian experts and utility decision-makers is important for regulatory compliance, reduction of avian risks, and associated improvements in system reliability. Useful resources for PGE personnel may include Company biologists and contacts at federal and state resource agencies, universities, conservation organizations, wildlife rehabilitation centers, and other utilities. The following is a list of such resources for reference by company personnel.

**PGE Wildlife Biologists**

Greg Concannon (Supervisor)  
Location (Pelton Round Butte)  
Office: 541-325-5339  
Cell: 541-419-4736

Andy Bidwell (Wildlife Biologist)  
Location (3 WTC)  
Office: 503-464-8526  
Cell: 503-887-3002

Robert Marheine (Wildlife Biologist)  
Location (Pelton Round Butte)  
Office: 541-325-5350  
Cell: 541-410-2909

**Resource Agency Contacts**

Oregon Department of Fish and Wildlife (<http://www.dfw.state.or.us/wildlife/>)

Susan Barnes  
Wildlife Diversity Biologist  
503-657-2000 ext. 230

Dick Caldwell  
Regional Wildlife Biologist  
503-657-2000 ext. 250

US Fish and Wildlife Service (<http://www.fws.gov/birds/>)

Office of Law Enforcement  
Phillip A. Land  
Special Agent  
503-682-6131

Oregon Field Office  
Kevin Maurice  
Biologist

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503-231-6179

Migratory Bird Permit Office  
Tami Tate-Hall  
503-872-2715

**Bird Conservation and Information Resources**

American Bird Conservancy (<http://www.abcbirds.org/>)  
Cornell Lab of Ornithology (<http://www.birds.cornell.edu/>)  
HawkWatch International (<http://www.hawkwatch.org/>)  
Idaho Bird Observatory (<http://www.boisestate.edu/biology/ibo/>)  
National Biological Information Infrastructure (<http://birdcon.nbii.gov/>)  
USGS Patuxent Wildlife Research Center (<http://www.pwrc.usgs.gov/>)  
USGS Raptor Information System (<http://ris.wr.usgs.gov/>)  
North American Bird Conservation Initiative (NABCI) (<http://www.nabci-us.org/main2.html#>)  
Partners in Flight (<http://www.partnersinflight.org/>)  
Smithsonian Migratory Bird Center  
(<http://nationalzoo.si.edu/conservationandscience/MigratoryBirds/>)

**Utility Resources**

Avian Power Line Interaction Committee (APLIC) (<http://www.aplic.org/>)  
Edison Electric Institute (<http://www.eei.org/>)  
PacifiCorp, Jim Burruss, 801-220-2535

**Wildlife Rehabilitator Resources**

Portland Audubon Society (<http://www.audubonportland.org/>)  
  
Wildlife Care Center  
5151 NW Cornell Road  
503-292-0304

**REFERENCES**

- APLIC 1994. Mitigating Bird Collisions with Power Lines: The State of the Art in 1994.
- APLIC 2006. Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006. PIER Final Project Report CEC-500-2006-022.
- APLIC & USFWS 2005. Avian Protection Plan Guidelines. Prepared by Edison Electric Institute's Avian Power Line Interaction Committee (APLIC) and the U.S. Fish and Wildlife Service.

**EXHIBIT 2**  
**REVEGETATION AND NOXIOUS WEED CONTROL PLAN**

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**Carty Generating Station: Revegetation and Noxious Weed Control Plan**  
[DRAFT PROPOSED ORDER, EXHIBIT 2, DATE]

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This Revegetation and Noxious Weed Control Plan (Plan) outlines the goals, methods, and success criteria for restoring areas disturbed during construction of the Carty Generating Station.<sup>546</sup> The certificate holder is not required to restore areas occupied by permanent facility components under this Plan. Rather, the objective of this Plan is to minimize and mitigate potential impacts to the site, help bolster the native plant community, and provide clear guidelines for the revegetation of all areas disturbed by project-related activities that are not occupied by permanent structures or facilities.

Revegetation and restoration measures are designed to support wildlife habitat, control erosion, and mitigate against the invasion of noxious weed species into newly disturbed areas. Noxious weeds are invasive plant species that have been designated as noxious by the Oregon Department of Agriculture (ODA). Where vegetation has been damaged or removed during construction, the certificate holder must restore suitable vegetation to pre-disturbance condition or better. In addition, the certificate holder shall maintain erosion and sediment control measures put in place during construction until the affected areas are restored as described in this Plan and the risk of erosion has been eliminated. The Plan specifies monitoring procedures to evaluate revegetation success of disturbed wildlife habitat areas. Remedial action may be necessary for wildlife habitat areas that do not show revegetation progress. Additional mitigation may be necessary if revegetation is unsuccessful.

The certificate holder shall use experienced and properly trained personnel (“investigators”) to conduct the monitoring required under this Plan. The professional qualifications of the investigators are subject to approval by the Oregon Department of Energy (ODOE or “Department”). This Plan has been developed in consultation with the Oregon Department of Fish and Wildlife (ODFW). The Plan shall be finalized prior to construction through coordination with ODFW, the Morrow County Weed Control Board, and the Gilliam County Weed Control Officer, and shall be implemented during construction and the five-year revegetation monitoring period.

**GOALS AND OBJECTIVES**

The overall goal of this Plan is to return the project site to as close to pre-construction conditions as possible. The 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 best management practices

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<sup>546</sup> This plan is incorporated by reference in the site certificate for the Carty Generating Station and must be understood in that context. It is not a “stand-alone” document. This plan does not contain all mitigation required of the certificate holder.

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(BMPs) and construction limit staking per the Oregon Department of Environmental Quality (ODEQ) 1200-C permit;

- Revegetating disturbed areas with native grasses and forbs (flowering plants);
- Controlling weed germination and growth during and after construction; and
- Establishing a regular monitoring program during and after construction to ensure the continued successful development of restored areas, and to quickly identify new populations of weeds.

#### **SITE DESCRIPTION**

The Carty Generating Station Site is located in Morrow and Gilliam Counties, Oregon, approximately 13 miles southwest of the town of Boardman, Oregon. The generating facility and associated transmission line will be located on an upland plateau at an elevation of approximately 650 feet above sea level. The project facilities will be located entirely on private lands that are characterized as shrub-steppe rangeland, weedy agricultural and shrub, or agricultural cropland. Soil types in the area consist primarily of sandy loam, silt loam, and very stony loam.

Shrub-steppe rangeland is the primary non-agricultural vegetation type present in the project area. Although many of the areas with this habitat are considered marginal in quality due the presence of invasive weeds, grazing, past fires, and frequent disturbance (e.g., areas between irrigation circles along the proposed transmission line route), there are some patches of moderate quality habitat (e.g., west of the agricultural area along the transmission line route). Functional mature shrub-steppe consists of low-stature rabbitbrush-dominated shrub lands with patches of big sagebrush and native grasses, and varying degrees of non-native invasive grass and forb species. Construction of lattice transmission towers and transmission line stringing would temporarily impact approximately 52.2 acres of Category 6 agricultural cropland.<sup>547</sup> Facility construction would temporarily impact approximately 155 acres of Category 4 shrub-steppe.

#### **SCHEDULE**

Implementation of this Plan will begin as soon as site excavation begins. An on-site monitor shall ensure that erosion control BMPs and construction limits are appropriately installed and maintained per the 1200-C permit. Areas of temporary disturbance will be restored to original grade and soil condition as soon as possible after the final construction ground disturbance and will be re-contoured and decompacted if necessary. Weed control and seed application work shall focus on areas that will not have future construction activities or further disturbance. Construction managers should take this into account while determining their construction schedule.

With the exception described below for seasonal considerations, weed control and/or seeding shall be conducted as soon as construction is completed in a given area. This approach will provide for a more successful stand of vegetation because the soil will be less compacted for seeding, fewer weeds will have time to become established, and native plants will not have to compete with exotic weed seeds that blow in or are already in the soil.

It is most effective to apply seed in the fall and winter seasons or early enough in the spring to ensure sufficient soil moisture for germination and plant establishment. Thus, seeding activities should be

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<sup>547</sup> ODFW defines six categories of habitat in OAR 635-415-0025. Category 4 and 6 habitat is discussed in this plan. Category 4 habitat is important habitat for fish and wildlife species. Category 6 habitat is habitat that has low potential to become essential or important habitat for fish and wildlife.

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scheduled during the period from September to April of any given year. For areas where construction is completed outside of the winter or spring periods, seeding will be delayed until October or November. If final construction and soil restoration is not completed at a time that allows immediate reseeding during one of the two periods listed above (winter/spring or fall), the areas will be mulched or otherwise treated to minimize erosion until seeding can be conducted.

#### **SITE RESTORATION**

Revegetation of temporarily disturbed areas will include several important aspects, including topsoil management, selection of an appropriate seed mix, and control of noxious and other undesirable plant species. The certificate holder shall choose planting methods based on site-specific factors such as slope, erosion potential, and the size of the area in need of revegetation. Disturbed ground may require chemical or mechanical weed control before weeds have a chance to go to seed.

The certificate holder will employ the following general restoration and revegetation steps to meet short- and long-term goals:

- Seed soils disturbed in construction areas to restore vegetation;
- Pre-treat all state-designated noxious weeds, as practical, in disturbance areas;
- Minimize weed dispersal 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 from other areas and following work in weed-infested areas;
- Use proper soil management techniques, including topsoil stripping, stockpiling, and reapplying to establish surface conditions that would 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;
- Use certified weed-free straw bales and straw mulch for soil erosion and sedimentation control measures;
- Establish terrain compatible with the surrounding landscape (recontouring) that emphasizes restoration of existing drainage and landform patterns, to the extent practical;
- 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; 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.

#### **TOPSOIL MANAGEMENT**

The certificate holder shall restore topsoil to pre-construction condition or better. Preservation and/or replacement of native topsoil not only ensures a healthy, nutrient-rich seed bed, but also incorporates the native seed bank, increasing overall species richness and potential for full recovery of the site to natural conditions. Areas without sufficient topsoil recover at a slower rate, and tend to be colonized by exotic species much sooner, than areas with native topsoil.

During construction, topsoil should be kept in place where possible. Where it is necessary to remove topsoil, it shall be stockpiled in appropriate locations and protected with erosion control BMPs per the ODEQ 1200-C permit. Stockpiled topsoil shall be windrowed inside of the clearing limits, kept separate from subsoil, and protected from wind and water erosion. If topsoil is removed from its place of origin, it shall be labeled and tracked so that it may be replaced appropriately prior to commencement revegetation.



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Another contributing factor to restoration success is the condition of the seed bed at the time of seeding. Compacted soil does not provide an optimal environment for seed germination and establishment, but can instead lead to a lack of vegetative cover and thus increased erosion potential over time. In preparation for seeding activities, areas compacted by construction activities shall be ripped to a depth of 12” where feasible and roughened to provide maximum seed-soil contact.

**SEED MIX**

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.

The certificate holder shall seed disturbed cropland areas with wheat or other crop seed. If necessary, in coordination with the landowner, an appropriate cover crop shall be planted to hold the site until the next crop planting rotation. The certificate holder shall consult with the landowner and farm operator to determine species composition, seed and fertilizer application rates, and application methods. Cropland areas are successfully revegetated when the replanted areas achieve crop production comparable to adjacent non-disturbed cultivated areas. The certificate holder shall consult with the landowner or farmer to determine whether these areas have been successfully revegetated and shall report to the Department on the success of revegetation in these areas.

The certificate holder shall seed all disturbed shrub-steppe habitat areas that are not cropland or other developed lands. The certificate holder shall consult with ODFW and the landowner to determine the appropriate seed mix and application rate for these areas, including a combination of grasses, forbs, and shrubs based on the characteristics of the affected area (see Table 1). The mix should contain native species that are selected based on relative availability and compatibility with local growing conditions, as well as desirable non-native species known to provide erosion control and wildlife forage benefits. Seed mix selection should consider soil erosion potential, soil type, seed availability and the need for using native or desirable non-native species.

**Table 1. Proposed Seed Mix for Temporarily Disturbed Project Areas in Shrub-Steppe Habitat**

Common Name	Scientific Name	PLS <sup>1</sup> pounds/acre <sup>2</sup>	Description
Secar bluebunch wheatgrass	<i>Pseudoregneria spicata</i>	6	N, EC, F
Sherman big bluegrass	<i>Poa ampla</i>	1.5	N, F
Ladak alfalfa	<i>Medicago sativa</i>	1.0	F

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Common Name	Scientific Name	PLS <sup>1</sup> pounds/acre <sup>2</sup>	Description
Small burnet	<i>Sanguisorba minor</i>	2.0	F
Great Basin wildrye	<i>Elymus cinereus</i>	1.0	N, EC, F
Needle and thread grass	<i>Herperostipa comata</i>	1.0	N, EC, F
Western yarrow	<i>Achillea millefolium var. occidentalis</i>	1.0	N, F
Big sagebrush	<i>Artemisia tridentate</i>	1.0	N, F

(N) = Native, (EC) = Erosion Control, (F) = Forage

<sup>1</sup>PLS= pure live seed

<sup>2</sup>Final pounds/acre may change at the request of the landowner or ODFW

### SEED PLANTING

A combination of broadcast seeding, drill seeding, and hydroseeding shall be used to apply the seed; the choice of method will depend on slope and other site conditions. For example, drill seeding and broadcast seeding should 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.

### WEED CONTROL STRATEGIES

Weed control will be a priority throughout construction and revegetation of the site 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 noxious weeds known to occur on the site.

The ODA has identified noxious weeds occurring in Gilliam and Morrow 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 site surveys did not include any “A” list species, but did include the “B” list species yellow star thistle and broadleaf pepperweed.

### MONITORING PROGRAM

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 for both cropland and wildlife habitat areas. The certificate holder shall monitor the revegetated non-agricultural areas of the project (i.e., shrub-steppe rangeland) according to the schedule described below. Restored and revegetated agricultural areas shall also be monitored according to the schedule unless otherwise requested by the landowner. The monitoring schedule and potential remedial actions for agriculture areas shall be conducted in agreement with the landowner in a way that causes the least disturbance to agricultural activity.

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EXHIBIT 2—Draft Revegetation and Noxious Weed Control Plan

**MONITORING PROCEDURES**

Prior to construction, at least two reference sites shall be identified in the project area. These sites shall be representative of the habitat types and plant communities temporarily disturbed during construction, and shall be paired with nearby restored sites (located in areas disturbed by construction activities) for use in follow-up evaluations of the project's success at revegetation efforts. Ground-level photographs shall be taken from the starting points of each restored and reference site monitoring plot, for comparison between monitoring years. Through the life of the facility,<sup>548</sup> monitoring plots located in restored sites should be evaluated and compared with the conditions and vegetation growth of the corresponding reference sites (according to soil type and plant composition). The results of these comparisons should be documented in annual reports to the Department required under the site certificate.

The certificate holder shall monitor the revegetation of wildlife habitat areas as described in this section, unless the landowner has converted the area to a use inconsistent with the success criteria. The certificate holder shall employ a qualified investigator (an independent botanist or revegetation specialist) to examine all non-cropland revegetation areas to assess vegetation cover (species, structural stage, etc.) and progress toward meeting the success criteria. Annual surveys will be conducted for a period of five years to monitor revegetation success and invasive species control needs. A representative sample (at least 50%) of all disturbance sites will be monitored for revegetation success. Revegetation monitoring will begin in the first year following the beginning of construction of the Carty Generating Station and continue annually for five years or until monitored sites are suitably revegetated according to the criteria described below. If needed, additional monitoring (beyond five years) of any problem revegetation sites will be scheduled in coordination with ODFW and ODOE.

During revegetation surveys, a qualified biologist will collect the following information:

- Confirmation that all areas requiring revegetation have been seeded;
- Success of vegetation establishment with the following metrics:
  - a) Percentage of total vegetative cover (ocular estimate)
  - b) Percentage of bare soil (ocular estimate);
- Presence of invasive plant species (species listed as noxious under the ODA Noxious Weed Control Program), and density estimates by species if present; and
- Presence of erosion problems that require further mitigation measures.

**REVEGETATION SUCCESS CRITERIA**

The revegetation of non-agricultural areas (i.e., shrub-steppe rangeland) will be considered successful when the revegetated areas support non-noxious plant communities that are similar in vegetation percent cover and erosion potential comparable to surrounding undisturbed areas. When the 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.

The goal for each soil disturbance site will be a minimum of 40 percent vegetation cover (of seeded vegetation and desirable, naturally-recruiting species and excluding invasive plant/noxious weed cover) and zero ongoing erosion issues. Vegetation percent cover goals may be adjusted, with approval by ODFW, to match the typical percent cover in surrounding undisturbed areas. Reseeding or replanting

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<sup>548</sup> As used in this plan, "life of the facility" means continuously until the facility site is restored and the site certificate is terminated in accordance with OAR 345-027-0110.

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EXHIBIT 2—Draft Revegetation and Noxious Weed Control Plan

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:

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 the reference sites.
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 the reference sites.

**REMEDIAL ACTIONS AND MAINTENANCE**

Following each of the surveys described above, the certificate holder will conduct remedial measures as needed 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. On an annual basis as part of the annual report on the facility, the certificate holder shall report to the Department the investigator's recommendations and any remedial actions taken. The Department may require reseeded or other remedial measures in those areas that do not meet the success criteria. Common remedial 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.

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 the damage caused by fire and the cause of the fire, if known.

**AMENDMENT OF THE 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 the Department to agree to amendments to this Plan. The Department 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 the Department.

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EXHIBIT 2—Draft Revegetation and Noxious Weed Control Plan

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**EXHIBIT 3**

**MEMORANDUM OF UNDERSTANDING: MONETARY  
PATH PAYMENT REQUIREMENT**

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**MEMORANDUM OF UNDERSTANDING**  
**THE CLIMATE TRUST AND PORTLAND GENERAL ELECTRIC COMPANY**  
**CARBON DIOXIDE STANDARD IMPLEMENTATION**  
**MONETARY PATH PAYMENT REQUIREMENT**  
**WITH A STANDBY LETTER OF CREDIT FOR BLOCK 1**

THIS MEMORANDUM OF UNDERSTANDING (this “Agreement”) is entered into as of the \_\_\_ day of \_\_\_\_\_, 201\_, by and between Portland General Electric Company (the “Project Owner”) in its capacity as owner of the Carty Generating Station, and The Climate Trust (“The Trust”).

**RECITALS**

1. The Project Owner intends to design, finance, construct, own and operate a natural gas-fired combined-cycle combustion turbine electric generating facility consisting of two generator blocks with power augmentation capable of generating up to a total base-load net electric power output of about 900 MW near the City of Boardman, Oregon.
2. The Project Owner intends to design, finance, construct, own and operate the two generator blocks in phases, with block 1 to be constructed first.
3. The State of Oregon requires new energy facilities to meet a carbon dioxide emissions standard as described in OAR 345-024-0550 through -0710.
4. As a condition to the siting of the Project, the Project Owner is required to provide offset funds (“Offset Funds”) and selection and contracting funds (“Selection and Contracting Funds”) to The Trust. In accordance with Condition IV.P.2.7 of the Site Certificate for the Carty Generating Station (the “Site Certificate”) that the Oregon Energy Facility Siting Council (the “Council”) granted to the Project Owner, dated XXXX, the Project Owner shall establish a third-party standby letter of credit (the “Letter of Credit”) in The Trust’s name, acceptable to the Council, sufficient to meet the monetary path requirement. Under the terms and conditions of this Agreement, the monetary path payments will be disbursed to The Trust as specified in the Site Certificate and this Agreement and then by The Trust as specified in OAR 345-024-0710.
5. The Trust is a qualified organization within the meaning of OAR 345-001-0010(46).



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EXHIBIT 3— Memorandum Of Understanding: Monetary Path Payment Requirement

NOW, THEREFORE, in consideration of the premises and mutual promises herein contained, the parties hereto agree as follows:

**1. Initial Base-Load Monetary Path Payment and Initial Power Augmentation Monetary Path Payment for Block 1.**

- 1.1 The Project Owner has used the monetary path payment requirement calculations described in Conditions IV.P.2.3 through IV.P.2.6 of the Site Certificate to calculate the Initial Base-Load Monetary Path Payment amount for Block 1 and has submitted them to the Oregon Department of Energy (the “Department”) for verification. The Trust acknowledges that the calculation of the Initial Base-Load Monetary Path Payment in [Index date] dollars presented in Appendix A is correct and consistent with the Site Certificate.
- 1.2 The Project Owner has used the monetary path payment requirement calculations described in Condition IV.P.2.5 of the Site Certificate to calculate the Initial Power Augmentation Monetary Path Payment amount for Block 1 and has submitted them to the Department for verification. The Trust acknowledges that the calculation of the Initial Power Augmentation Monetary Path Payment in [Index date] dollars presented in Appendix A is correct and consistent with the Site Certificate.
- 1.3 The Site Certificate requires that the Selection and Contracting Funds portion of both the Initial Base-Load Monetary Path Payment and the Initial Power Augmentation Monetary Path Payment for Block 1 be adjusted for inflation to the date of disbursement to The Trust using the U.S. Gross Domestic Product Implicit Price Deflator, Chain-Weight, published in the then current “Oregon Economic and Revenue Forecast” (the “Index”). The Project Owner shall pay to The Trust the Inflation-Adjusted Selection and Contracting Funds in the amount of \$\_\_\_\_\_ before beginning construction of the Project. The Trust acknowledges that the calculations of the Inflation-Adjusted Selection and Contracting Funds presented in Appendix A are correct and consistent with the Site Certificate.
- 1.4 Based on the verified calculations of the Initial Base-Load Monetary Path Payment and the Initial Power Augmentation Monetary Path Payment set forth in Appendix A, the Project Owner shall pay to the Trust \$\_\_\_\_\_ in Offset Funds in [Index date] dollars pursuant to Sections 1.6, 1.7, 1.8, and 1.9 below. The Site Certificate requires that the Offset Funds portion of both the Initial Base-Load Monetary Path Payment and the Initial Power Augmentation Monetary Path Payment be adjusted for inflation from the [Index date], to the date of disbursement to The Trust using the Index.
- 1.5 The Project Owner shall establish a Letter of Credit in the amount of \$\_\_\_\_\_ in favor of The Trust, in the form attached as Appendix B to this Agreement. The effective date of the Letter of Credit shall be on or prior to the date on which Project Owner commences construction of the Project. The Trust shall be entitled to draw the entire amount of the Offset Funds secured by the Letter of Credit pursuant to Section 1.7 or Section 1.8 below and the terms of the Letter of Credit. The Project Owner shall

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EXHIBIT 3— Memorandum Of Understanding: Monetary Path Payment Requirement

pay the costs of establishing and maintaining the Letter of Credit and shall pay any transaction fees assessed by the issuer of the Letter of Credit.

- 1.6 The Trust shall have the right to request Offset Funds from the Project Owner as provided in ORS 469.503(2(d)(A) upon execution of a letter of intent to acquire an offset project. At the sole discretion of The Trust, the amount of Offset Funds drawn may equal the entire amount of Offset Funds available. The Trust may request from the Project Owner less than the entire amount of the Offset Funds, but in no case shall the cumulative amount of all requests exceed the total Monetary Path Payment Requirement, as adjusted for inflation.
- 1.7 If the Project Owner fails to pay Offset Funds as requested by The Trust within ten (10) business days from the date of such request, The Trust may draw the sum of the Letter of Credit for the full or remaining amount of the Offset Funds.
- 1.8 Notwithstanding Sections 1.6 and 1.7, if the Project Owner fails to renew the Letter of Credit in a timely manner, The Trust may draw the sum of the Letter of Credit for the full or remaining amount of Offset Funds prior to the Expiration Date of the Letter of Credit pursuant to Exhibit B of the Letter of Credit.
- 1.9 Because of the need to establish a Letter of Credit with sufficient funds to cover withdrawal up to the end of a future period calculated by application of the Index, the amount of the Letter of Credit on any date may be greater than the entire amount of Offset Funds required by the monetary path, as adjusted for inflation. If there are funds available under the Letter of Credit after The Trust has withdrawn the entire amount of Offset Funds under the Monetary Path Payment Requirement, the Project Owner may terminate the Letter of Credit after The Climate Trust certifies to the Department that it has received full monetary path payments and verification by the Department that the funds remaining in the Letter of Credit are excess of the Project Owner's obligations pursuant to Section 1.

**2. Year One True-Up Base-Load Monetary Path Payment and Year One True-Up Power Augmentation Monetary Path Payment.**

- 2.1 The Project Owner shall, within 30 days of filing its Year One Test reports to the Council, calculate the Year One True-Up Base-Load Monetary Path Payment, if any, and the Year One True-Up Power Augmentation Monetary Path Payment, if any, as required by Conditions IV.P.2.13 and IV.P.2.14 of the Site Certificate. The Project Owner shall submit these calculations to the Oregon Department of Energy for verification, as required by Conditions IV.P.2.8, IV.P.2.13 and IV.P.2.14 of the Site Certificate.
- 2.2 Both the Year One True-Up Base-Load Monetary Path Payment and Year One True-Up Power Augmentation Monetary Path Payment, if any, shall be adjusted for [Index date] dollars to the date of disbursement using the Index.
- 2.3 If any Year One True-Up Base-Load Monetary Path Payment or Year One True-Up Power Augmentation Monetary Path Payment is due, the Project Owner shall pay this

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EXHIBIT 3— Memorandum Of Understanding: Monetary Path Payment Requirement

amount directly to The Trust within 30 days of filing its Year One Test report to the Council.

- 2.4 In no case shall the calculations under this Section 2 cause the funding for the Initial Base-Load Monetary Path Payment and the Initial Power Augmentation Monetary Path Payment made available to The Trust by direct payment by the Project Owner or through a Letter of Credit to diminish.

**3. Periodic Five-Year Power Augmentation Monetary Path Payments.**

- 3.1 Each five years after beginning commercial operation, the Project Owner shall report the annual average hours of usage of power augmentation to the Department as required by Condition IV.P.2.14(a) of the Site Certificate.
- 3.2 If the Department of Energy determines that there are excess emissions for the five-year report period, the Department will specify the amount of Selection and Contracting Funds and Offset Funds that the Project Owner shall make available to The Trust. Each Periodic Five-Year Power Augmentation Monetary Path Payment, if any, shall be adjusted for inflation from [Index date], to the Disbursement Date using the Index.
- 3.3 For any Periodic Five-Year Power Augmentation Monetary Path Payment, the Selection and Contracting Funds shall equal 20 percent of the value of any Offset Funds up to the first \$250,000 ([Index year] dollars) and 4.286 percent of the value of any Offset Funds in excess of \$250,000 ([Index year] dollars).
- 3.4 The Project Owner shall pay to The Trust the specified amount of any Periodic Five-Year Monetary Path Payment within 30 days of its notification by the Department of the amount that the Project Owner owes.

**4. Undertaking by The Trust.**

- 4.1 The Trust shall use the Initial Base-Load Monetary Path Payment and Initial Power Augmentation Monetary Path Payment, as well as any Year One True-Up Base-Load Monetary Path Payment, Year One True-Up Power Augmentation Monetary Path Payment, and/or Periodic Five-Year Power Augmentation Monetary Path Payments in accordance with OAR 345-024-0710.
- 4.2 With respect to the Offset Funds portions of any Initial Base-Load Monetary Path Payment, Initial Power Augmentation Monetary Path Payment, Year One Base-Load Monetary Path Payment, Year One Power Augmentation Monetary Path Payment, or Periodic Five-Year Power Augmentation Monetary Path Payments, The Trust shall spend at least 85 percent of the Offset Funds for contracts to implement offsets, and may use up to 15 percent of the Offset Funds for monitoring, evaluation, administration, and enforcement of contracts to implement offsets. The Trust shall spend Offset Funds solely for contracts to implement offsets or for monitoring, evaluation, administration, and enforcement of contracts to implement offsets.

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EXHIBIT 3— Memorandum Of Understanding: Monetary Path Payment Requirement

- 4.3 The Selection and Contracting Funds portions of any Initial Base-Load Monetary Path Payment, Initial Power Augmentation Monetary Path Payment, Year One Base-Load Monetary Path Payment, Year One Power Augmentation Monetary Path Payment, and Periodic Five-Year Power Augmentation Monetary Path Payments shall compensate The Trust for its costs of selecting offsets and contracting for the implementation of offsets and administrative costs related to operating The Trust as a qualified organization.
- 4.4 The Trust shall use its best efforts to remain a qualified organization, as defined in OAR 345-001-0010(45), until The Trust has used all funds received from the Project Owner.

**5. Limited Obligation of Project Owner.**

The Trust acknowledges that, pursuant to OAR 345-024-0710(3), the Project Owner and the Project shall have no obligation with regard to offsets for the Project other than to make available to The Trust the total amount of the monetary path payments.

**6. Limited Participation by Project Owner in The Trust Decision Making.**

The Project Owner may appoint one nonvoting member to the Board of Directors of The Trust for a term lasting until The Trust has completed the contracting for the offset funds provided by the Project Owner for Block 1. The Project Owner shall have no approval rights over The Trust's offset contracts, disbursement of Offset Funds, or other day-to-day operations of The Trust.

**7. Project Owner Agreement to Indemnify and Hold The Trust Harmless.**

The Project Owner agrees to defend, hold harmless and indemnify The Trust from and against any and all claims, costs, liabilities, and expenses of any nature whatsoever, including reasonable attorneys' fees, resulting from or arising out of any failure by the Project Owner to make any payments required by this Agreement, or to establish and maintain the Letter of Credit described in Section 1.5 in a timely manner; PROVIDED, that the maximum amount of the Project Owner's liability to The Trust for claims, costs, liabilities and expenses, including attorneys' fees, arising out of the failure to make a payment or establish the Letter of Credit required by this Agreement in a timely manner shall not exceed twice the differential between the amount payable to The Trust on a particular date and the amount actually paid or made available to The Trust on or before that date. FURTHER PROVIDED, The Trust must make reasonable efforts to mitigate any losses, liabilities or expenses for which it seeks indemnification from the Project Owner.

**8. General Provisions.**

- 8.1 Governing Law: This Agreement shall be governed by and construed in accordance with the laws of the State of Oregon. Any ambiguity that may arise under this Agreement shall be given a fair and reasonable construction in accordance with the

Carty Generating Station  
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EXHIBIT 3— Memorandum Of Understanding: Monetary Path Payment Requirement

intention of the parties and without regard to which party caused or is deemed to have caused such ambiguity to exist.

- 8.2 Amendments and Waivers: This Agreement may not be modified, supplemented, altered or amended, or any provision hereof or rights hereunder deemed be waived, except by an instrument in writing designated as an amendment of or waiver under this Agreement and signed by both parties. The waiver of any particular breach or default hereunder shall not constitute a waiver of any other breach or default. Failure or delay by any party to enforce any provision of this Agreement shall not in any way be construed as a waiver of such provision, nor shall it prevent such party from thereafter enforcing each and every provision of this Agreement.
- 8.3 Entire Agreement: This Agreement constitutes the entire agreement between the parties hereto as to the matters set forth herein, and all prior proposals, commitments, understandings and agreements, whether oral or in writing, as to such matters are superseded by this Agreement.
- 8.4 Assignment: The rights of the Project Owner under this Agreement may be assumed by any entity that acquires an ownership interest in the Project. Upon such assumption, such entity shall be deemed to be a party to this Agreement. The Trust may not assign this Agreement without the prior consent of the Project Owner and Council; provided that, if the proposed assignee is a “qualified organization” as defined in OAR 345-001-0010(45), the Project Owner shall not unreasonably withhold such consent.
- 8.5 Third-Party Beneficiaries: Nothing in this Agreement, whether express or implied, is intended to confer any rights or remedies on any persons other than the parties hereto and their respective authorized successors and permitted assigns.

IN WITNESS WHEREOF, the parties have caused this Memorandum of Understanding to be executed by their respective duly authorized representatives, as of the day and year first above written.

PORTLAND GENERAL ELECTRIC COMPANY

THE CLIMATE TRUST

By:

By:

Name:

Name:

Title:

Title:

Date:

Date:

APPENDIX A: CALCULATION OF INITIAL BASE-LOAD AND POWER AUGMENTATION MONETARY PATH PAYMENT REQUIREMENT [NOT INCLUDED IN SITE CERTIFICATE]

APPENDIX B: STANDBY LETTER OF CREDIT

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EXHIBIT 3— Memorandum Of Understanding: Monetary Path Payment Requirement

**APPENDIX B TO MEMORANDUM OF UNDERSTANDING**

[FORM OF CLIMATE TRUST LETTER OF CREDIT]

**IRREVOCABLE STANDBY LETTER OF CREDIT NUMBER [Insert number]**

[Date]

THE CLIMATE TRUST

516 SE Morrison, Suite 300

Portland, OR 97214-2343

Ladies and Gentlemen:

At the request and for the account of Portland General Electric Company (PGE), address 121 SW Salmon Street, Portland, OR 97204, for its Carty Generating Station, we, [INSERT BANK NAME HERE], hereby establish effective immediately, in favor of you, THE CLIMATE TRUST ("Beneficiary"), this Irrevocable Standby Letter of Credit Number [Insert number ] (the "Letter of Credit") in the amount of USD \_\_\_\_\_(as such amount may be reduced from time to time by partial draws hereunder, the "Stated Amount").

This Letter of Credit is being issued in connection with Site Certificate for the Carty Generating Station with the STATE OF OREGON, dated \_\_\_\_ as may be amended from time to time.

This Letter of Credit is issued, presentable, and payable at our offices at [Drawing address], and expires with our close of business on \_\_\_\_\_ (the present or any future expiration date is referred to herein as the "Expiration Date").

It is a condition of this Letter of Credit that it shall be automatically extended without amendment for successive one (1) year periods from the present or any future Expiration Date hereof, unless we provide you with written notice of our election not to renew this Letter of Credit at least sixty (60) days prior to any such Expiration Date. For the purposes hereof, "Business Day" shall mean any day on which commercial banks are not authorized or required to close in \_\_\_\_\_. Subject to the terms and conditions herein, funds under this Letter of Credit are available at sight against your draft drawn on us bearing upon its face the clause "Drawn under \_\_\_\_\_ and accompanied by the following documents:

1. The original of this Letter of Credit and all subsequent amendments, if any; and
2. Your sight draft drawn on us; and
3. A dated draw certificate purportedly signed by an authorized officer of the Beneficiary and on Beneficiary's letterhead in the form of attached Exhibits A or B to this Letter of Credit (incorporated herein by reference and made an integral part hereof).

Partial and multiple draws are permitted under this Letter of Credit, provided that the Stated Amount of this Letter of Credit shall be permanently reduced by the amount of each such draw. This

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EXHIBIT 3— Memorandum Of Understanding: Monetary Path Payment Requirement

Letter of Credit may not be transferred or any of the rights hereunder assigned. Any purported transfer or assignment shall be void and of no force or effect. \_\_\_\_\_ agrees that a draft drawn and presented in conformity with the terms of this Letter of Credit will be duly honored upon presentation. If a draft made by Beneficiary does not conform to the terms and conditions of this Letter of Credit, we will give Beneficiary prompt notice that the demand for payment will not be effected. Such notice will include a statement of reasons for the denial. Upon being notified that the demand for payment was not effected in conformity with this Letter of Credit, Beneficiary may attempt to correct the nonconforming demand; provided, however, that any draft or document prescribed to correct such nonconforming demand must be provided on or prior to the Expiration Date.

This Letter of Credit sets forth in full our undertaking and such undertaking shall not in any way be modified, amended, amplified or limited by reference to any documents, instruments or agreements referred to herein, except only the exhibits referred to hereby and any such reference shall not be deemed to incorporate by reference any document, instrument or agreement except for such exhibits

This Letter of Credit shall be governed by the Uniform Customs and Practice for Documentary Credits, 2007 Revision, International Chamber of Commerce Publication No. 600 (the "UCP"), As to matters not covered by the UCP, this Letter of Credit shall be governed by the laws of the State of Oregon without regard to the principles of conflicts of laws thereunder.

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**Authorized Signature**



Carty Generating Station  
Final Order  
EXHIBIT 3— Memorandum Of Understanding: Monetary Path Payment Requirement

[THE CLIMATE TRUST LETTERHEAD]

**DRAW CERTIFICATE**

[DATE]

[To Issuing Bank]

Drawn under Irrevocable Standby Letter of Credit Number \_\_\_\_\_

Any capitalized term used herein shall have the meaning defined for that term by the Letter of Credit.

The undersigned, the duly elected and acting \_\_\_\_\_ of the Beneficiary, hereby certifies as follows:

1. Portland General Electric Company has failed to pay Offset Funds to The Climate Trust for the Monetary Path Payment Requirements described in the Site Certificate for the Carty Generating Station, as amended from time to time, (the "Site Certificate") within the time provided in the Memorandum of Understanding between The Climate Trust and Portland General Electric Company for the Carbon Dioxide Standard Implementation of the Monetary Path Payment Requirement With A Standby Letter Of Credit ("Memorandum of Understanding").
2. As a result of said failure to pay, the Beneficiary is entitled pursuant to the provisions of the Site Certificate and the Memorandum of Understanding to make demand under the Letter of Credit in the amount of \$\_\_\_\_\_.
3. The undersigned has concurrently presented to you its sight draft drawn in the amount specified in Paragraph 2 above, which amount does not exceed the lesser of (a) the amount the Beneficiary is entitled to draw pursuant to the provisions of the Site Certificate and Memorandum of Understanding, and (b) the Stated Amount as of the date hereof. The date of the sight draft is the date of this Certificate, which is not later than the Expiration Date.
4. Funds paid pursuant to the provisions of the Letter of Credit shall be wire transferred to the Beneficiary in accordance with the following instructions:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

IN WITNESS WHEREOF, the Beneficiary has executed and delivered this certificate as of [Date].

THE CLIMATE TRUST as Beneficiary

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

Title: \_\_\_\_\_



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EXHIBIT 3— Memorandum Of Understanding: Monetary Path Payment Requirement

**EXHIBIT B**  
[THE CLIMATE TRUST LETTERHEAD]  
**DRAW CERTIFICATE**

[Date]

[Insert Bank Information]

Attention: Letter of Credit Manager

Drawn under Irrevocable Standby Letter of Credit Number \_\_\_\_\_

Ladies and Gentlemen:

Any capitalized term used herein shall have the meaning defined for that term by the Letter of Credit.

The undersigned, the duly elected an acting \_\_\_\_\_ of the Beneficiary, hereby certifies as follows:

1. [Bank] as heretofore provided written notice to the Beneficiary of the Bank's intent not to renew the Letter of Credit following the present Expiration Date thereof.

2. Portland General Electric Company is required to deliver to the Beneficiary and keep in effect, a letter of credit that satisfies the requirements of Condition IV.P.2.9 of the Site Certificate for the Carty Generating Station, as amended from time to time (the "Site Certificate").

3. Neither Portland General Electric Company nor any person acting on its behalf has, at least twenty (20) days prior to the present Expiration Date of the Letter of Credit, delivered to Beneficiary a letter of credit that satisfies the requirements of Condition IV.P.2.9 of the Site Certificate.

4. As a result of said failure to deliver a replacement letter of credit at least 20 days prior to the present Expiration Date of the Letter of Credit, the Beneficiary is entitled pursuant to the provisions of the Site Certificate and the Memorandum of Understanding to make demand under the Letter of Credit in the amount of \$ \_\_\_\_\_.

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EXHIBIT 3— Memorandum Of Understanding: Monetary Path Payment Requirement

5. The undersigned has concurrently presented to you its sight draft drawn in the amount specified in Paragraph 4 above, which amount does not exceed the lesser of (a) the amount the Beneficiary is entitled to draw pursuant to the provisions of the Site Certificate and the Memorandum of Understanding, and (b) the Stated Amount as of the date hereof. The date of the sight draft is the date of this Certificate, which is not later than the Expiration Date.

6. Funds paid pursuant to the provisions of the Letter of Credit shall be wire transferred to the Beneficiary in accordance with the following instructions:

\_\_\_\_\_  
\_\_\_\_\_

IN WITNESS WHEREOF, the Beneficiary has executed and delivered this certificate as of the [Date].

THE CLIMATE TRUST as Beneficiary

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

Title: \_\_\_\_\_

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EXHIBIT 3— Memorandum Of Understanding: Monetary Path Payment Requirement

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**EXHIBIT 4**  
**Proposed Water Pollution Control Facilities Permit**

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EXHIBIT 4—Proposed Water Pollution Control Facilities Permit

**WATER POLLUTION CONTROL FACILITIES PERMIT**

Department of Environmental Quality  
Eastern Region  
700 S.E. Emigrant Avenue, Suite 330, Pendleton, OR 97801  
Telephone: (541) 276-4063

Issued pursuant to ORS 468B.050

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**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	Land Disposal
Coal Ash	

**PLANT TYPE AND LOCATION:**

Boardman Power Plant  
(Coal-fired electricity generation)  
Carty Generating Station  
(Gas-powered electricity generation)  
  
Tower Road  
Boardman, Oregon

**RIVER BASIN INFORMATION:**

Basin: Umatilla  
Sub-Basin: Middle Columbia / Lake Wallula  
LLID: 1198031456823 RM 10  
County: Morrow

**Treatment System Class: Level I**

Nearest surface stream which would receive  
wastewater if it were to discharge: Sixmile Canyon

Issued in response to Carty Generating Station Application No. 969935 (received April 28, 2010) and Boardman Power Plant Application No. 971051 (received September 11, 2009).

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.

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Cheryll Hutchens-Woods, Water Quality Manager  
Eastern Region

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Date

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EXHIBIT 4—Proposed Water Pollution Control Facilities Permit

**PERMITTED ACTIVITIES**

Until this permit expires or is modified or revoked, the Permittee is authorized to construct, install, modify, or operate a wastewater collection, treatment, control and disposal system in conformance with all the requirements, limitations, and conditions set forth in the attached schedules as follows:

	<u>Page</u>
Schedule A - Waste Disposal Limitations not to be Exceeded	
Schedule B - Minimum Monitoring and Reporting Requirements	
Schedule C - Compliance Conditions and Schedules	
Schedule D - Special Conditions	
Schedule E - Not Applicable	--
Schedule F - General Conditions	

Unless specifically authorized by this permit, by another NPDES or WPCF permit, or by Oregon Administrative Rule, any other direct or indirect discharge to waters of the state is prohibited, including discharge to an underground injection control system.

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EXHIBIT 4—Proposed Water Pollution Control Facilities Permit

**SCHEDULE A**

**Waste Disposal Limitations**

1. Direct discharge to surface waters is not permitted.
2. The Permittee must manage all wastewater in a manner that will prevent:
  - a. The creation of odors, fly and mosquito breeding or other nuisance conditions;
  - b. A violation of the Department's Groundwater Quality Protection Rules (Oregon Administrative Rules (OAR) Chapter 340, Division 40); and,
  - c. A violation of any permit-specific groundwater concentration limits, established pursuant to OAR 340-040-0030, which will be incorporated into this permit by modification.
3. All activities pertaining to the management, treatment, and disposal of the authorized wastes<sup>549</sup>, as well as wastewater-derived solids from ponds, sumps and settling basins, must be conducted in accordance with the approved Operations, Monitoring and Maintenance (OM&M) Plan (see Schedule C, Condition 3), and any amendments to the plan approved in writing by the Department. No changes may be made in the approved OM&M Plan without written approval from the Department.
4. The Permittee must not exceed the minimum freeboard established by design specifications for all ponds and sewage lagoons.
5. Unless otherwise approved in writing by the Department, the Permittee is permitted to manage and dispose only the following wastes from operation of the Boardman Power Plant in Carty Reservoir:
  - a. Cooling water
  - b. Water treatment wastewater
  - c. Facility sumps and drains wastewater
  - d. Laboratory and sampling wastewater
  - e. Condensate and steam system blowdown
  - f. Equipment cleaning wastewater (excluding boiler cleaning wastewater until after submittal of a waste characterization and written approval from the Department)
  - g. Ash transport wastewater
  - h. Storm water (excluding storm water from the coal yard)
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:
  - a. Cooling water
  - b. Water treatment wastewater
  - c. Facility sumps and drains wastewater

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<sup>549</sup> Excluding Boardman Power Plant coal ash, which must be managed in accordance with the Ash Disposal Plan.



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- d. Laboratory and sampling wastewater
  - e. Evaporative cooling wastewater
  - f. Equipment cleaning wastewater
  - g. Storm water
7. The following limitations<sup>550</sup> must not be exceeded in Carty Reservoir at the intake of the recirculation line from Carty Reservoir to the Boardman Power Plant:

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

8. The following limitations must not be exceeded in Carty Reservoir at the intake of the irrigation withdrawal pump, during withdrawal for irrigation:

<sup>550</sup> Limitations are based on protection of wildlife and groundwater and may be modified after submittal of a Hydrogeologic Characterization Report (see Schedule C, Condition 5) and/or exceedance of a groundwater concentration limit (see Schedule A, Condition 2.c).

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Parameter	Limitations (Sample Maximum)
Total Dissolved Solids	320 mg/L
Arsenic	0.0063 mg/L
Chromium	0.0025 mg/L
pH	9.4 s.u.
Sodium Adsorption Ratio	1.66

9. Unless otherwise approved in writing by the Department, the Permittee is permitted to manage and dispose only the following wastes from operation of the Boardman Power Plant in the Boardman Lined Ponds, if disposal of such wastewater into Carty Reservoir would impair the use of the reservoir water for plant operation or it is required to maintain reservoir constituent concentrations below permit limitations after implementation of irrigation withdrawal action requirements that are required by Schedule B, Condition 2:
- a. Water treatment wastewater
  - b. Facility sumps and drains wastewater
  - c. Laboratory and sampling wastewater
  - d. Condensate and steam system blowdown
  - e. Equipment cleaning wastewater (excluding boiler cleaning wastewater until after submittal of a waste characterization and written approval from the Department)
  - f. Ash transport wastewater
  - g. Storm water
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 lined ponds constructed in accordance with plans that are approved by the Department (see Schedule C, Condition 2):
- a. Water treatment wastewater
  - b. Facility sumps and drains wastewater
  - c. Laboratory and sampling wastewater
  - d. Evaporative cooling wastewater
  - e. Equipment cleaning wastewater
  - f. Storm water
11. Equipment and vehicle wash water and storm water from the vehicle fueling and maintenance areas from the Boardman Power Plant must be disposed in the Boardman Power Plant's lined pond adjacent to the vehicle wash and fueling area. However, wash water derived from washing exterior surfaces only of vehicles and equipment may be disposed in storm water swales provided chemicals, soaps, and detergents are not used and washing is restricted to the exterior of the vehicle or equipment. Disposal

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of engine, transmission or undercarriage wash water is not permitted in storm water swales.

12. Vehicle wash water from the Carty Generating Station must be disposed in a lined pond constructed in accordance with plans that are approved by the Department (see Schedule C, Condition 2). However, wash water derived from washing exterior surfaces only of vehicles and equipment may be disposed in storm water swales provided chemicals, soaps, and detergents are not used and washing is restricted to the exterior of the vehicle or equipment. Disposal of engine, transmission or undercarriage wash water is not permitted in storm water swales.
13. The Permittee is permitted to manage and dispose of fire protection system wastewater and facility construction and commissioning wastewater in storm water swales or Carty Reservoir, provided chemicals, soaps, and detergents are not used.
14. Disposal of rinse water from concrete mixer trucks chutes and exteriors is permitted on site. Disposal of concrete mixer washout is not authorized by this permit.
15. Boardman Power Plant domestic wastewater (sewage) must be disposed in the Boardman Power Plant sewage lagoons. Carty Generating Station sewage is permitted to be disposed in the Boardman Power Plant sewage lagoons after reconditioning the clay liners or demonstrating clay liner integrity by conducting a leak test and submitting a long term plan to the Department to ensure the integrity of the clay lined cells (see Schedule C, Condition 2). The approved average dry weather design flow for the facility is 10,500 GPD.
16. Prior to overflow into the unlined evaporation/seepage cell, sanitary sewage must receive at least the equivalent of secondary treatment and disinfection and meet the following limitations:

Parameter	Limitations	
<i>E. coli</i> bacteria	Must not exceed 126 organisms per 100 ml monthly geometric mean. A single sample must not exceed 406 organisms per 100 ml <sup>551</sup>	
	Annual Average (mg/L)	Maximum (mg/L)
NO <sub>3</sub> -N	7	10
Total Nitrogen <sup>552</sup>	10	15

17. Wash water from coal yard operations must be collected for treatment in the Boardman Power Plant coal yard ponds and reused in the coal yard. Wash water that floods sumps or basements in the coal yard buildings due to equipment failure and must be removed to repair the equipment may be pumped

<sup>551</sup> If a single sample exceeds 406 organisms per 100 ml, then five consecutive re-samples may be taken at intervals no greater than four-hours beginning within twenty-eight (28) hours after the original sample was taken. If the log mean of the five re-samples is less than or equal to 126 organisms per 100 ml, a violation will not be triggered.

<sup>552</sup> Total Nitrogen in this permit limitation equals Total Kjeldahl Nitrogen (TKN) + Nitrate Nitrogen (NO<sub>3</sub>-N).

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out of the basements or sumps and onto the coal pile or into storm water swales that remain inside the coal yard boundaries and do not discharge to Carty Reservoir.

18. Air pollution control wastewater may be approved for disposal in lined evaporation ponds, coal yard or ash disposal area after submittal of a waste characterization and written approval from the Department.
19. Storm water from the coal yard and ash disposal landfill must not be discharged to 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. At that time, the Permittee will be required to apply for a permit from the Department's Land Quality Division. If the Land Quality Division issues a permit, the ash disposal requirements in this permit will no longer apply.

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**SCHEDULE B**

**Minimum Monitoring and Reporting Requirements** (unless otherwise approved in writing by the Department).

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 Boardman Power Plant Water 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. Boardman Power Plant Sanitary Lagoons

Items and Parameters	Minimum Frequency	Sample Type/Action
Influent <sup>553</sup>		
Total flow (MGD)	Daily	Record
Flow meter calibration	Annually	Written verification
pH	2/week	Grab/field measurement
BOD <sub>5</sub>	Quarterly	Composite <sup>554</sup>
TSS	Quarterly	Composite <sup>6</sup>
Overflow to seepage cell <sup>555</sup>		
Total flow (MGD)	Daily	Record
Flow meter calibration	Annually	Written verification
Quantity chlorine used	Daily	Measurement
Chlorine residual	Daily	Grab
pH	2/week	Grab/field measurement
<i>E. coli</i> bacteria	Monthly	Grab

<sup>553</sup> Sample point is in discharge to lagoons

<sup>554</sup> Composite samples must consist of no less than 6 samples collected over a 24-hour period and apportioned according to the volume of flow at the time of sampling.

<sup>555</sup> Required only when overflow occurs. Sample point is at overflow to seepage cell

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BOD <sub>5</sub>	Quarterly	Composite <sup>6</sup>
TSS	Quarterly	Composite <sup>6</sup>
TKN	Quarterly	Grab
NO <sub>3</sub> -N	Quarterly	Grab
Lagoon Site		
Freeboard <sup>556</sup>	Weekly	Measure and record
Perimeter inspection <sup>557</sup>	Daily	Observation

b. Lined Evaporation Ponds (Boardman Power Plant and Carty Generating Station)

Items and Parameters	Minimum Frequency	Sample Type/Action
Each Pond <sup>558</sup>		
Total Flow to pond (MG)	Quarterly	Record
Flow meter calibration	Annually	Written verification
As, Cd, Cr, Hg, TDS, Oil & Grease, TTHMs <sup>559</sup> , pH	Quarterly	Grab
Freeboard	Weekly	Measure and record
Perimeter inspection	Daily	Observation

c. Carty Reservoir

Items and Parameters	Minimum Frequency	Sample Type/Action
Effluent <sup>560</sup>		

<sup>556</sup> Freeboard is measured from lowest point on containment structure

<sup>557</sup> A perimeter inspection is a sight surveillance of the lagoon dikes looking for the presence of badgers, muskrats, ground hogs or other rodents whose burrowing activities could threaten the structural integrity of a dike.

<sup>558</sup> The Permittee must designate and maintain a sampling station at each pond from which representative samples may be collected

<sup>559</sup> Total trihalomethanes

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Total flow (MG)	Monthly	Record
Flow meter calibration	Annually	Written verification
As, B, Cd, Ca, Cr, Cu, Fe, Mg, Hg, K, Na, V, Se, Zn, Bicarb Alk, Total Alk, Cl <sup>-</sup> , F <sup>-</sup> , NO <sub>3</sub> <sup>-</sup> , SiO <sub>2</sub> , SO <sub>4</sub> , TDS, Cond, pH, TTHMs	Monthly	Grab
Make-up water		
Total flow (MG)	Monthly	Record
Flow meter calibration	Annually	Written verification
Irrigation withdrawal <sup>561</sup>		
TDS, As, Cr, pH, SAR	Twice Monthly, except as required by Schedule B, Condition 2	Grab
Carty Reservoir		
Water elevation	Monthly	Measure and record

d. Coal Ash

Items and Parameters	Minimum Frequency	Sample Type/Action
Ash transferred off site Bottom Economizer Fly	Annual	Record volumes and recipients
Ash disposed on site Bottom Economizer Fly	Annual	Record volumes

<sup>560</sup> Sample point is in the recirculation line (intake) from Carty Reservoir to the Boardman Power Plant

<sup>561</sup> Sample point is at intake to irrigation withdrawal pump

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**2. Irrigation Withdrawal Action Requirements**

If irrigation withdrawal monitoring results indicate that a trigger level in the following table has been exceeded, the Permittee must:

- a. Report the results to the Department within ten (10) calendar days of receipt of the laboratory data;
- b. Immediately implement Operations, Monitoring and Management (OM&M) Plan (see Schedule C, Condition 3) procedures to decrease parameter concentrations in Carty Reservoir; and,
- c. Immediately begin monitoring the exceeded parameter(s) in accordance with the approved OM&M Plan until concentrations return to below trigger level(s).

Parameter	Trigger Level
Total Dissolved Solids	280 mg/L
Arsenic	0.0055mg/L
Chromium	0.0022mg/L
pH	9.0 s.u.
Sodium Adsorption Ratio	1.44

**3. Groundwater Monitoring**

The Permittee must monitor groundwater in accordance with a Department-approved Groundwater Monitoring Plan and any amendments to the plan approved in writing by the Department.

**4. Groundwater Monitoring Resampling Requirements<sup>562</sup>**

- a. If monitoring indicates that a concentration limit has been exceeded at a compliance point, the Permittee must immediately resample the monitoring well. The results of both sampling events must be reported to the Department within 10 calendar days of receipt of the laboratory data.
- b. If monitoring indicates a significant increase (increase or decrease for pH), as defined in the Groundwater Monitoring Plan, in the value of a parameter monitored, the Permittee must immediately resample unless otherwise approved in writing by the Department. If the re-sampling confirms a change in water quality, the Permittee must:
  1. Report the results to the Department within ten (10) calendar days of receipt of the laboratory data; and
  2. Prepare and submit to the Department within thirty (30) calendar days a plan for developing a preliminary assessment unless another time schedule is approved by the Department.

**5. Monthly Reporting Procedures – Boardman Power Plant Sanitary Lagoons**

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<sup>562</sup> OAR 340-040-0030(5) requires resampling after a significant increase (increase or decrease for pH). In addition, resampling is appropriate after a concentration limit exceedance and prior to a remedial investigation and feasibility study, which is required by OAR 340-040-0030(6).



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Monitoring results must be reported on approved forms. 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.

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 Boardman Power Plant Water Quality Management Program, and any amendments to the plans and program approved in writing by the Department.

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**SCHEDULE C**

**Compliance Conditions and Schedules**

**1. Boardman Power Plant Sewage Lagoons**

Prior to discharge of sanitary sewage from Carty Generating Station to the Boardman Power Plant sewage lagoons, the Permittee must submit a work plan to the Department to remove vegetation from the clay lined cells and either leak test the clay-lined cells<sup>563</sup> or recondition them.

The leak test plan must be implemented in accordance with Department approval and the results must be submitted to the Department. If the Department gives written notification to the Permittee that reconditioning of the clay liners is required, the Permittee must submit a clay liner reconditioning work plan to the Department. The reconditioning plan must be implemented in accordance with Department approval.

In addition, prior to discharge of sanitary sewage from Carty Generating Station to the Boardman Power Plant sewage lagoons, the Permittee must submit a long term plan to the Department to ensure the integrity of the clay-lined cells. The plan may include evaluating system capacity requirements and modifying the system accordingly. The plan must be implemented in accordance with Department approval.

**2. Wastewater Treatment System Wastewater - Carty Generating Station**

Prior to discharge of wastewater treatment system wastewater to lined evaporation ponds that are proposed to be constructed for Carty Generating Station, a wastewater characterization must be submitted for Department review and approval.

**3. Operations, Monitoring and Management Plan**

Not later than 90 days after permit issuance, the Permittee must submit a facility Operations, Monitoring and Management (OM&M) Plan to the Department for review and approval. The plan must include, but is not limited to, management and disposal of wastewater-derived solids from ponds, sumps and settling basins, as well as procedures to decrease parameter concentrations in Carty Reservoir in the event of an irrigation withdrawal limit exceedance (see Schedule B, Condition 2).

The Permittee must review the OM&M Plan annually and submit a revised plan, whenever it is revised, to the Department for review and approval.

Following submittal of the plan or a revised plan, the Department will approve it, approve it with conditions, or disapprove it. If approved, the plan must be implemented in accordance with the Department approval. If disapproved, the Department will provide an approved plan or a minimum of 30 days to submit a revised plan.

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<sup>563</sup> Guidelines for estimating pond leakage are available from the Department at: <http://www.deq.state.or.us/wq/rules/div052/guidelines/estleak.pdf>. For ponds less than two acres, the following guidelines may be used: <http://www.deq.state.or.us/wq/rules/div052/guidelines/altestleak.pdf>. Use of the guidelines is recommended to expedite Department review and approval of the work plan.

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4. **Biosolids Management Plan**

Prior to removal and beneficial reuse of accumulated sewage sludge, the Permittee must submit a Biosolids Management Plan to the Department and receive Department approval of the plan. The plan must be developed in accordance with Oregon Administrative Rule 340, Division 50, "Land Application of Domestic Wastewater Treatment Facility Biosolids, Biosolids Derived Products, and Domestic Septage". The plan must be implemented in accordance with the approval.

5. **Hydrogeologic Characterization**

Not later than 120 calendar days after permit issuance, unless otherwise approved in writing by the Department, the Permittee must submit to the Department, for review and approval, a work plan for completing a Hydrogeologic Characterization at the Boardman Power Plant/Carty Reservoir site. The work plan must address evaluation of conditions up- and down-gradient of each and every wastewater impoundment (including lined ponds, unlined settling basins and coal yard wastewater basins). The work plan must also address evaluation of Carty Reservoir as a source of potential impacts to groundwater from arsenic, vanadium and alkalinity in the immediate vicinity of the reservoir. The Permittee must implement the work plan as approved.

Prior to construction of any wastewater impoundment specifically for the Carty Generating Station, the Permittee must submit to the Department, for review and approval, a work plan for completing a Hydrogeologic Characterization in the vicinity of the proposed wastewater impoundment. The Permittee must implement the work plan as approved.

6. **Groundwater Monitoring Plan**

- a. Not later than ninety (90) days from Department approval of the Hydrogeologic Characterization, unless otherwise approved in writing by the Department, the Permittee must submit a Groundwater Monitoring Plan to the Department for review and approval. Upon Department approval, the Groundwater Monitoring Plan must be implemented.
- b. In conjunction with submittal of the Groundwater Monitoring Plan, the Permittee must propose a submittal date for a Water Quality Analysis Report. The proposed date for report submittal must be the earliest practicable date after completion of nine (9) quarters of groundwater monitoring (to enable the Permittee to establish background groundwater conditions).

7. **Water Quality Analysis Report**

Not later than the date approved by the Department under Schedule C, Condition 6.b., the Permittee must submit to the Department for review and approval a Water Quality Analysis Report. The Water Quality Analysis Report must include, but not be limited to identification of background and compliance wells, determinations of background groundwater quality, analyses of existing water quality data and existing impacts, and analyses of potential impacts from facility activities. Concurrent with submittal of the Water Quality Analysis Report, the Permittee must:

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- a. Propose site-specific concentration limits pursuant to OAR 340-040-0030(3) for the Department's consideration; and,
  - b. Apply for any concentration limit variances proposed pursuant to OAR 340-040-0030(4).
8. Not later than 90 days after burning coal from any new source other than western sub-bituminous, the Permittee shall submit a waste characterization of the resulting ash to the Department. The characterization must include: antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, mercury, nickel, selenium, silver, thallium, and zinc.
9. The Permittee is required to meet the compliance dates that have been established in this schedule, unless alternative compliance dates have been approved in advance in writing by the Department. Either prior to or not later than 14 calendar days following any lapsed compliance date, the Permittee must submit to the Department a notice of noncompliance with the established schedule. Any reports of noncompliance must include the cause of noncompliance.

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**SCHEDULE D**

**Special Conditions**

1. Prior to constructing or modifying wastewater management, treatment and disposal facilities, detailed plans and specifications must be submitted to, and approved in writing by, the Department.
2. All biosolids must be managed in accordance with the Department-approved biosolids management plan and the site authorization letters issued by the Department. Any changes in solids management activities that significantly differ from the operations specified under the approved plan require the prior written approval of the Department.

There are no approved sites for application of the Permittee's biosolids as of the date of permit issuance. All new biosolids application sites must meet the site selection criteria set forth in OAR 340-050-0070 and must be located within Morrow County. Property owners adjacent to any newly approved application sites must be notified, in writing or by any method approved by the Department, of the proposed activity prior to the start of application. For proposed new application sites that are deemed by the Department to be sensitive with respect to residential housing, runoff potential or threat to groundwater, an opportunity for public comment must be provided in accordance with OAR 340-050-0030.

This permit may be modified to incorporate any applicable standard for biosolids use or disposal promulgated under section 405(d) of the Clean Water Act, if the standard for biosolids use or disposal is more stringent than any requirements for sludge use or disposal in the permit, or controls a pollutant or practice not limited in this permit.

3. The Permittee must comply with Oregon Administrative Rules (OAR), Chapter 340, Division 49, "Regulations Pertaining To Certification of Wastewater System Operator Personnel" and accordingly:
  - a. The Permittee must have its wastewater system supervised by one or more operators who are certified in treatment system operation at grade level I or higher.

**Note: A "supervisor" is defined as the person exercising authority for establishing and executing the specific practice and procedures of operating the system in accordance with the policies of the Permittee and requirements of the waste discharge permit. "Supervise" means responsible for the technical operation of a system, which may affect its performance or the quality of the effluent produced. Supervisors are not required to be on-site at all times.**

- b. The Permittee's wastewater system may not be without supervision (as required by Special Condition 3.a. above) for more than thirty (30) days. During this period, and at any time that the supervisor is not available to respond on-site (i.e. vacation, sick leave or off-call), the Permittee must make available another person who is certified treatment system operation at grade level I or higher.
- c. The Permittee is responsible for ensuring the wastewater system has a properly certified supervisor available at all times to respond on-site at the request of the Permittee and to any other operator.
- d. The Permittee must notify the Department of Environmental Quality in writing within thirty (30) days of replacement or redesignation of certified operators responsible for supervising

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wastewater system operation. The notice must be filed with the Water Quality Division, Operator Certification Program (811 SW Sixth, Portland, OR 97204). This requirement is in addition to the reporting requirements contained under Schedule B of this permit

- e. Upon written request, the Department may grant the Permittee reasonable time, not to exceed 120 days, to obtain the services of a qualified person to supervise the wastewater system. The written request must include justification for the time needed, a schedule for recruiting and hiring, the date the system supervisor availability ceased and the name of the alternate system supervisor(s) as required by 3.b. above.
4. An adequate contingency plan for prevention and handling of spills and unplanned discharges must be in force at all times. A continuing program of employee orientation and education must be maintained to ensure awareness of the necessity for good in-plant control and proper action in the event of a spill or accident.
5. An environmental supervisor must be designated to coordinate and implement all necessary functions related to maintenance and operation of waste management, treatment, and disposal facilities. This person must have access to all information pertaining to the generation of wastes in the various process areas.
6. The Permittee must notify the Department's Eastern Region office at (541) 276-4063 in accordance with the response times contained in the General Conditions of this permit in the event of any malfunction of the wastewater system to enable coordination of corrective action between the Permittee and the Department.
7. **Monitoring Well Management/Maintenance**
  - a. The Permittee must protect and maintain each groundwater monitoring well identified in the Groundwater Monitoring Plan so that samples can be collected that are representative of actual conditions.
  - b. All monitoring well abandonment, replacement and installation must be conducted to comply with the Water Resources Department Rules (OAR Chapter 690, Division 240) and with the Department of Environmental Quality's Guidelines for Groundwater Monitoring Well Drilling, Construction, and Decommissioning. All monitoring well repairs, abandonments, replacements and installations must be documented in a report prepared by an Oregon-registered geologist.
  - c. If a monitoring well identified in the Groundwater Monitoring Plan becomes damaged or inoperable, the Permittee must notify the Department in writing within 14 days. The written notification must describe the problem that occurred and the remedial measures that have been taken to date to correct the problem. In addition, the Permittee must submit a written final report within 60 days following the notification, unless otherwise approved in writing by the Department, which must include a description of the problem, the remedial measures taken to correct the problem, and the measures taken to prevent recurrence. The Department can require the replacement of inoperable monitoring wells.<sup>564</sup>
  - d. All new and replacement monitoring well locations and designs related to the Groundwater Monitoring Plan must be approved in writing by the Department prior to well installation.

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<sup>564</sup> Monitoring well operability will be determined by the Department on a case-by-case basis.

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Well logs and well completion reports must be submitted to the Department within thirty (30) days of well installation. Reports must include land survey drawings that depict actual location of all monitoring wells, land application areas, and surface waters.

- e. Modification and/or abandonment plans for any wells identified in the Groundwater Monitoring Plan must be submitted to and approved in writing by the Department prior to modification and/or abandonment of any existing monitoring well.

8. **Definitions**

*Water treatment wastewater* means wastewater derived from the Boardman Power Plant water treatment system, including wastewater from demineralization and regeneration of the demineralization media, make-up water demineralization (including regeneration) and condensate polishing (including regeneration), the raw water filter and activated carbon filter. It also includes Carty Generating Station neutralization tank wastewater and multi-media filtration wastewater.

*Facility sumps and drains wastewater* means wastewater from Boardman Power Plant and Carty Generating Station sumps and drains. Wastewater from the Boardman Power Plant pretreatment area sump, water treatment area sump, liquid waste sump, water treatment area floor drains and system shut-down drains are included in this category. An oil water separator provides treatment for wastewater from selected Boardman Power Plant facility sumps and drains.

*Laboratory and sampling wastewater* means wastewater from chemical waste drains and laboratory/sample room sink drains and includes discarded water samples, lab equipment wash water and spent reagents. The pH is approximately 9 s.u. and the volume is approximately 200 to 300 gallons per day.

*Condensate and steam system blowdown* means Boardman Power Plant boiler blowdown.

*Equipment cleaning wastewater* means wash water from cleaning the coal gallery and ash transport system, as well as boiler cleaning wash water, boiler acid cleaning wastewater and chemical cleaning wastewaters.

*Equipment and vehicle cleaning wastewater* means wastewater from cleaning heavy construction equipment, landscape maintenance equipment and on-road vehicles.

*Ash transport wastewater* means wastewater that overflows from the ash transport system to the settling ponds, including wastewater from the bottom ash handling system surge tank.

*Evaporative cooling wastewater* means Carty Generating Station cooling tower blowdown.

*Fire protection system wastewater* means fire suppression system test water that is sourced from the domestic water supply or Carty Reservoir.

*Facility construction and commissioning wastewater* means the following wastes from the construction of Carty Generating Station: water supply system testing and commissioning wastewater, hydrostatic testing wastewater, and water supply lines flushing wastewater.

*Air pollution control wastewater* means baking soda grinding wash water from the Boardman Power Plant. Volume is estimated to be between 50 to 200 gallons per day.

- 9. The Department may reopen the permit at any time to include new or revised waste disposal limitations, monitoring and reporting requirements, compliance conditions and schedules, and special conditions.

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**WPCF PERMIT EVALUATION REPORT**

Department of Environmental Quality  
Eastern Region - Pendleton Office  
700 SE Emigrant, Suite 330, Pendleton, OR 97801  
Telephone: (541) 276-4063

**PERMITTEE:** Portland General Electric Co.  
121 SW Salmon St.  
Portland, OR 97204

**FILE NUMBER:** Boardman Power Plant: 70795  
Carty Generating Station: 120048

**SOURCE LOCATION:** Tower Road  
Boardman, Oregon

**SOURCE CONTACT:** Amber Chapman Telephone Number: 541-481-1233

**PERMIT WRITER:** Carl Nadler Telephone Number: 541-298-7255, ext. 227

**PROPOSED ACTION:** Renewal of a Water Pollution Control Facilities (WPCF) permit for the Boardman Power Plant and with permit coverage for the proposed Carty Generating Station

**SOURCE CATEGORY:** Industrial

**PERMIT APPLICATION DATE:** Boardman Power Plant: September 11, 2009  
Carty Generating Station: April 28, 2010

**PERMIT APPLICATION NUMBER:** Boardman Power Plant: 971051  
Carty Generating Station: 969935



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**VII.A INTRODUCTION**

Portland General Electric Co. (PGE) operates a coal-fired steam electric generating plant (Boardman Power Plant) near Boardman, Oregon. The company currently holds expiring Water Pollution Control Facilities (WPCF) Permit 100189 and operates wastewater and ash disposal facilities at the plant under the expiring permit, applicable Federal law, the terms and conditions of a Site Certificate Agreement (administered by the Energy Facility Siting Council (EFSC) for the State of Oregon), and the laws of the State of Oregon that were in effect on the date of the Site Certificate Agreement. Pursuant to the Site Certificate Agreement, the Department of Environmental Quality (the Department) maintains authority to issue permits for the treatment and disposal of wastewater and the disposal of ash at the Boardman Power Plant.

The expiring WPCF permit was issued on January 11, 2005 with a December 31, 2009 expiration date. On September 11, 2009, the company submitted a WPCF permit renewal application along with supporting documentation to the Department. Therefore, in accordance with Oregon Administrative Rules that were in effect on the date of the Site Certificate Agreement, WPCF Permit 100189 was administratively extended until such time as the Department takes final action on the renewal application.

In 2009, PGE announced that it plans to construct a natural gas-fired combined cycle generating plant (Carty Generating Station) adjacent to the Boardman Power Plant. On April 28, 2010, the company submitted an application for a new WPCF permit to construct and operate wastewater facilities at the new plant. In addition, PGE proposed to share some of the Boardman Power Plant wastewater facilities with Carty Generating Station. In Exhibit B, Section 4 of the Site Certificate Application for Carty Generating Station, PGE referenced a right to utilize Boardman Power Plant facilities in common with new generating units.

At this time, the Department proposes to renew the Boardman Power Plant WPCF permit and include provisions for the new Carty Generating Station wastewater facilities in it, rather than issuing separate permits for each plant. This evaluation report addresses waste discharge limitations, minimum monitoring and reporting requirements, compliance conditions and schedules, and special conditions included in the proposed WPCF permit.

**FACILITY DESCRIPTIONS**

**Boardman Power Plant**

The 617-megawatt (MW) Boardman Power Plant is located adjacent to Carty Reservoir on Sixmile Canyon, approximately 13 miles south-southwest of Boardman, Oregon (Sec. 34, T3N, R24E, W.M.). See Figure 1. The plant was constructed in the late 1970's and was placed into operation on August 3, 1980.

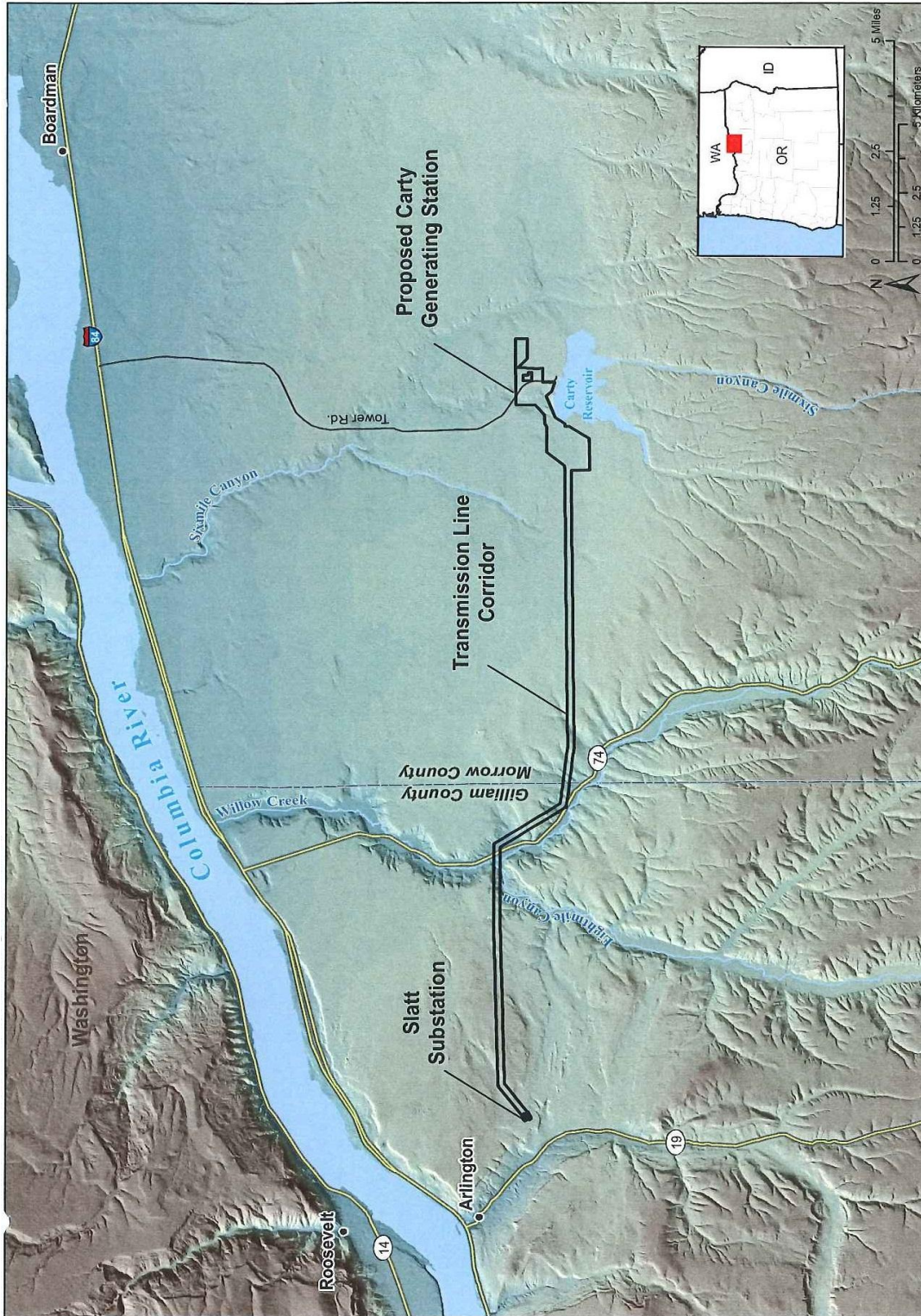
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In the power generating process, primarily low sulfur sub-bituminous coal is burned to heat boiler water into steam under high pressure. The steam is then directed into a turbine where it is allowed to expand. As the turbine turns, it turns a generator, which produces electricity. Exhaust steam from the turbine expands further in a condenser, where it cools and water droplets are formed. The condensate (boiler water) is collected in a closed loop, further cooled, and returned to the boiler. To facilitate cooling of the boiler water, a separate cooling water cycle, which does not mix with the boiler water, removes heat from the boiler water in a heat exchanger. The heat exchanger transfers heat energy from the boiler water to the cooling water. Cooling water is then recirculated between Carty Reservoir (heat sink) and the heat exchanger.

Carty Reservoir was created during Boardman Power Plant construction by placing an earth-fill dam across Sixmile Canyon and excavating sediment and bedrock through the Rattlesnake Ridge Formation and into the Pomona Basalt to enhance reservoir capacity. At high pool (677 ft MSL), Carty Reservoir covers 1,450 acres and impounds 38,300 acre-feet of water, which is pumped from the Willow Creek Arm of the Columbia River. In addition to using the reservoir for cooling, PGE circulates water for steam generation, ash transport, and other internal processes. Settling ponds are used to remove solid particles from some wastewaters prior to discharge to Carty Reservoir. Internal piping controls allow PGE flexibility in directing the waste streams. Recirculation and evaporative cooling in the reservoir cause minerals (dissolved solids) that are naturally occurring in the water to become concentrated. Maximum allowable concentrations of specific chemical constituents in the reservoir are prescribed in the Site Certificate Agreement. In order to control mineral build up, the Site Certificate Agreement allows for agricultural irrigation of reservoir water. Carty Reservoir also provides year-round habitat for wildlife. However, PGE prohibits recreational use of the reservoir. Additionally, because Carty Reservoir has been determined to be a wastewater impoundment, direct discharge from the reservoir to surface waters is not permitted.

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Figure 1





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Shallow lagoons (ponds) are utilized for containment and disposal of other wastewaters from the Boardman Power Plant. See Figure 2. The expiring permit requires that wastewater must be disposed in the lined pond, if disposal of such wastewater into Carty Reservoir would impair the use of the reservoir for plant operation or result in exceedance of chemical constituent limitations in the Site Certificate Agreement. The expiring permit also provides that wastewater that is required to be disposed in the lined pond may be disposed in an unlined pond if the lined pond is full. However, PGE lined the unlined pond in 2007 and the company's current practice is to dispose of Boardman Power Plant wastewater in the two lined ponds, if it cannot be disposed in the reservoir.

Water is used in the coal yard to wash coal conveyor transfer point enclosures. Wastewater is collected, treated in a clarifier to remove solid particles and stored in concrete lined basins for reuse. Coal yard storm water is allowed to percolate and/or runoff.

A small, lined evaporation pond adjacent to the vehicle wash and fueling area is used to contain and dispose of vehicle wash water and storm water runoff from the fueling area.

Domestic sewage is treated and disposed in a three-cell facultative lagoon system.

As noted above, the Department regulates coal ash disposal under the expiring permit in an onsite landfill located southeast of Carty Reservoir. See Figure 3. The bottom of the landfill is approximately 8-feet above the highest water level in Carty. The landfill is surrounded by a dike which isolates it from the reservoir and which diverts natural runoff around. At peak production, the plant burns approximately 315 tons of coal per hour and generates approximately 16 tons of ash per hour, which consists of approximately 20% bottom ash and 80% fly ash. PGE sells a portion of the fly ash for beneficial re-use. Fly ash that is sold is stored in an on-site silo or on-site dome storage area; it is not disposed in the landfill.

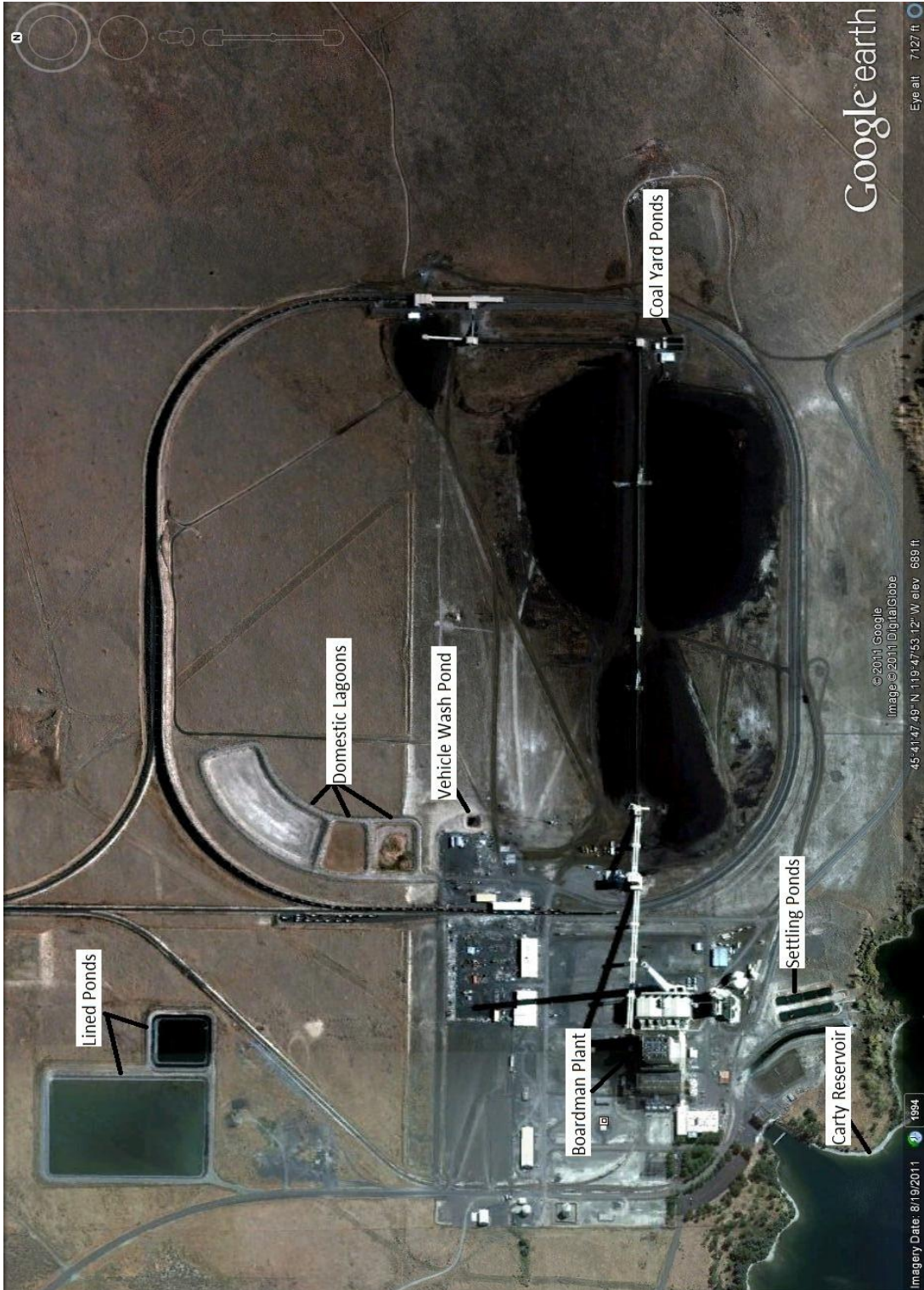
In addition to ash, PGE has disposed of spent diatomaceous earth (DE) filter media in the landfill. PGE uses DE filter media to treat Carty Reservoir water prior to use in the plant. The Department has also approved disposal of settling pond solids and sandblast media from cleaning boiler tubes in the landfill. The expiring permit prohibited disposal of wastes other than coal ash in the ash disposal landfill, except as provided for in the Ash Disposal Plan. Under the proposed permit, if management and disposal of coal ash becomes subject to requirements established by the Environmental Protection Agency, or new regulations promulgated by the Department, the Permittee will be required to apply for a permit from the Department's Land Quality Division. If the Land Quality Division issues a permit, the ash disposal requirements in this proposed permit will no longer apply.

#### Carty Generating Station

As proposed, Carty Generating Station will be a 900 MW natural gas-fired combined cycle generating plant located adjacent to Carty Reservoir and the Boardman Power Plant (Sec. 33 and 34, T3N, R24E, W.M.). See Figure 4. PGE proposes to construct Carty Generating Station in two blocks: each block will consist of a combination of one or more high efficiency combustion turbine generators (CTGs), heat recovery steam generators (HRSGs) and a steam turbine generator (STG). In the CTGs, exhaust gases from natural gas combustion will expand to turn a combustion turbine, which is connected to a generator to produce electricity. Because the exhaust gases exiting the CTGs will contain useful waste heat, they will be directed to HRSGs to generate steam to drive a STG. Steam exhausted from the STG will be condensed in a water-cooled condenser, with the resultant condensate returned to the HRSGs to produce additional steam. Water used for cooling in the water-cooled condenser will be routed to a cooling tower where the water will be cooled before being pumped back through the condenser.

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Figure 2





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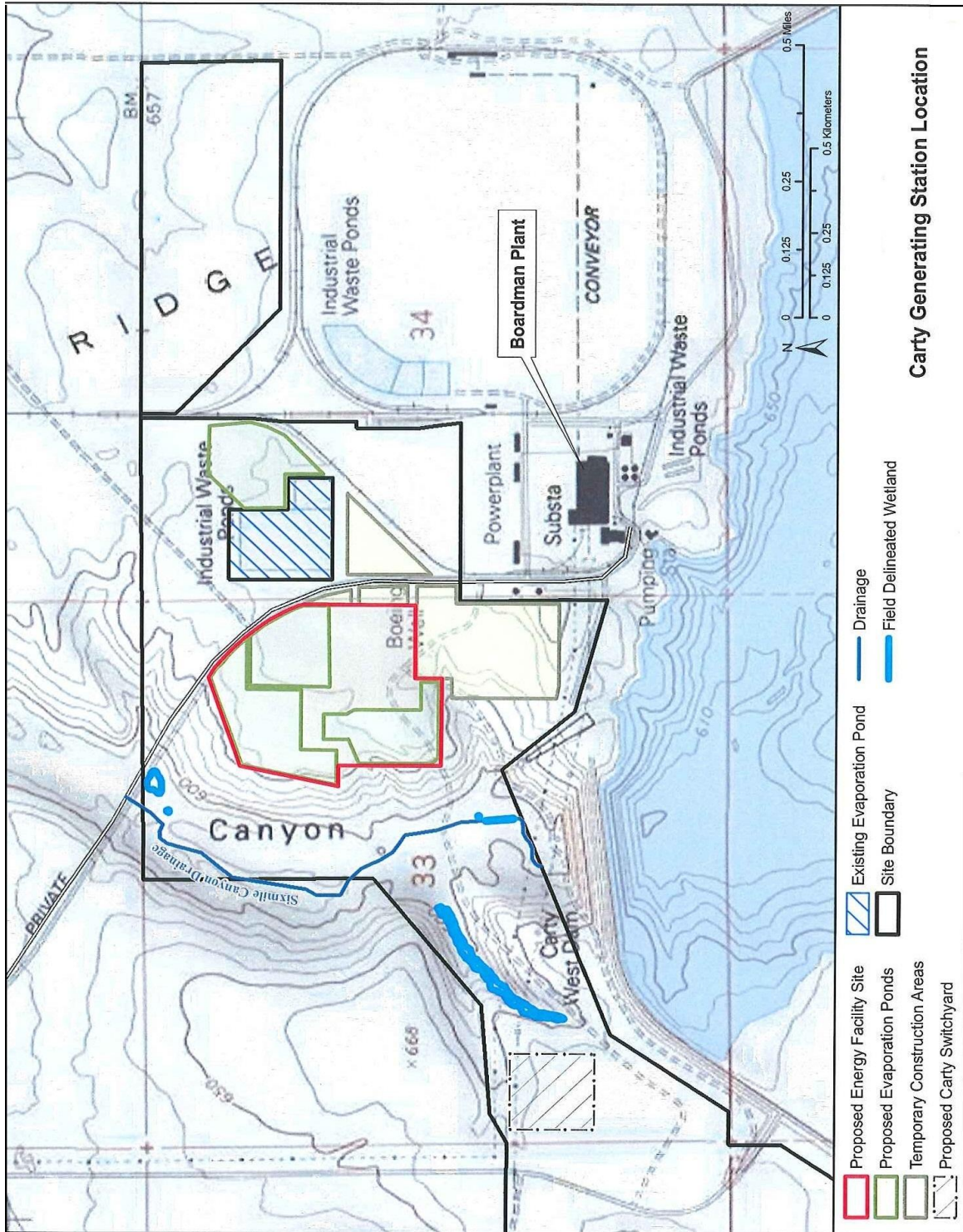
Figure 3





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Figure 4



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During construction of Carty Generating Station, wastewater will result from sanitary waste, storm water, testing and commissioning of water supply systems, hydrostatic testing, flushing of the water supply pipelines, washing equipment and vehicles, and washing concrete trucks after delivery of concrete loads. The amount of wastewater produced will vary depending on the number of construction workers and weather conditions.

During operation, Carty Generating Station will produce sanitary sewage, cooling tower blowdown, HRSG blowdown, demineralized water production wastes (from a reverse osmosis unit and neutralization tank), combustion turbine water wash wastes, plant and equipment drain wastes, service water (evaporative cooling), multimedia filtration backwash, and storm water. Table 1 indicates the estimated volumes of wastewater, based on a permanent staff of approximately 20 to 30 people and two blocks of combined cycle generation. Table 1 also indicates the disposal systems and structures for the associated wastewaters.

Table 1

Source of Wastewater	Under Annual Average Conditions, gallons per day <sup>1</sup>	Under Summer Conditions, gallons per day <sup>1</sup>	Disposal System and Structures
Sanitary Sewage	800 – 1440	800 – 1440	Routed to existing Boardman Plant sanitary waste treatment system during operation; portable toilets during construction and existing Boardman Plant sanitary system once permanent connection is made.
HRSG Blowdown	118,000	152,000	Used for cooling tower makeup water in Carty Generating Station, not directly discharged.
Reverse Osmosis Wastewater from Demineralized Water Production	32,000	43,000	Used for cooling tower makeup water in Carty Generating Station, not directly discharged.
Combustion Turbine Water Wash Wastes	6,000 gallons per year	6,000 gallons per year	Lined evaporation ponds or trucked off site for processing and disposal
Cooling Tower Blowdown	262,000	450,000	Lined evaporation ponds or returned to Carty Reservoir
Neutralization Tank Waste	10,000	13,000	Lined evaporation ponds or returned to Carty Reservoir
Plant and Equipment Drains	72,000	72,000	Lined evaporation ponds or returned to Carty Reservoir
Service Water – Evaporative Cooling Blowdown	0	9,000	Lined evaporation ponds or returned to Carty Reservoir
Multi-media Filtration Backwash	13,000	25,000	Lined evaporation ponds or returned to Carty Reservoir

<sup>1</sup> Unless otherwise noted.



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**FACILITY PERMIT HISTORY**

This section summarizes the Department’s permit actions for the wastewater facilities and coal ash landfill at the Boardman Power Plant since 1981. There is no history for the Carty Generating Station because those facilities will be new.

<u>Effective Date</u>	<u>Action</u>
August 14, 1981	Permit issuance. The permit prohibited discharge to public waters and required PGE to treat or otherwise manage waste discharges to Carty Reservoir such that concentrations of chemicals in the reservoir do not exceed those authorized by the Site Certificate. Wastewater from sources such as boiler acid cleaning, chemical cleaning wastes and effluents from liquid chemical waste drains were required to be disposed in the lined pond. Wastes containing high total dissolved solids were required to be disposed in the unlined pond if they could not be discharged to Carty Reservoir due to concentrations of specific substances. Prior to discharge to the seepage cell, domestic wastewater was required to be treated with chlorine and to maintain a minimum chlorine residual of 1.0 mg/L after 60 minutes of contact. Ash disposal and groundwater monitoring near the ash disposal area were required to be in accordance with the Ash Disposal Plan. Monitoring results were required to be maintained and submitted to the Department upon request. <p style="text-align:center">Expiration date: March 31, 1986</p>
June 9, 1986	Permit renewal. The permit was renewed essentially unchanged, except that it required submittal of monitoring results and notification to the Department prior to performing start-up of facility operations. <p style="text-align:center">Expiration date: May 31, 1991</p>
January 11, 2005	Permit renewal. The permit prohibited direct discharge of wastewater and storm water to waters of the State and prohibited exceedance of the constituent limitations in the Site Certificate. Wastewater that could not be disposed in Carty Reservoir due to impairment of reservoir water uses was required to be disposed in the lined pond. If the lined pond was full, it was permitted to be disposed in the unlined pond. <p style="text-align:center">Expiration date: December 31, 2009</p>

**COMPLIANCE HISTORY**

This section summarizes the water quality compliance history for the Boardman Power Plant since the last permit renewal in 2005. There is no compliance history for the Carty Generating Station because it will be new.

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Inspections

The Boardman Power Plant wastewater facilities were inspected on January 31, 2012. No violations were documented during the inspection.

Complaints

There have been no complaints regarding water quality issues or the WPCF permit at the Boardman Power Plant.

Enforcement

On February 9, 2011, the Department issued Warning Letter (WL) ERP-11-008 for failure to contain storm water within the lined ash disposal area, as required by the Ash Disposal Plan. A large rainfall event occurred on December 28 and 29, 2010; and, due to the impermeability of the ash, the storm water collected in a low lying area within the ash disposal area until it overtopped a berm and created a washout. PGE drew down the remaining storm water by pumping it over the berm to prevent further washout. The company estimates that approximately 780,000 gallons of storm water were released from the disposal area. Process knowledge of the landfill constituents (primarily bottom, fly and economizer ash) do not indicate that any metals were leached from the ash disposal area during the event. Moreover, no discernable ash was observed outside the disposal area. It was a Class II violation. Class I violations are considered to be the most serious violations; Class III violations are the least serious. PGE repaired the dike and reshaped the surface of the landfill to contain storm water.

**ENVIRONMENTAL CONCERNS**

Three environmental concerns have been considered by the Department at the Boardman Power Plant and Carty Generating Station facilities. The first concern involves potential impact to surface water either by wastewater discharge to surface water or by recharge of impacted groundwater to surface water. The second concern involves potential impact from seepage of untreated or inadequately treated wastewater (including landfill leachate) to groundwater. The third concern involves potential impacts to wildlife and other beneficial uses of Carty Reservoir wastewater. All three concerns have been addressed in the proposed WPCF permit.

Environmental Media Considered Under Proposed Permit

*Surface Water*

The nearest surface water is Sixmile Canyon, which is located in the Middle Columbia/Lake Wallula Subbasin of the Umatilla Basin. In accordance with OAR 340-041-0310(1), water quality in the Umatilla Basin must be managed to protect the designated beneficial uses shown in Table 310A, OAR Chapter 340, Division 41. Although Table 310A indicates designated beneficial uses for only the Umatilla and Willow Creek Subbasins, the Department assumes that designated beneficial uses of surface water in the greater Umatilla Basin will be the same as the Umatilla Subbasin, unless otherwise specified. The designated beneficial uses of surface water in the Umatilla Subbasin are: public and private domestic water supply, industrial water supply, irrigation, livestock watering, fish and aquatic life, wildlife and hunting, fishing, boating, water contact recreation, aesthetic quality, and hydro power. Applicable water quality standards can be found in OAR Chapter 340, Division 41.

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In order to protect surface water, PGE is required under the proposed permit to routinely inspect the dikes and wastewater containment structures and monitor various wastewater parameters. Safety of the dam at Carty Reservoir is administered by the Department of Water Resources' Dam Safety Program.

*Groundwater*

Groundwater Protection Rules can be found at OAR Chapter 340, Division 40. OAR 340-040-0020 requires that wastewater facilities be operated and maintained so that existing and potential uses of groundwater are not impaired. Existing and potential beneficial uses of groundwater downgradient of the Boardman Power Plant and Carty Generating Station include domestic use, livestock watering, crop irrigation, and recharge to Sixmile Canyon and the Columbia River.

OAR 340-040-0030(3) and (4) require the Department to establish groundwater concentration limits or concentration limit variance at permitted facilities. Concentration limits at existing facilities are established on a case-by-case basis and may be set between background water quality levels and the numerical groundwater quality reference levels, or guidance levels, listed in Tables 1 through 3 of the Groundwater Protection Rules, unless the background water quality is above those numerical levels. If the background water quality exceeds those numerical levels, then the concentration limit is required to be established at the background level. If a contaminant of concern is not listed in Tables 1 through 3, the permit-specific concentration limit is the background water quality level. At new facilities, concentration limits are established at the background water quality levels for all contaminants.

To ensure groundwater protection, the company will be required under the proposed permit to prepare a Hydrogeologic Characterization Report and propose concentration limits at downgradient locations. The Hydrogeologic Characterization must address groundwater conditions up- and down-gradient of each and every wastewater impoundment. Additional monitoring wells may be required and the permit will need to be reopened in the future to include groundwater concentration limits.

Wastewater Facilities Covered Under the Proposed Permit

*Carty Reservoir*

The presence of many of the chemical constituents in Carty Reservoir may be explained by PGE's operations at the Boardman Power Plant. In addition to using the reservoir for cooling, PGE circulates wastewater for steam generation, bottom ash transport, and other internal processes. Recirculation and evaporative cooling cause minerals (TDS) that are naturally occurring in the Columbia River source water to become concentrated in Carty Reservoir. Sodium hypochlorite, which is used as a biofoulant and disinfectant to restrict the growth of organisms inside condenser tubes, may be the source of sodium and chloride concentrations. Copper may be expected to leach from the copper-based condenser tubes.

Regarding the proposed Carty Generating Station, PGE anticipates that there will be no cumulative degradation of the reservoir's quality from the two combined cycle blocks provided makeup water is pumped to the reservoir from the Columbia River, as in the past. Additionally, the company believes that the minimal effects of the wastewater discharges on the water quality of the reservoir show that it is not sensitive to changing river water quality, wastewater quality, wastewater quantity, or other conditions. PGE calculated the values in Table 2, which are based on discharge of Carty Generating Station wastewater to Carty Reservoir while at the same time there is no Columbia River makeup water being added.

Table 2

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	Initial Reservoir Quality	Reservoir Quality After 30 Days	Reservoir Quality After 60 Days
Calcium, mg/L CaCO <sub>3</sub>	63	63	64
Magnesium, mg/L CaCO <sub>3</sub>	90	91	92
Sodium, mg/L CaCO <sub>3</sub>	87	88	89
Potassium, mg/L CaCO <sub>3</sub>	7	7	7
M-Alkalinity, mg/L	148	148	148
Sulfate, mg/L CaCO <sub>3</sub>	47	48	48
Chloride, mg/L CaCO <sub>3</sub>	44	44	45
Nitrate, mg/L CaCO <sub>3</sub>	0.2	0.2	0.2
Silica, mg/L	3.1	3.1	3.2
Conductivity	444	449	453
TDS, mg/L	261	264	266
Fluoride, mg/L	0.6	0.6	0.6
Iron, mg/L	0.11	0.11	0.11
Copper, mg/L	0.006	0.006	0.006
Zinc, mg/L	0.012	0.012	0.012
Arsenic, mg/L	0.005	0.005	0.005
Boron, mg/L	0.10	0.10	0.10
Cadmium, mg/L	<0.001	<0.001	<0.001
Chromium, mg/L	0.001	0.001	0.001
Mercury, mg/L	<0.0002	<0.0002	<0.0002

The combination of irrigation withdrawal and fresh water addition from the Columbia River is used control chemical concentration build-up in the reservoir. Although Carty Reservoir has been determined to be a wastewater impoundment (not waters of the State), local irrigators hold water rights on the wastewater

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in Carty Reservoir. For that reason, the Department is unable to regulate the wastewater irrigation process. Nevertheless, the Department does have authority to regulate wastewater at the intake to the irrigation withdrawal pump in Carty Reservoir. In order to protect groundwater at irrigation sites, the proposed permit establishes trigger levels for selected parameters at historic high concentrations and compliance limits at a percentage above those concentrations. As proposed, PGE will be required to immediately initiate concentration reduction measures if monitoring indicates that a trigger level has been exceeded. A permit violation will result if the compliance levels are exceeded. The Department believes that the proposed trigger levels and compliance limits are reasonable based on PGE's calculations and conclusion that there will be no cumulative degradation of the reservoir's quality from the two combined cycle blocks.

At 1,450 acres, Carty reservoir attracts water fowl and other wildlife. In order to protect wildlife and enhance other beneficial uses of Carty Reservoir wastewater, the Boardman Power Plant Site Certificate Agreement prescribed maximum allowable reservoir concentrations for selected parameters. To date, mean values of none of the reported parameters have exceeded the Site Certificate Agreement concentration limits. The Department recently consulted with Rick Kepler, Oregon Department of Fish and Wildlife, regarding the appropriateness of maximum allowable concentrations in light of present-day wildlife toxicology. According to Mr. Kepler, there is very little to go on with regards to whether the current levels are affecting waterfowl, fish or the birds that prey on them, without having tissue samples, a study, or knowing the relationship between the concentrations in the reservoir and those in wildlife tissue.

Still, Carty Reservoir is an unlined wastewater pond and PGE estimates that it leaks at the rate of 2,700 acre-feet/year (1,700 gallons per minute). Seepage from the reservoir may potentially affect groundwater quality. PGE intercepts a portion of the seepage in a seepage collection system immediately below the dam and pumps it back into the reservoir. Approximately 323 acre-feet/year of seepage is collected this way and returned to the reservoir. PGE currently monitors groundwater in a single well below the dam.

Since Carty Reservoir leaks to groundwater and is in direct communication with the Rattlesnake Ridge aquifer, the Department reviewed the Site Certificate Agreement concentration limits in light of groundwater protection and placed the resulting values in Schedule A of the proposed permit as permit limits. In doing so, the limits for sodium, arsenic, cadmium, nitrate, TDS and mercury were reduced with respect to the existing Site Certificate Agreement. A limit for pH was added and the sodium adsorption ratio (SAR) limit was deleted. The revisions do not modify the Boardman Power Plant Site Certificate Agreement. Schedule B of the proposed permit requires vanadium and selenium monitoring in the reservoir because those parameters have been observed in groundwater nearby. Total trihalomethanes (TTHMs) are required to be monitored because of their occurrence as byproducts of chlorine disinfection. The Schedule A permit limits may need to be modified in the future after development of vanadium, selenium and TTHM data in the reservoir, submittal of a Hydrogeologic Characterization Report and/or exceedance of a groundwater concentration limit, in which case the permit will need to be reopened.

#### *Settling Ponds*

PGE discharges wastewater from the Boardman Power Plant oil water separator, raw water filter, activated carbon filter, bottom ash handling system surge tank, pretreatment area sump, water treatment area sump, and liquid waste sump to two unlined settling ponds for treatment. Treated effluent from the settling ponds is then pumped to Carty Reservoir. The company does not propose to share the settling ponds with Carty Generating Station.

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The oil water separator provides treatment for wastewater from selected *Facility sumps and drains*, as defined in Schedule D, Condition 8 of the proposed permit. Wastewater from the pretreatment area sump, water treatment area sump and liquid waste sump are included in the *Facility sumps and drains* category. Wastewater from the raw water filter and activated carbon filter are included in the *Water treatment wastewater* category. Wastewater from the bottom ash handling system surge tank is included in *Ash transport wastewater*.

*Lined Ponds*

PGE maintains two lined ponds for disposal of Boardman Power Plant wastewater, if disposal of such wastewater into Carty Reservoir would impair the use of reservoir water for plant operation or result in a Site Certificate Agreement concentration limit exceedance. As noted above, the company had a lined pond and an unlined pond until 2007, at which time the unlined pond was lined. The company relined the original lined pond in 1996 by simply placing a new liner over the existing liner. A single monitoring well is located in the vicinity of the lined ponds. Although it is situated in a down-gradient position with respect to the lined ponds, it has never had sufficient water in it to sample.

Sources of wastewaters permitted for disposal in the Boardman Power Plant lined ponds include boiler acid cleaning (after submittal of a waste characterization and written approval from the Department), chemical cleaning, chemical waste drains, demineralization of Carty Reservoir water and regeneration of the demineralization media, make-up water demineralization (including regeneration), condensate polishing (including regeneration), water treatment area floor drains, system shut-down drains, and laboratory/sample room sink drains. Boiler acid cleaning and chemical cleaning wastewaters are included in the *Equipment cleaning wastewater* category, as defined in Schedule D, Condition 8 of the proposed permit. Demineralization and regeneration of the demineralization media, make-up water demineralization (including regeneration) and condensate polishing (including regeneration) wastewaters are included in the *Water treatment wastewater* category. Chemical waste drains and laboratory/sample room sink drains are included in the *Laboratory and sampling wastewater* category. Water treatment area floor drains and system shut-down drains wastewaters are included in the *Facility sumps and drains wastewater* category.

PGE does not propose to share the Boardman Power Plant lined ponds with Carty Generating Station. Instead, the company has proposed locations for up to four new lined ponds. See Figure 4. The company projects that four lined ponds will provide adequate capacity for the total wastewater from a single block without wastewater treatment. As the design process progresses, the potential to discharge a portion or all of the wastewater from Carty Generating Station to Carty Reservoir, and the potential that additional wastewater treatment systems would be incorporated into the design, could result in a decrease in the total number and size of evaporation ponds. Moreover, the company says that the timing of the construction of evaporation ponds will depend on a number of factors, including the timing of construction of Blocks 1 and 2, any future changes to discharges to Carty Reservoir from the Boardman Power Plant, and other conditions that may affect water levels in Carty Reservoir.

The proposed permit requires that detailed plans and specifications must be submitted to, and approved in writing by, the Department prior to constructing wastewater management, treatment and disposal facilities. In addition, the permit requires PGE to submit a characterization of wastewater treatment system wastewater to the Department prior to discharge of such wastewater to lined evaporation ponds.

*Sewage Lagoons*

As noted above, domestic sewage from the Boardman Power Plant is treated and disposed in a three-cell facultative lagoon system. PGE says that the average dry weather design flow for the facility is 10,500 gallons per day (gpd). Actual flow from the Boardman Power Plant is considerably less than that and PGE



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proposes to use the excess capacity for disposal of Carty Generating Station domestic sewage. As constructed, the two stabilization cells are clay lined and the third cell is unlined to allow for seepage disposal. The facility is designed so that treated sewage that passes from the second to the third cell is disinfected with chlorine. However, the third cell has not been used and the integrity of the clay liners is in question due to the low flows from the Boardman Power Plant relative to the design flow.

The proposed permit requires treatment equivalent to secondary and establishes limits on *E. coli* bacteria, nitrate-nitrogen (NO<sub>3</sub>-N) and total nitrogen for protection of groundwater. Prior to discharge of Carty Generating Station sewage to the lagoons, PGE must submit a work plan to remove vegetation from the clay-lined cells and either leak test the cells or recondition them. In addition, the company must submit a long term plan to ensure the integrity of the clay-lined cells, which may include evaluating system capacity requirements and modifying the system capacity accordingly prior to discharge of Carty Generating Station sewage to the lagoons. The permit also requires PGE to have the system supervised by one or more operators who are certified in treatment system operation at grade level I or higher.

*Vehicle Wash Water Pond*

PGE maintains a small, lined evaporation pond at the Boardman Power Plant adjacent to the vehicle wash and fueling area. It is used to contain and dispose of vehicle wash water and storm water runoff from the fueling area. The company does not propose to share the facility with Carty Generating Station.

Vehicle wash water from the Carty Generating Station will be disposed in the lined ponds discussed above. In addition, equipment and vehicle cleaning wastewater from both Carty Generating Station and Boardman Power Plant may be disposed in storm water swales discussed below, provided chemicals, soaps, and detergents are not used and washing is restricted to the exterior of the vehicle or equipment. Equipment and vehicle cleaning wastewater means heavy construction equipment, landscape maintenance equipment and on-road vehicles.

*Coal Yard Ponds*

As noted above, water is used in the Boardman Power Plant coal yard to wash coal conveyor transfer point enclosures. Wastewater is collected, treated in a closed system to remove fine coal particles, and reused. Treatment consists of adding a flocculent to the wastewater and allowing the fine particles to settle in a clarifier. Treated wastewater is stored in concrete lined basins for reuse. PGE has not proposed to share the facilities with the Carty Generating Station.

Coal yard storm water is allowed to percolate and/or runoff. However, the proposed permit prohibits storm water runoff from the coal yard to Carty Reservoir.

*Storm Water Swales*

PGE plans to construct storm water swales at Carty Generating Station to prevent storm water from leaving the site. The company plans and the proposed permit allows disposal of wash water derived from washing exterior surfaces only of vehicles and equipment, fire protection system wastewater and facility construction and commissioning wastewater in the storm water swales, provided chemicals, soaps, and detergents are not used. Disposal of engine, transmission or undercarriage wash water is not permitted in storm water swales.

Equipment and vehicle cleaning wastewater is defined in Schedule D, Condition 8 of the proposed permit to mean heavy construction equipment, landscape maintenance equipment and on-road vehicles. Fire protection system wastewater is defined as fire suppression system test water that is derived from the domestic water supply or Carty Reservoir. Facility construction and commissioning wastewater means water supply system testing and commissioning wastewater, hydrostatic testing wastewater, and water

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supply lines flushing wastewater during construction of Carty Generating Station.

Ash Disposal Landfill

PGE currently monitors groundwater at three wells in the immediate vicinity of the ash disposal landfill. A fourth monitoring well has always been dry. Bicarbonate alkalinity and vanadium concentrations appear to have increased over time in all three wells, while chloride and nitrate concentrations appear to have decreased. Arsenic, selenium, sulfate, and total dissolved solids (TDS) concentration trends have varied over time and from well to well.

Nitrate and TDS display a regional presence. The Boardman Power Plant site straddles the southern boundary of the Lower Umatilla Basin Groundwater Management Area (LUBGWMA). The area has been designated as such by the Department because groundwater nitrate concentrations currently exceed 70% of the groundwater reference level (10 mg/L) in a widespread area. At concentrations greater than 10 mg/L, orally ingested nitrate can be hazardous to infants. In the vicinity of the ash disposal landfill, nitrate concentrations have been reported to be as high as 66 mg/L.

The drinking water standard for TDS is 500 mg/L. Excess TDS is objectionable in drinking water because of physiological effects, unpalatable mineral tastes, and higher costs for water treatment. Physiological effects directly related to TDS include laxative effects principally from sodium sulfate and magnesium sulfate and the adverse affect of sodium on certain patients afflicted with cardiac disease and women with toxemia associated with pregnancy. At concentrations greater than 500 mg/L, TDS can have detrimental effects on sensitive crops. In the vicinity of the ash disposal landfill, TDS concentrations have been reported as high as 1073 mg/L.

Although the source has not been determined, the landfill is not suspected of contributing to the occurrence of the above parameters for the following reasons: 1) the landfill is lined with a one foot thick layer of hydrated, compacted fly ash to create an impermeable barrier and successive deposits of fly ash are hydrated and compacted daily to prevent wind erosion; 2) water loss from evaporation (51 in/yr) greatly exceeds additions from precipitation (9 in/yr) and dust control (0.5 in/yr); and 3) the bottom of the landfill is eight feet higher than Carty Reservoir at high pool.

Other Wastewaters

*Coal Yard Sumps and Basements*

PGE has asked the Department for approval to dispose of water that floods sumps or basements in the coal yard buildings due to equipment failure by pumping the wastewater onto the coal pile or into storm water swales that remain inside the coal yard boundaries. The proposed permit allows the practice.

*Air Pollution Control Wastewater*

PGE has requested Department approval to dispose of Boardman Power Plant air pollution control wastewater in lined evaporation ponds, in the coal yard and in the ash disposal area. The company defined air pollution control wastewater as 50 to 200 gallons per day of baking soda grinding wash water. The Department asked the company for a waste characterization and, as proposed, the permit will allow the disposal if approved in writing by the Department.

*Concrete Mixer Wastewater*

Disposal of rinse water from concrete mixer trucks chutes and exteriors is generally permitted on construction sites. However, disposal of wastewater from cleaning the interiors of concrete mixer drums is not allowed without a permit. The Department expects concrete mixer washout to be disposed at facilities permitted for disposal of concrete mixer washout.



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**PERMIT DRAFT SUMMARY**

The following discussion pertains to selected portions of the proposed WPCF Permit.

Face Page

The face page of the proposed WPCF permit identifies that PGE is permitted to dispose of industrial and domestic wastewater by seepage and evaporation and coal ash by land disposal. The permit will expire approximately ten years from the date of issuance.

SCHEDULE A – WASTE DISPOSAL LIMITATIONS

Schedule A establishes limits for management and disposal of wastewater and ash. Accordingly, only authorized wastes are permitted to be disposed. Moreover, discharge to surface water is prohibited and water quality standards for groundwater must not be violated. Wastewater management and disposal must be conducted in accordance with the Department approved OM&M Plan. Additional limitations pertain to pond freeboard, Carty Reservoir chemical concentrations, domestic lagoon wastewater parameters and wastewater solids management. Coal ash management and disposal must be conducted in accordance with the Boardman Power Plant Ash Disposal Plan.

SCHEDULE B - MINIMUM MONITORING AND REPORTING REQUIREMENTS

Schedule B establishes minimum monitoring and reporting requirements. Authority for the Department to require periodic reporting by permittees is found at ORS 468.065(5). Self-monitoring requirements are the primary means of ensuring that permit limitations are being met. Minimum monitoring requirements for the sanitary lagoons, lined evaporation ponds, Carty Reservoir and coal ash operations are included in the permit. Schedule B requires the Permittee to take action to reduce concentrations of specific parameters in the irrigation withdrawal water, if monitoring indicates that concentrations exceed listed trigger levels.

The permit requires that groundwater monitoring be performed in accordance with the approved Groundwater Monitoring Plan and it requires resampling if groundwater monitoring results exceed concentration limits or indicate a significant increase (increase or decrease for pH) in the value of a parameter monitored. The reporting period for the sanitary lagoons is the calendar month and monitoring reports must be submitted to the Department's Pendleton Office by the 15<sup>th</sup> day of the following month. For all other monitoring, the reporting period is the calendar year and monitoring reports must be submitted to the Department by March 1 each year.

SCHEDULE C – COMPLIANCE CONDITIONS AND SCHEDULES

Schedule C contains compliance conditions and schedules to allow the Permittee time to achieve compliance with permit requirements. For instance, Schedule C requires the Permittee to submit a work plan to remove vegetation from the clay lined sanitary lagoon cells and either leak test the clay-lined cells or recondition them prior to discharge of sanitary sewage from the Carty Generating Station. In addition, the Permittee must submit a long term plan to ensure the integrity of the clay-lined cells prior to discharge of sanitary sewage from the Carty Generating Station.

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The Permittee is required to submit an OM&M Plan to the Department for review and approval. The plan must be reviewed annually and revisions must be submitted to the Department for approval whenever the plan is revised. Following submittal of the plan, or submittal of a revised plan, the Department will approve it, approve it with conditions, or disapprove it. If approved, the plan must be implemented in accordance with the Department approval. If disapproved, the Department will provide an approved plan or allow a minimum of 30 days for PGE to submit a revised plan.

Schedule C requires the Permittee to submit a Biosolids Management Plan to the Department for review and approval prior to the removal of biosolids for beneficial reuse. A Biosolids Management Plan is not required for landfill disposal.

In order to bring the facilities into compliance with the Groundwater Protection Rules (OAR Chapter 340, Division 40), the Permittee must submit a Hydrogeologic Characterization, a Groundwater Monitoring Plan and a Water Quality Analysis Report with proposed groundwater concentration limits.

Schedule C requires the Permittee to notify the Department of any lapsed compliance date that has been established by this schedule.

SCHEDULE D - SPECIAL CONDITIONS

Schedule D contains conditions pertaining to system operation and maintenance that are not addressed elsewhere in the permit. For instance, detailed plans and specifications must be submitted to the Department prior to constructing or modifying wastewater management, treatment and disposal facilities.

There are conditions pertaining to operation and management of the sanitary lagoons. For example, beneficial reuse of biosolids must be in accordance with the Department-approved Biosolids Management Plan and any new biosolids application sites must meet the site selection criteria in the Biosolids Rules (OAR 340-050-0070). Moreover, the Permittee must comply with the Operator Certification Rules (OAR Chapter 340, Division 49) and have the sanitary wastewater system supervised by one or more operators who are certified in treatment system operation at grade level I or higher.

Other conditions pertain to Department notification in the event of a malfunction and requirements to appoint an environmental supervisor, maintain an adequate contingency plan and educate employees regarding proper action in the event of a spill or accident. Conditions pertaining to management and maintenance of groundwater monitoring wells are also included.

Schedule D includes a glossary of terms used in the permit and it includes a reopener clause to clarify that the Department has authority to reopen the permit prior to expiration to include new or revised conditions.

SCHEDULE F - WPCF GENERAL CONDITIONS

These conditions are standard to all WPCF permits.

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EXHIBIT 4—Proposed Water Pollution Control Facilities Permit

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**EXHIBIT 5**  
**Site Certificate**

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**ENERGY FACILITY SITING COUNCIL**

**OF THE**

**STATE OF OREGON**

**Site Certificate  
for the  
Carty Generating Station**

**ISSUE DATE**

**June 29, 2012**

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**CARTY GENERATING STATION SITE CERTIFICATE  
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## Acronyms and Abbreviations

ACEC	Area of Critical Environmental Concern
ADA	Americans with Disabilities Act
Btu	British Thermal Unit
Carty	Carty Generating Station
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
Council	Oregon Energy Facility Siting Council
CTG	Combustion Turbine Generator
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 Corporation
HMA	Habitat Mitigation Area
HRSG	Heat Recovery Steam Generator
kV	Kilovolt
MCZO	Morrow County Zoning Ordinance
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

SHPO	Oregon State Historic Preservation Office
STG	Steam Turbine Generator
USFWS	United States Fish and Wildlife Service
WGS	Washington Ground Squirrel
WPCF	Water Pollution Control Facilities

## 1.0 INTRODUCTION

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

The findings of fact, reasoning, and conclusions of law underlying the terms and conditions of this site certificate are set forth in the Council's *Final Order in the Matter of the Application for a Site Certificate for the Carty Generating Station* (Final Order on the Application) issued on June 29, 2012 and incorporated herein by this reference. In interpreting this site certificate, any ambiguity will be clarified by reference to the following, in order of priority: (1) this Site Certificate, (2) the Final Order on the Application and (3) 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. 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 natural gas-fueled energy generating facility, together with certain related or supporting facilities, at the site in Morrow County, Oregon, as described in Section 3.0 of this site certificate.  
[ORS 469.401(1)]
- 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 the facility or ownership of the site certificate holder, the certificate holder shall inform the Department of the proposed new owners. The requirements of OAR 345-027-0100 apply to any transfer of ownership that requires a transfer of the site certificate.  
[Final Order IV.B.2.8] [Mandatory Condition OAR 345-027-0020(15)]
- 2.11 Any matter of non-compliance under the site certificate shall be the responsibility of the certificate holder. Any notice of violation issued under the site certificate shall be issued to the certificate holder. Any civil penalties assessed under the site certificate shall be levied on the certificate holder.  
[Final Order IV.B.2.5]
- 2.12 Within 72 hours after discovery of conditions or circumstances that may violate the terms or conditions of the site certificate, the certificate holder shall report the conditions or circumstances to the Department.  
[Final Order IV.B.2.7]
- 2.13 The Council shall not change the conditions of this site certificate except as provided for in OAR Chapter 345, Division 27.  
[Final Order VI.1] [Mandatory Condition OAR 345-027-0020(1)]

### **3.0 DESCRIPTION OF FACILITY**

#### **LOCATION AND SITE BOUNDARY**

The Carty Generating Station is located in Morrow County, Oregon, southwest of the City of Boardman and north of the Carty Reservoir. This location is also adjacent to the existing Boardman Coal Plant. The transmission line associated with the Carty Generating Station is located partially within an existing transmission right-of-way, and extends across the western portion of Morrow County and into eastern Gilliam County to connect to the existing Bonneville Power Administration Slatt substation.

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 2,400 acres; the transmission line right-of-way corridor comprises approximately 1,400 acres of this total area.

#### **THE ENERGY FACILITY**

The Carty Generating Station is a natural gas-fueled combined-cycle electric power generating plant. The Carty facility consists of two generator blocks capable of generating up to 900 MW of electrical power.

The Carty Generating Station has up to two generating blocks, each consisting of one or more high efficiency combustion turbine generators (CTGs), heat recovery steam generators (HRSGs), and a steam turbine generator (STG). Within the blocks, natural gas CTG(s) produce electricity, with the exhaust gases from the CTG(s) supplying heat to the HRSG(s). Steam produced in the HRSG(s) is used to power the STG to produce additional electricity. Duct burners fueled by natural gas in the HRSG(s) 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(s) 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. Each block has a separate cooling tower. If required for starting the CTG(s) 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(s).

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

Generator transformers step up the voltage produced by both blocks to 500 kilovolts (kV). A 500-kV transmission line connects the generator transformers to a 500-kV switchyard, the Grassland Switchyard. From the switchyard, PGE utilizes the 500-kV Boardman to Slatt transmission line, an additional 500-kV single circuit or double circuit transmission line, or both lines, to connect to the Slatt Substation. The additional transmission line is approximately 18 miles long.

The proposed facility consumes about 150 million cubic feet of natural gas per day during operation of both blocks. Natural gas will be supplied to the facility through a lateral pipeline that will be connected to an existing pipeline operated by the Gas Transmission Northwest Corporation (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).

Carty is interconnected with the Boardman Coal Plant to obtain potable water and to utilize the existing sanitary waste infrastructure. The Carty facility is also connected to the Carty Reservoir for water withdrawal and water discharge purposes. Under the Agreement for Construction, Ownership, and Operation of the Number One Boardman Station on Carty Reservoir dated as of October 15, 1976, between PGE, Idaho Power Company, and Pacific Northwest Generating Company, PGE has the right to construct and operate additional generating units on Carty Reservoir and to utilize facilities of the Boardman plant that may be used in common with such new generating units, including, but not limited to, the reservoir, pumping facilities, pipelines from the Columbia river, roads, railroad spurs, docks, parking lots, fencing and transmission facilities.

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

- On-site 500-kV transmission line
- 18-mile 500-kV transmission line from the Grassland Switchyard to the Slatt Substation
- Grassland Switchyard
- Interconnecting water pipelines
- Evaporation ponds
- Cooling towers
- Liquid storage facilities
- Accessory buildings
- Utility lines
- Roads
- Additional temporary construction areas

## **500-kV Transmission Lines**

### *On-Site*

A 500-kV transmission line connects the step-up transformers located at each generating block to the Grassland Switchyard. One transmission line serves each block, and each transmission line is approximately 0.75 miles long and requires approximately four transmission support towers. These towers are between 100 and 150 feet tall and are spaced approximately 1,000 feet apart.

### *Connecting*

To access the grid, PGE utilizes the 500-kV Boardman to Slatt transmission line, a 500-kV single circuit or double circuit transmission line, or both, to connect the Grassland Switchyard to the existing Slatt Substation. The single or double circuit transmission line is approximately 18 miles long.

## **Grassland Switchyard**

A 500-kV, alternating current, open-air switchyard is located west of the Carty Generating Station. The switchyard consists of a leveled and graveled area approximately 15 acres in size, surrounded by a security fence. The switchyard includes 500-kV circuit breakers and disconnect switches to allow for clearing faults on the connected transmission lines and for maintenance of the circuit breakers and transmission lines. Steel take-off towers terminate 500-kV overhead transmission lines that connect the switchyard with the plant generator step-up transformers and outgoing transmission lines. An additional small building provides a controlled environment for the protective relaying and communication equipment.

## **Interconnecting Water Pipelines**

Water pipelines connect the Carty Generating Station with the Boardman Coal Plant to access the raw Carty Reservoir water intake structure, wastewater discharge structure for discharge to Carty Reservoir, potable water system, sanitary sewer, demineralized water supply, and fire water supply lines. The pipes are installed either below grade, or above grade with trenches under road and railroad crossings. These interconnecting pipelines are located in areas that have already been disturbed by the existing Boardman Coal Plant during construction of the Carty Generating Station.

Water from the Carty Reservoir passes into the existing intake structure and enters one of two separate water systems serving the Boardman Plant; a circulation water system and a service water system. This circulating water system is a 180,000-gpm withdrawal, supplied from a 96-inch pipe. The Boardman Plant service water system is a 14,000-gpm withdrawal supplied from a 48-inch pipe. The service water connection for the Carty Generating Station is connected to the intake structure at this 48-inch pipe. No changes were made to the in-water portion of the intake structure, but the equipment layout within the associated building was changed and the



building was expanded. A monorail system allows pumps to be extracted for maintenance. From the intake structure, water passes through a 14 to 16-inch pipe approximately 5,000 feet to the Carty facility.

### **Evaporation Ponds**

Process wastewater from the Carty facility is discharged either to the Carty Reservoir or to evaporation ponds, or both. Evaporation ponds are lined and receive wastewater including cooling tower blowdown, water wash wastes, filtration wastewater, and water demineralization wastewater. Evaporation ponds are sized to accommodate 390 acre-feet per year and are be 10 to 15 acres in area and eight feet deep. The Carty Generating Station includes up to four evaporation ponds, occupying up to 58 acres of the site area.

### **Cooling Towers**

Cooling towers at the Carty Generating Station exhaust excess heat from the power generation process. Each 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 towers are approximately 50 feet in height. One mechanical-draft wet cooling tower serves each block of the Carty facility.

### **Liquid Storage Facilities**

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

### **Accessory Buildings**

Accessory buildings on the Carty site house boiler feed pumps, chemical feed equipment, and other equipment requiring protection from weather or noise containment. Accessory buildings common to the two proposed generating blocks include buildings housing water treatment equipment as well as warehouse and administration areas.

### **Utility Lines**

A below-grade electrical raceway connects the Carty facility to the Boardman Plant. The raceway contains communication cables to connect the Carty phone and data highway systems into the Boardman Plant communication and data highway systems. In addition, electric power cables allow for transmission of auxiliary power from the existing Boardman Plant to the Carty Generating Station in emergency operating conditions. Utility lines are installed in areas already disturbed by the Boardman Plant or areas within the Carty site.

## **Roads**

A paved loop road, approximately 24 feet wide and 2,500 feet long, connects with Tower Road at both ends of the loop to serve normal truck and operator vehicle traffic. This loop road has spur roads leading to individual buildings and areas that require access.

## **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 begin construction of the facility 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)]
- 4.2. The certificate holder must complete construction of Block 1 of the facility within three years of beginning construction of Block 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 Block 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)]
- 4.3. The certificate holder must begin construction of Block 2 of the facility no later than five years after the effective date of the site certificate. The certificate holder shall complete construction of the facility within three years of beginning construction of Block 2. Construction is complete when: 1) Block 2 is substantially complete as defined by the certificate holder's construction contract documents; 2) acceptance testing has been satisfactorily completed; and 3) Block 2 is ready to begin continuous operation consistent with the site certificate. The certificate holder shall notify the Department when the construction of Block 2 begins, and notify the Department of the date of completion of Block 2 construction. The Council may grant an extension of

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

[Final Order III.D.5] [Mandatory Condition OAR 345-027-0020(4)]

- 4.4. The certificate holder shall submit a legal description of the site to the Department of Energy within 90 days after beginning operation of the facility. The legal description required by this rule means a description of metes and bounds or a description of the site by reference to a map and geographic data that clearly and specifically identifies the outer boundaries that contain all parts of the facility.  
[Final Order III.D.1] [Mandatory Condition OAR 345-027-0020(2)]
- 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 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]

## **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]
- 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]
- 5.3. Before beginning construction of the energy facility, the certificate holder shall submit a final parking lot plan to Morrow County for approval as part of the certificate holder's building permit application for the energy facility. This parking lot plan shall comply

with Section 4.040 and 4.060 of the Morrow County Zoning Ordinance 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]

5.4. Before beginning construction, the certificate holder must 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]

5.5. During construction and operation of the facility, the certificate holder must implement a revegetation and weed control plan. The certificate holder must comply with the applicable provisions of the Morrow County and Gilliam County Weed Control

Ordinances, as determined by the Morrow County Weed Control Supervisor, and Gilliam County Weed Officer, respectively. Prior to beginning construction the certificate holder must consult with the Morrow County Weed Control Supervisor and the Gilliam County Weed Control Officer 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 for approval prior to the start of construction.

[Final Order IV.D.2.6]

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

[Final Order V.D.2.5]

- 5.7. Except as necessary for the initial survey or as otherwise allowed for wind energy facilities, transmission lines or pipelines under OAR 345-027-0020, the certificate holder shall not begin construction, as defined in OAR 345-001-0010, or create a clearing on any part of the site until the certificate holder has construction rights on all parts of the site. For the purpose of this rule, "construction rights" means the legal right to engage in construction activities.

[Final Order III.D.6] [Mandatory Condition OAR 345-027-0020(5)]

- 5.8. Before beginning construction, the certificate holder must notify the Department in advance of any work on the site that does not meet the definition of "construction" in ORS 469.300 (excluding surveying, exploration, or other activities to define or characterize the site) and must provide to the Department a description of the work and evidence that its value is less than \$250,000.

[Final Order IV.B.2.6]

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

[Final Order IV.G.2.1]

## **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 line 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)]

- 6.6. The certificate holder must design and construct the facility in accordance with requirements of the Oregon Structural Specialty Code (OSSC 2007) and the 2010 International Building Code.  
[Final Order IV.C.2.4]
- 6.7. The certificate holder shall design, engineer and construct the facility to avoid dangers to human safety presented by seismic hazards affecting the site that are expected to result from all maximum probable seismic events. "Seismic hazard" includes ground shaking, landslide, liquefaction, lateral spreading, tsunami inundation, fault displacement and subsidence.  
[Final Order IV.C.2.5] [Mandatory Condition OAR 345-027-0020(12)]
- 6.8. The certificate holder must design, engineer and construct the facility to avoid dangers to human safety presented by non-seismic hazards. As used in this condition, "non-seismic hazards" include settlement, landslides, flooding and erosion.  
[Final Order IV.C.2.6]
- 6.9. The certificate holder shall design and construct the facility using the minimum land area necessary for safe construction and operation. The certificate holder shall locate access roads and temporary construction laydown and staging areas to minimize disturbance of farming practices.  
[Final Order IV.E.4.1] [MCZO Section 3.010.D]
- 6.10. The certificate holder must notify the Department, the State Building Codes Division and the Department of Geology and Mineral Industries promptly if site investigations or trenching reveal that conditions in the foundation rocks differ significantly from those described in the application for a site certificate. After the Department receives the notice, the Council may require the certificate holder to consult with the DOGAMI and the Building Codes Division and to propose mitigation actions.  
[Final Order IV.C.2.2] [Mandatory Condition OAR 345-027-0020(13)]
- 6.11. The certificate holder must notify the Department, the State Building Codes Division and the Department of Geology and Mineral Industries promptly if shear zones, artesian aquifers, deformations or clastic dikes are found at or in the vicinity of the site.  
[Final Order IV.C.2.3] [Mandatory Condition OAR 345-027-0020(14)]

- 6.12. During construction of the facility, the certificate holder shall ensure that contractors move equipment out of the construction area when it is no longer expected to be used. To the extent practical, contractors shall lower equipment with long arms, such as cranes, bucket trucks, and backhoes when not in use, in order to minimize visibility.  
[Final Order IV.J.2.1]
- 6.13. To reduce the visual impact of the facility, the certificate holder shall paint the buildings and structures in low-reflectivity neutral colors to blend with the surrounding landscape.  
[Final Order IV.J.2.2]
- 6.14. The certificate holder shall not use exterior nighttime lighting except:
- a. The minimum exhaust stack lighting required or recommended by the Federal Aviation Administration.
  - b. Safety and security lighting at the Carty Generating Station, provided that such lighting is shielded or downward-directed to reduce offsite glare.
  - c. Minimum lighting necessary for repairs or emergencies.  
[Final Order IV.J.2.3]
- 6.17. During construction of the facility, 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]
- 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]



- 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]
- 6.20. If improvements are needed to the I-84/Tower Road interchange to safely accommodate turning movements by a WB-67 design vehicle, the certificate holder shall work with The Oregon Department of Transportation and Morrow County to identify needed improvements and shall construct or install needed improvements prior to commencement of construction of the Carty facility.  
[Final Order IV.M.2.12]
- 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, the Grassland Switchyard and the Slatt Substation 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)]

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 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]

- 6.25. Recycling by the certificate holder and certificate holder's contractors during construction, operation, and retirement of the Carty facility shall be done in accordance with Oregon Department of Environmental Quality regulations and shall be reported as part of the Morrow County wasteshed.  
[Final Order IV.E.4.7]

## **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) 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]

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

[Final Order V.D.2.2]

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

[Final Order V.D.2.4]

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

[Final Order V.D.2.6]

- 7.5 The certificate holder must comply with all reporting requirements of the Emergency Planning and Community Right-to-Know Act (EPCRA) Section 304, including reporting of any chemical release in an amount equal to or greater than the EPCRA reportable quantity for that chemical.  
[Final Order V.D.2.7]
- 7.6 The certificate holder must report emissions, transfer, and waste management data for hydrazine and sodium nitrite as required by Section 313 of the Emergency Planning and Community Right-to-know Act (EPCRA) and Section 6607 of the Pollution Prevention Act.  
[Final Order V.D.2.8]
- 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 and Gilliam Counties 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]
- 7.9 The certificate holder must develop and implement a program that provides reasonable assurance that all fences, gates, cattle guards, trailers, or other objects or structures of a permanent nature that could become inadvertently charged with electricity are grounded or bonded throughout the life of the line. A current copy of the electrical protection plan must be available at the O&M building and provided upon request by ODOE staff.  
[Final Order IV.O.2.2] [Mandatory Condition OAR 345-027-0023(4)]

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

8.1 During construction and operation of the facility, the certificate holder shall provide for on-site security and shall establish good communications between on-site security personnel and the Morrow County Sheriff's Office. During operation, the certificate holder shall ensure that appropriate law enforcement agency personnel have an up-to-date list of the names and telephone numbers of facility personnel available to respond on a 24-hour basis in case of an emergency on the facility site.

[Final Order IV.M.2.1]

8.2 During construction, the certificate holder shall require that all on-site construction contractors develop and implement a site health and safety plan that informs workers and others on-site about first aid techniques and what to do in case of an emergency. The plan shall also include important telephone numbers and the locations of on-site fire extinguishers and nearby hospitals. The certificate holder shall ensure that construction contractors have personnel on-site who are first aid and CPR certified.

[Final Order IV.M.2.2]

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

[Final Order IV.M.2.3]

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

[Final Order IV.M.2.4]

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

[Final Order IV.M.2.5]

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

[Final Order IV.M.2.6]

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

[Final Order IV.M.2.7]

8.8 Upon the beginning of operation of the facility, 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]

9.2 During construction, the certificate holder, to the extent practicable, must limit truck traffic to improved road surfaces to avoid soil compaction.

[Final Order IV.D.2.2]

9.3 During construction, the certificate holder must implement best management practices to control any dust generated by construction activities, such as applying water to roads and disturbed soil areas.

[Final Order IV.D.2.3]

- 9.4 During construction of the facility, the certificate holder must complete the following monitoring to ensure that there are no significant potential adverse impacts to soils:
- a. During construction, monitor disturbed area erosion and sediment control measures at the active construction site on a weekly basis and every two weeks on inactive sites. Inspection of both active and inactive sites must occur at least daily during periods when 0.5 inches or more rain has fallen in a 24-hour period.
  - b. The certificate holder must remove trapped sediment when storage capacity has been reduced by 50 percent. Sediments will be placed in an upland area certified by a qualified wetlands specialist.
  - c. Observe and record color and turbidity within 35 feet upstream and downstream of locations where surface waters from the construction site(s) enter a receiving stream. Observations shall note whether sheen and floating matter is present or absent. Any apparent color and turbidity of the discharge, as well as any observable difference in comparison with the receiving stream shall be described. If there are observable differences, or any sheen or floating matter is present, the certificate holder must take immediate steps to identify and rectify the cause of the run-off to the stream.
  - d. If the erosion and sediment control measures are deemed ineffective, different strategies and/or measures shall be implemented, maintained and monitored.
  - 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]

- 9.5 During facility operation, the certificate holder shall routinely inspect and maintain all transmission line corridors, roads, pads and trenched areas and, as necessary, maintain or repair erosion and sediment control measures and control the introduction and spread of noxious weeds.

[Final Order IV.D.2.5]

- 9.6 Upon completion of construction, the certificate holder must restore vegetation to the extent practicable and shall landscape all areas disturbed by construction in a manner compatible with the surroundings and proposed use and in compliance with the

Revegetation and Noxious Weed Control Plan. Upon completion of construction, the certificate holder must remove all temporary structures not required for facility operation and dispose of all timber, brush, refuse and flammable or combustible material resulting from clearing of land and construction of the facility.

[Final Order IV.D.2.7] [Mandatory Condition OAR 345-027-0020(11)]

- 9.7 During operation of the facility, the certificate holder shall restore areas that are temporarily disturbed during facility maintenance or repair activities using the same methods and monitoring procedures described in the Revegetation and Noxious Weed Control Plan.  
[Final Order IV.D.2.8]
- 9.8 The certificate holder must dispose of all accumulated evaporation pond solids, when removed, in a landfill approved for such waste material. All residual solids deposited in evaporation ponds must be removed to an appropriate disposal facility upon closure of the facility. The certificate holder shall include protocols for solids removal and soil restoration at the location of the evaporation ponds in the retirement plan.  
[Final Order IV.D.2.9]
- 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 must 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)]

10.2. The certificate holder shall acquire the legal right to create, enhance, maintain and protect a habitat mitigation area as long as 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. Within the habitat mitigation area (HMA), the certificate holder shall improve and monitor the habitat quality 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]

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]

10.4. The certificate holder shall conduct noxious weed inventories within the HMA to identify patches of weed infestation during year one, year three and year five after construction, and then continue once every 5 years for the life of the project. 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. Weed inventories and control measures and revegetation activities should not occur during Washington ground squirrel breeding periods.

[Final Order IV.H.2.5]

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

[Final Order IV.H.2.6]

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

[Final Order IV.H.2.7]

10.7. The certificate holder must 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]

- 10.8. During construction, the certificate holder shall avoid all construction activities within one mile of golden eagle nests, 0.5 miles of the Horn Butte Area of Critical Environmental Concern (ACEC), 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 July 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 (or 0.5 miles for the Horn Butte ACEC) 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 (0.5 miles for the Horn Butte ACEC and 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, 0.5 miles for the Horn Butte ACEC, 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]

- 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 have begun and then at least every five years after that for the life of the project. 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 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]

- 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 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 both the Eightmile Canyon and Sixmile Canyon drainages shall be avoided.

[Final Order IV.H.2.15]

10.14. 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) in 2012 and in the active squirrel seasons 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.

[Final Order IV.I.2.1]

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

[Final Order IV.I.2.2]

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

[Final Order IV.I.2.3]

- 10.17. The certificate holder shall provide environmental awareness training for all project personnel and construction contractors before such contractors or personnel enter the site to perform construction-related activities. The training program shall discuss Washington ground squirrel issues as well as other environmental issues related to the project, and include handouts with identification information and reporting procedures. Additional training sessions shall be conducted as needed for personnel that start after the beginning of construction.

[Final Order IV.I.2.4]

- 10.18. The certificate holder shall disc or till a minimum of an 800-ft. buffer within the perimeter of the site boundary in closest proximity to squirrel activity areas. Areas to be tilled shall be reviewed by ODFW and USFWS and shall be informed by the most recent Washington ground squirrel survey data. Tilled areas shall be tilled annually to maintain a soil disturbance regime that is unsuitable for use by Washington ground squirrels.

[Final Order IV.I.2.5]

- 10.19. 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 and USFWS.

[Final Order IV.I.2.6]



- 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 and USFWS. The certificate holder shall coordinate with ODFW and USFWS to establish additional mitigation measures or to obtain an Incidental Take Permit, as appropriate.  
[Final Order IV.I.2.8]
- 10.21. The certificate holder shall conduct post-construction surveys on known Washington ground squirrel colonies in the Carty 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 (2009-2012). The Washington ground squirrel surveys shall be conducted by qualified biologists in year one, year three, and year five after operations have begun, and then at least every five years after that for the life of the project. Surveyors shall record evidence of Washington ground squirrel activity, current land use, and evidence of conditions caused by the project that might increase erosion or result in a decline in vegetation quality and adversely affect a Washington ground squirrel colony.  
[Final Order IV.I.2.9]
- 10.22. The certificate holder shall implement a waste management plan during operation that includes but is not limited to the following measures:
- a. Training employees to minimize and recycle solid waste.
  - b. Recycling paper products, metals, glass and plastics.
  - c. Recycling used oil and hydraulic fluid.
  - d. Collecting non-recyclable waste for transport to a local landfill by a licensed waste hauler.
  - e. Segregating all hazardous wastes such as used oil, oily rags and oil-absorbent materials, mercury-containing lights and lead-acid and nickel-cadmium batteries for disposal by a licensed firm specializing in the proper recycling or disposal of hazardous wastes.  
[Final Order IV.N.2.2]
- 10.23. During construction and operation of the Carty Generating Station, the certificate holder shall obtain potable water from the existing well located approximately 750 feet northwest of the Boardman Plant. 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]



10.24. During operation, the certificate holder shall discharge sanitary wastewater generated at the facility to the Boardman Plant sanitary waste facility in compliance with DEQ permit requirements.

[Final Order IV.N.2.4]

10.25. Before beginning construction, 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]

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 previously surveyed by Ecology and Environment, Inc. as described in the *Final Order on the Application*. 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]

- 10.28. Before beginning operation of the facility, the certificate holder shall demonstrate that the Oregon Department of Environmental Quality has issued to the certificate holder 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]
- 10.29. The certificate holder shall comply with state laws and rules applicable to Water Pollution Control Facilities Permits that are adopted in the future to the extent that such compliance is required under the respective statutes and rules.  
[Final Order V.E.2.2]
- 10.30. The certificate holder may not dispose of wastewater into the Boardman settling ponds, vehicle wash water pond or coal yard ponds unless the site certificate and the WPCF are amended to permit such use.  
[Final Order V.E.2.3]
- 10.31. The site certificate holder must meet the compliance dates set out in the WPCF unless alternative compliance dates have been approved in advance in writing by DEQ. Either prior to or not later than 14 calendar days following any lapsed compliance date, the site certificate holder must submit a notice of noncompliance with the established schedule to the Department of Energy and DEQ. Any report of noncompliance must include the cause of noncompliance.  
[Final Order V.E.2.4]
- 10.32. Prior to constructing or modifying wastewater management treatment and disposal facilities, detailed plans must be submitted to and approved by the Department of Environmental Quality  
[Final Order V.E.2.5]
- 10.33. Prior to discharge of wastewater treatment system wastewater to lined evaporation ponds for the Carty Generating Station, the certificate holder shall submit a wastewater characterization to the Department of Environmental Quality for review and approval.  
[Final Order V.E.2.6]

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

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

[Final Order V.E.2.7]

10.35. 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]

10.36. The certificate holder must prepare and implement a Hazardous Materials Management and Monitoring plan approved by the Department. The plan 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. 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 commencement of construction of the Carty Generating Facility.

[Final Order IV.G.2.2]

- 10.37. 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]

- 10.38. 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]

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

- 11.1. Before beginning construction, the certificate holder shall label Oregon State Historic Preservation Office (SHPO) archaeological resource site 35MW19 and a 100-foot buffer around site 35MW19 on construction maps and drawings as a “no entry” area. Site 35MW19 and its 100-foot buffer shall be marked with temporary fencing or stakes with rope and/or flagging to prevent inadvertent entry.  
[Final Order IV.K.2.1]
- 11.2. Before beginning construction, the certificate holder shall provide to the Department a map showing the final design locations of all components of the facility, the areas that would be temporarily disturbed during construction, the areas that were surveyed in 2009 as described in the Draft Proposed Order, and the location of archaeological resource site 35MW19 and its 100-foot buffer.  
[Final Order IV.K.2.2]
- 11.3. The certificate holder shall use qualified personnel to conduct field investigation of all areas to be disturbed during construction that lie outside the previously-surveyed areas. The certificate holder shall provide a written report of the field investigation to the Department and to the Oregon State Historic Preservation Office (SHPO). If any potentially significant historic, cultural, or archaeological resource sites are found during the field investigation, the certificate holder shall instruct all construction personnel to avoid the identified sites and shall implement appropriate measures to protect the sites, including the measures described in Condition 11.5.  
[Final Order IV.K.2.3]
- 11.4. The certificate holder shall ensure that a qualified archaeologist, as defined in OAR 736-051-0070, instructs 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]
- 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 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. The certificate holder will be responsible for providing a qualified archaeological monitor for any ground-disturbing project construction activity that occurs within the area between the shovel tests excavated in 2009 and the delineated 100-foot buffer around 35MW19. No ground-disturbance is permitting within the site boundaries or the 100-foot buffer around the archaeological site.
  - 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]

## **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 and 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 its 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]

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

[Final Order IV.P.2.5]

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

[Final Order IV.P.2.6]

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

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

[Final Order IV.P.2.7]

- 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 the 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]



- 12.9. Before beginning construction of the facility, the certificate holder shall submit to The Climate Trust a letter of credit in the amount of the offset funds of the monetary path payment requirement as determined under Condition 12.3.
- a. The certificate holder shall use a form of letter of credit that is substantially in the form of Appendix B to the MOU described in Condition 12.7. At the request of the certificate holder, the Council may approve a different form of a letter of credit without an amendment of the site certificate.
  - b. The certificate holder shall use an issuer of the letter of credit approved by the Council.
  - c. The certificate holder shall maintain the letter of credit in effect until the certificate holder has disbursed the full amount of the offset funds to The Climate Trust. The certificate holder may reduce the amount of the letter of credit commensurate with payments it makes to The Climate Trust. The letter of credit must not be subject to revocation before disbursement of the full amount of the offset funds.

[Final Order IV.P.2.9]

- 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 for the base-load gas plant and the power augmentation.

[Final Order IV.P.2.15]

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

[Final Order IV.P.2.17]

### **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. In each construction progress report, the certificate holder shall describe any significant changes to major milestones for construction. The certificate holder shall include such information related to construction as specified in the site certificate. When the reporting date coincides, the certificate holder may include the construction progress report within the annual report described in OAR 345-026-0080.
    - ii. By April 30 of each year after beginning construction, the certificate holder shall submit an annual report to the Department addressing the subjects listed in OAR 345-026-0080. The Council Secretary and the certificate holder may, by mutual agreement, change the reporting date.
    - 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.
  - b. In the annual report, the certificate holder shall include the following information for the calendar year preceding the date of the report:
    - i. Facility Status: An overview of site conditions, the status of facilities under construction, and a summary of the operating experience of facilities that are in operation. In this section of the annual report, the certificate holder shall

describe any unusual events, such as earthquakes, extraordinary windstorms, major accidents or the like that occurred during the year and that had a significant adverse impact on the facility.

- ii. Reliability and Efficiency of Power Production: For electric power plants, the plant availability and capacity factors for the reporting year. The certificate holder shall describe any equipment failures or plant breakdowns that had a significant impact on those factors and shall describe any actions taken to prevent the recurrence of such problems.
- iii. Fuel Use: For thermal power plants:
  1. The efficiency with which the power plant converts fuel into electric energy. If the fuel chargeable to power heat rate was evaluated when the facility was sited, the certificate holder shall calculate efficiency using the same formula and assumptions, but using actual data; and
  2. The facility's annual hours of operation by fuel type and, every five years after beginning operation, a summary of the annual hours of operation by fuel type as described in OAR 345-024-0590(5).
- iv. Status of Surety Information: Documentation demonstrating that bonds or letters of credit as described in the site certificate are in full force and effect and will remain in full force and effect for the term of the next reporting period.
- v. Monitoring Report: A list and description of all significant monitoring and mitigation activities performed during the previous year in accordance with site certificate terms and conditions, a summary of the results of those activities and a discussion of any significant changes to any monitoring or mitigation program, including the reason for any such changes.
- vi. Compliance Report: A description of all instances of noncompliance with a site certificate condition. For ease of review, the certificate holder shall, in this section of the report, use numbered subparagraphs corresponding to the applicable sections of the site certificate.
- vii. Facility Modification Report: A summary of changes to the facility that the certificate holder has determined do not require a site certificate amendment in accordance with OAR 345-027-0050.
- viii. Nongenerating Facility Carbon Dioxide Emissions: For nongenerating facilities that emit carbon dioxide, a report of the annual fuel use by fuel type and annual hours of operation of the carbon dioxide emitting equipment as described in OAR 345-024-0630(4).

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



- 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 of each generating block, the certificate holder shall submit to the State of Oregon through the Council a bond or letter of credit naming the State of Oregon, acting by and through the Council, as beneficiary or payee. The initial bond or letter of credit amount for Block 1 is \$7.884 million (in 3rd Quarter 2011 dollars), to be adjusted to the date of issuance, and adjusted on an annual basis thereafter, as described in sub-paragraph (a) of this condition. The initial bond or letter of credit amount for Block 2 is \$6.670 million (in 3rd Quarter 2011 dollars), to be adjusted to the date of issuance, and adjusted on an annual basis thereafter, as described in sub-paragraph (a) of this condition.
- a. The certificate holder may adjust the amount of the bond or letter of credit based on the final design configuration of the facility and turbine types selected. Any revision to the restoration costs should be adjusted to the date of issuance as described in (b), and is subject to review and approval by the Department.
  - b. The certificate holder shall adjust the amount of the bond or letter of credit, using the following calculation and subject to approval by the Department.
    - i. Adjust the amount of the bond or letter of credit amount (expressed in 3<sup>rd</sup> Quarter 2011 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 3<sup>rd</sup> Quarter 2011 index value and the quarterly index value 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 3<sup>rd</sup> Quarter 2011 dollars 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 345-027-0020(8)]

- 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 345-027-0020(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 345-027-0020(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 345-027-0020(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]

**16.0 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.

**17.0 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.

**18.0 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.

**19.0 EXECUTION**

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

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

**ENERGY FACILITY SITING COUNCIL**

**PORTLAND GENERAL ELECTRIC COMPANY**

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

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

W. Bryan Wolfe, Chair  
Oregon Energy Facility Siting Council

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

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

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

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**Document Index**

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NOTE: Unique ODOE identification numbers are assigned to a wide variety of documents related to an energy facility undergoing the site certification process. The documents listed here are only those that have been cited in this Order. The documents are listed in the order of their identification numbers.

<b>Record Number</b>	<b>Title Of Document</b>	<b>Date Of Document</b>	<b>Document From Last Name</b>	<b>Document To Last Name</b>
CGS-0001	Order Assigning Work to the EFSC Independent Contractor Golder Associates	12-Jun-09		Oliver
CGS-0002	Order Appointing the Special Advisory Group - Morrow County Court	12-Jun-09		Oliver
CGS-0004	Request for Comments on NOI - Umatilla & Morrow Counties Deadline October 8, 2009.	04-Sep-09	Oliver	Oliver
CGS-0009	First RAI Letter to PGE with May 3, 2010 deadline	01-Apr-10	Oliver	Mody
CGS-0014	Request for Comments on the Preliminary Application for Site Certificate - Agency.	08-Jan-10	Oliver	
CGS-0019	Public Notice of Information Meeting and Request for Comments Notice of Intent Received: Carty Generating Station. Meeting date: 9/29/10 - Comment Period: September 4, 2009 to October 8, 2009.	04-Sep-09		Oliver
CGS-0023	Morrow County Reviewing Agency Comments on NOI	08-Oct-09	McLane	Oliver
CGS-0027	ODFW 2-8-10 Comments on Completeness of Application	16-Feb-10	Schultz	Oliver
CGS-0029	Oregon Department of Agriculture Comments on Preliminary Application	25-Jan-10	Currin	Oliver
CGS-0030	7-12-10 DEQ Comments after Review of WPCF application in the wastewater portion of ASC, the First RAI and PGE's responses to the First RAI	12-Jul-10	Nadler	Oliver
CGS-0031	7-28-10 DEQ Letter RE: NPDES Completeness	28-Jul-10	Hesse	Oliver
CGS-0033	2/11/10 SHPO Letter Requesting Additional Information and Recommendations.	11-Feb-10	Purdy	Oliver
CGS-0034	1/28/10 Division of State Lands Agency Comment RE: Removal-Fill Permit	28-Jan-10	Kelly	Oliver
CGS-0037	PGE Response to RAI1 5-17-10 Supplement 1	17-May-10	White	Oliver
CGS-0038	Carty Power Plant Prevention of Significant Deterioration Application Dec. 2009	22-Dec-09	Hendricks	Oliver

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Record Number	Title Of Document	Date Of Document	Document From Last Name	Document To Last Name
CGS-0039	Transmittal of Carty Generating Station Notice of Intent	24-Aug-09	Hendricks	Oliver
CGS-0042	Final Project Order 11-3-09	03-Nov-09	Stoops	
CGS-0043	Final Request for Additional Information (RAI) #2 on the Carty Generating Station preliminary ASC	29-Nov-10	Oliver	Hendricks
CGS-0044	USFWS Comments on Wildlife and Habitat Monitoring and Mitigation Plan	15-Dec-10	Miller	Oliver
CGS-0056	Oregon Water Resources Department Response Regarding PGE Notice of Change of Water Use	23-Mar-11	Pederson/White	Oliver
CGS-0058	Unsigned Standard Air Contaminant Discharge Permit	29-Dec-10	West	Oliver
CGS-0059	Standard Air Contaminant Discharge Permit Review Report	29-Dec-10	West	Oliver
CGS-0060	Preliminary Application for Site Certificate for Carty Generating Station	31-Dec-09	Hendricks/White	Oliver
CGS-0063	Final Information Necessary to Determine Completeness on pASC	04-May-11	Oliver	Hendricks
CGS-0064	Agency Memo Requesting Comments on Application for Site Certificate for Carty Generating Station	10-May-11	Oliver	Various
CGS-0065	ODOE Determination of Completeness of Application for Site Certificate	10-May-11	Oliver	Hendricks
CGS-0068	EFSC Order Appointing A Hearing Officer for Carty Generating Station - Shuba	18-May-11	Wolfe	Oliver
CGS-0073	PGE Response to RAI #2 on Carty Generating Station Application for Site Certificate	14-Feb-11	Hendricks	Oliver
CGS-0074	Oregon Parks and Recreation Department State Historic Preservation Office Review	17-May-11	Pouley	Oliver
CGS-0076	USFWS Agency Comment on Application for Site Certificate for the Proposed Carty Generating Station	09-Jun-11	Miller	Oliver
CGS-0077	Comment from Oregon Historic Trails Advisory Council Identifying Historic Trails and requesting that the Project Either Avoid or Minimize Potential Impact to the Trails.	09-Jun-11	Harrison	Oliver



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<b>Record Number</b>	<b>Title Of Document</b>	<b>Date Of Document</b>	<b>Document From Last Name</b>	<b>Document To Last Name</b>
CGS-0078	Agency Comment from Department of Environmental Quality on Carty Generating Station Application for Site Certificate	08-Jun-11	Nadler	Oliver
CGS-0079	Public Notice: Carty Generating Station, Information Meeting and Request for Comments on the Application for Site Certificate	24-May-11	Oliver	
CGS-0083	Complete Application for Site Certificate: Carty Generating Stations (with final change pages inserted-see CGS-0070)	13-May-11		Oliver
CGS-0084	Public Comment from Rick Till from FOCG on Carty Generating Station	24-Jun-11	Till	Oliver
CGS-0085	Morrow County Comment on Carty Generating Station Application for Site Certificate - Comments General	24-Jun-11	McLane	Oliver
CGS-0086	Morrow County Comment on Carty Generating Station Application for Site Certificate - Comments on Exhibit U Public Services.	24-Jun-11	McLane	Oliver
CGS-0087	Morrow County Comment on Carty Generating Station Application for Site Certificate - Comments Exhibit V Solid Waste and Wastewater	24-Jun-11	McLane	Oliver
CGS-0088	Morrow County Comment on Carty Generating Station Application for Site Certificate - Comments Exhibit K Land Use	24-Jun-11	McLane	Oliver
CGS-0089	SHPO Comment on Carty Generating Station Application for Site Certificate	08-Jul-11	Pouley	Oliver
CGS-0090	Oregon Department of State Lands Comment on Carty Generating Station Application for Site Certificate	16-May-11	Kelly	Oliver
CGS-0091	Oregon Department of Fish & Wildlife - ODFW - Comment on Carty Generating Station Application for Site Certificate	06-Jun-11	Schultz	Oliver
CGS-0092	Comment from Doug Heiken, Oregon Wild on Carty Generating Station Application for Site Certificate	14-Jun-11	Heiken	Oliver
CGS-0093	Revised Agency Comment from Morrow County Planning Department.	09-Aug-11	McLane	Oliver

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CGS-0097	Supplemental Information for the Carty Generating ASC Submitted 10-20-11 by Ecology and Environment (includes Exhibit X Addendum and Table of Responses to ODOE Comments & Inquiries	20-Oct-11	White	Oliver
CGS-0103	Agency Comment from Gilliam County on the Application for Site Certificate	08-Aug-11	Anderson	Oliver
CGS-0106	Order Appointing Special Advisory Group (SAG) Gilliam County, Oregon on the Notice of Intent from Carty Generating Station	19-Nov-09	Shiprack	Various
CGS-0109	Statement by Portland General Electric of its Intention to Use a Standby Letter of Credit to Demonstrate Compliance With The Carbon Dioxide Emissions Standard Using The Monetary Path	20-Jan-12	Allan	Prewitt
CGS-0110	Notice of Public Hearing and Request for Comments on the Carty Generating Station Draft Proposed Order	13-Mar-12	Oliver	Various
CGS-0111	Financial Assurance Letter for PGE Carty from J.P. Morgan forwarded from Jaisen Mody at PGE	01-Mar-12	Busse	Oliver
CGS-0112	Carty Generating Station Wildlife and Habitat Monitoring and Mitigation Plan	01-Nov-11	White	Oliver
CGS-0113	Oregon Department of Fish & Wildlife (ODFW) Comment on Wildlife and Habitat Monitoring and Mitigation Plan	06-Dec-11	Schultz	Oliver
CGS-0114	PGE Comment on Carty Generating Station Draft Proposed Order Comments	13-Apr-12	Cope	Oliver
CGS-0115	Agency Comment on Carty Generating Station Draft Proposed Order from Morrow County Planning Department	13-Apr-12	McLane	Oliver
CGS-0116	Public Comment on Carty Generating Station Draft Proposed Order from Friends of the Columbia Gorge (FOCG)	13-Apr-12	Till	Oliver
CGS-0118	Public Comment on Carty Generating Station Draft Proposed Order from Danny Larsen Received at DPO Hearing at Port of Morrow, Boardman	05-Apr-12	Larsen	Oliver

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CGS-0120	Draft Proposed Order for Carty Generating Station	13-Mar-12	Oliver	Various
CGS-0122	Public Comment from Grant Kendall, MBA, of Kendall Energy Consulting, LLC on the Carty Generating Station DPO	12-Apr-12	Kendall	Oliver
CGS-0125	PGE's Response to Agency Comment on ASC Submitted by Ecology and Environment, Inc.	04-Aug-11	White	Oliver
CGS-0126	Agency Comment on Carty Generating Station Draft Proposed Order from Oregon Parks and Recreation Department, Oregon Historic Trails Advisory Committee	22-Mar-12	Hayes	Oliver
CGS-0127	Agency Comment on Carty Generating Station Draft Proposed Order from Oregon Department of Aviation	05-Apr-12	Larsen	Oliver
CGS-0128	Agency Comment on Carty Generating Station Draft Proposed Order from Oregon Department of Fish & Wildlife (ODFW)	12-Apr-12	Schultz	Oliver
CGS-0129	Amended Articles of Incorporation for Oregon Climate Trust	01-Mar-12	Vitale	Oliver
CGS-0130	Technical Memorandum from Ecology and Environment, Inc., PGE Carty Generating Station Project: 2011 Raptor Data	29-Nov-11	White	Oliver
CGS-0131	Memo from Climate Trust to Jan Prewitt Regarding HB 3538	30-Jan-12	Vitale	Prewitt
CGS-0133	Climate Trust Comment on Carty Generating Station DPO Exhibit 3 Memorandum of Understanding: Monetary Path Payment Requirement Section Requested Changes	04-May-12	Vitale	Hendricks
CGS-0135	Hearing Officer Report from Kevin Shuba on Carty Generating Station Draft Proposed Order Hearing	22-May-12	Shuba	Oliver
CGS-0136	Notice of Contested Case Proceeding	30-May-12	Oliver	Various
CGS-0137	Proposed Order for Carty Generating Station	30-May-12	Oliver	Various
CGS-0141	Letter from Portland General Electric Company to Hearing Officer regarding closure of contested case proceeding	14-June-12	Mabinton	Shuba

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CGS-0142	Order Concluding Contested Case in the Matter of the Application for a Site Certificate for the Carty Generating Station	18-June-12	Shuba	Oliver