Exhibit Q

Threatened and Endangered Species

Biglow Canyon Wind Farm
December 2025

Prepared for

Portland General Electric Company

Prepared by

TETRA TECH

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Acronyms and Abbreviations

AC	alternating current
analysis area	Solar Micrositing Area plus 5-mile buffer
ASC	Application for Site Certificate
BCWF or Existing Facility	Biglow Canyon Wind Farm
BIGL or Project Developer	BIGL bn, LLC
Certificate Holder or PGE	Portland General Electric Company
Council or EFSC	Oregon Energy Facility Siting Council
MW	megawatt
OAR	Oregon Administrative Rules
ODA	Oregon Department of Agriculture
ODFW	Oregon Department of Fish and Wildlife
ODOE	Oregon Department of Energy
ORBIC	Oregon Biodiversity Information Center
PV	photovoltaic
RFA	Request for Amendment
Solar Components	photovoltaic solar energy generation and battery storage

1.0 Introduction

The Portland General Electric Company (PGE or Certificate Holder) submits this Request for Amendment (RFA) 4 to the Site Certificate for the Biglow Canyon Wind Farm (BCWF or Existing Facility) to add photovoltaic (PV) solar energy generation and battery storage (Solar Components) to the operating BCWF.

BCWF, owned and operated by PGE, is located within an approved site boundary comprising approximately 25,000 acres, approximately 4.5 miles northeast of the town of Wasco in Sherman County, Oregon (Figure Q-1). The BCWF operates under the Site Certificate on Amendment 3, issued October 31, 2008 (Site Certificate), from the Oregon Energy Facility Siting Council (Council or EFSC) as administered by the Oregon Department of Energy (ODOE). BCWF currently consists of 217 wind turbines, with a maximum blade tip height of 445 feet, and a peak generating capacity of 450 megawatts (MW).

In RFA 4, PGE proposes to add up to 125 MW alternating current (AC) generating capacity from PV solar arrays and 125 MW in battery storage capacity (Solar Components) in approximately 1,445 acres of land (Solar Area) sited within the existing BCWF site boundary Solar Micrositing Area (RFA 4 Site Boundary[1]).

The Solar Micrositing Area is approximately 1,924 acres and provides a conservative estimate of the maximum area needed for development, micrositing, and temporary disturbances from the Solar Components during construction, rather than the anticipated temporary and permanent disturbance footprint. Within the Solar Micrositing Area, the Certificate Holder has identified a reduced footprint where Solar Components will be concentrated (Solar Area; 1,445 acres). Solar Components will include solar arrays, inverters, battery energy storage system facilities and their subcomponents (i.e., inverters), a collector substation, approximately 600 feet of a new 230-kilovolt generation tie transmission line, medium voltage collector lines, operations and maintenance structures, site access roads, internal roads, perimeter fencing, facility entry gates, and temporary laydown areas. The maximum generating capacity from the Solar Components will be 125 MW AC, and the infrastructure will be fenced within the Solar Micrositing Area and will cover up to 1,445 acres (Solar Area).

PGE will own and operate the Solar Components as a part of the BCWF (together, Amended Facility or Facility), which, to date, have been developed by BIGL bn, LLC (BIGL or Project Developer). BIGL, in its capacity as the project developer, supports PGE in this RFA 4 and may construct and temporarily operate the Solar Components on behalf of PGE under a Build-Transfer Agreement.

Exhibit Q provides the information required by Oregon Administrative Rules (OAR) 345-021-0010(1)(q) in support of RFA 4. Analysis in this exhibit incorporates and/or relies on reference information, analysis, and findings found in the Application for Site Certificate (ASC), previous

[1] Note, as described in further detail in Section 4.1.1.2 of the RFA 4 Division 27 document, the Solar Micrositing Area is the equivalent of the RFA 4 Site Boundary.

RFAs, and ODOE Final Orders to demonstrate that the Facility, as modified by RFA 4, continues to comply with applicable Site Certificate conditions and the standard in OAR 345-022-0070. OAR 345-022-0070 requires that:

> *To issue a site certificate, the Council, after consultation with appropriate state agencies, must find that:*
>
> *(1) For plant species that the Oregon Department of Agriculture has listed as threatened or endangered under ORS 564.105(2), the design, construction and operation of the proposed facility, taking into account mitigation:*
>
> *(a) Are consistent with the protection and conservation program, if any, that the Oregon Department of Agriculture has adopted under ORS 564.105(3); or*
>
> *(b) If the Oregon Department of Agriculture has not adopted a protection and conservation program, are not likely to cause a significant reduction in the likelihood of survival or recovery of the species; and*
>
> *(2) For wildlife species that the Oregon Fish and Wildlife Commission has listed as threatened or endangered under ORS 496.172(2), the design, construction and operation of the proposed facility, taking into account mitigation, are not likely to cause a significant reduction in the likelihood of survival or recovery of the species.*

2.0 Analysis Area

Consistent with OAR 345-027-0360(3), ODOE concurred with the Certificate Holder's use of a defined portion of the approved BCWF site boundary (i.e., Solar Micrositing Area/RFA 4 Site Boundary) to establish study area boundaries for RFA 4 under OAR 345-001-0010(35). The RFA 4 Site Boundary reflects the Solar Micrositing Area, and all study areas within the meaning of ORS 345-001-0010(35) are measured from the RFA 4 Site Boundary. The analysis area for the state-listed threatened and endangered species identified in Exhibit Q includes the Solar Micrositing Area[2] plus a 5-mile buffer, per OAR 345-001-0010(35)(a). The Exhibit Q analysis area is shown on Figure Q-1.

3.0 Agency Coordination

PGE has consulted with the Oregon Department of Fish and Wildlife (ODFW) regarding the appropriate protocols for documenting the presence of state sensitive species (inclusive of state threatened and endangered species) and the classification of fish and wildlife habitat. An email was sent to ODFW on May 22, 2024 by PGE with a biological study plan associated with the Solar

[2] ODOE concurred with excluding the remaining BCWF site boundary that does not overlap with the Solar Micrositing Area from analysis in RFA 4 because no changes are proposed to any BCWF components in the remaining BCWF site boundary as part of RFA 4.

Micrositing Area and additional lands that have since been omitted. ODFW responded on June 06, 2024 approving of the biological study plan and providing additional recommendations for siting of the Solar Components. The background review and field survey methods specific to botanical surveys were submitted to Oregon Department of Agriculture (ODA) for review on June 10, 2024. ODA provided concurrence with the methods on June 13, 2024 prior to Tetra Tech conducting field surveys.

4.0 Identification of Species – OAR 345-021-0010(1)(q)(A)

OAR 345-021-0010(1)(q) Information about threatened and endangered plant and animal species that may be affected by the proposed facility, providing evidence to support a finding by the Council as required by OAR 345-022-0070. The applicant must include:

OAR 345-021-0010(1)(q)(A) Based on appropriate literature and field study, identification of all threatened or endangered species listed under ORS 496.172(2) and ORS 564.105(2) that may be affected by the proposed facility.

Response: State threatened and endangered plant and animal species that might be affected by the Solar Components were identified through review of the original application materials for BCWF (Orion Sherman County Wind Farm, LLC 2005) and a desktop review of the Solar Micrositing Area in 2024. The 2024 desktop review was then followed by 2024 field surveys within a portion of the analysis area as described below (see Attachment P-1 to Exhibit P; Tetra Tech 2024). All investigations within the analysis area determined that Lawrence's milkvetch (*Astragalus collinus* var. *laurentii*), a threatened species, is the only state-listed threatened or endangered species with potential to occur in the Solar Micrositing Area (see Attachment P-1 to Exhibit P; Tetra Tech 2024). A detailed summary of the desktop review is provided below.

4.1 Desktop Review

Prior to conducting field surveys, a desktop review was performed to verify and revise the status and occurrences of threatened and endangered plant and wildlife species that were identified during other Council-permitting efforts for the BCWF. Tetra Tech reviewed the results of a query to the Oregon Biodiversity Information Center (ORBIC), which provided locations of rare species and habitats within the analysis area (ORBIC 2023, 2024). Fish distribution in the analysis area was also queried (StreamNet 2024). The ODFW (2021) list of threatened and endangered fish and wildlife species was reviewed, and habitat and range information were used to identify species with the potential to occur within the analysis area. ODA's list of threatened, endangered, and candidate plant species was also examined (ODA 2024a). Species were eliminated from consideration if their habitat was absent, their range did not overlap, and/or they were unlikely to pass through relevant survey areas during migration based on the desktop review.

No state-listed fish or wildlife species have the potential to occur within the analysis area based on the desktop review. Five state-listed or candidate plant species were identified as having the

potential to occur within Sherman County and were reviewed for potential occurrence in the analysis area (Table Q-1; ORBIC 2024, ODA 2024, OregonFlora 2024): northern wormwood (*Artemisia campestris* var*. wormskioldii*; state endangered; Figure Q-2), Lawrence's milkvetch (state threatened), Henderson's ricegrass (*Eriocoma hendersonii*; state candidate), hepatic monkeyflower (*Erythranthe jungermannioides*; state candidate), and sessile mousetail (*Myosurus sessillis*; state candidate). Two of these plant species have known occurrences in the analysis area: northern wormwood and hepatic monkeyflower (ORBIC 2024, OregonFlora 2024). Lawrence's milkvetch is the only plant species with suitable habitat in the Solar Micrositing Area; however, there are no occurrence records in the analysis area.

Table Q-1. State Listed Species with Potential to Occur in Sherman County

Scientific Name[1]	Common Name	Federal Status[2]	State Status	Occurrence within Analysis Area[3]	Potential Habitat within Solar Micrositing Area[4]
Plants					
Artemisia campestris var. wormskioldii	northern wormwood	SOC	Endangered	Yes[5]	None. Basalt, compacted cobble, and sand on the banks of the Columbia River.
Astragalus collinus var. laurentii	Lawrence's milkvetch	SOC	Threatened	No	Limited. Bunchgrass prairies, sandy or rocky soils overlying basalt on dry slopes of the Columbia Plateau.
Eriocoma (Achnatherum) hendersonii	Henderson's ricegrass	-	Candidate	No	None. Shallow, rocky soil in scablands, sagebrush-steppe, or ponderosa pine forest.
Erythranthe jungermannioides	hepatic monkeyflower	-	Candidate	Yes	None. Moist crevices and seeps in basalt cliff faces and canyon walls.
Myosurus sessilis	sessile mousetail	-	Candidate	No	None. Vernal pools and alkali flats.

1. Species shown include only those that are listed as Threatened and Endangered or Candidate species in Oregon. Oregon state sensitive species are addressed in Exhibit P.
2. SOC = Species of Concern
3. ORBIC 2024 and OregonFlora 2024
4. Dewitz 2019
5. ORBIC occurrence record notes that the species is extirpated.

4.1.1 Northern Wormwood

Northern wormwood is a state endangered species (ODA 2024b). It is a tap-rooted perennial that grows on basalt, compacted cobble, and sand on the banks of the Columbia River. Threats to this species include habitat loss and altered hydrology due to dams, competition with invasive species, and riparian habitat development (ODA 2024c). Surveys for northern wormwood should be conducted when flowering from mid-April to mid-June.

Northern wormwood has been documented in Sherman, Umatilla, and Wasco counties in Oregon. While the species historically extended along the Columbia River from the mouth of the John Day River west to Bingen, Washington, it is now considered extirpated in Oregon with only two known extant locations in Washington (ODA 2024c). The ORBIC database query returned one record for northern wormwood within the analysis area at the mouth of the John Day River; however, this species is considered extirpated and thus is not expected to occur (ORBIC 2024). There is no suitable habitat for northern wormwood in the Solar Micrositing Area, and no potential adverse effects to this species are anticipated.

4.1.2 Lawrence's Milkvetch

Lawrence's milkvetch is a state threatened species (ODA 2024b). It is a tap-rooted perennial that occupies bunchgrass prairies on sandy or rocky soils overlying basalt on dry slopes of the Columbia Plateau in northern Oregon. Lawrence's milkvetch can be found at elevations ranging from 1,600 to 3,600 feet, although it has been reported at elevations as low as 400 feet. It blooms from May to August and develops pendulant seed pods from late May to August that are required for identification. Current threats to Lawrence's milkvetch include habitat loss due to agricultural development, grazing, road maintenance activities, competition from exotic weeds, and seed predation by insects (ODA 2024d).

Lawrence's milkvetch is endemic to Oregon and has been documented in Morrow, Umatilla, Gilliam, and Sherman counties. The species' range generally extends from southeast Gilliam County to northwest Umatilla County (OregonFlora 2024; Meinke 1982). While limited suitable habitat for this species is present within the Solar Micrositing Area, there were no ORBIC (2024) occurrence records for Lawrence's milkvetch within the analysis area. Lawrence's milkvetch was not observed during field surveys and is not known to occur within the analysis area; no potential adverse effects to this species are anticipated.

4.1.3 Henderson's Ricegrass

Henderson's ricegrass is an ODA candidate species (ODA 2024b). It is a cespitose perennial grass found in shallow, rocky soil in scablands, sagebrush-steppe, or ponderosa pine forest at elevations of 2,950 to 5,000 feet. ORBIC records indicate that there are Henderson's ricegrass occurrences in Sherman County; however, there are no occurrence records within the analysis area (ORBIC 2024, OregonFlora 2024). The Solar Micrositing Area is outside the species' elevation range and does not have suitable habitat. Henderson's ricegrass was not observed during field surveys and is not known to occur within the analysis area; no potential adverse effects to this species are anticipated.

4.1.4 Hepatic Monkeyflower

Hepatic monkeyflower is an ODA candidate species (ODA 2024b). It is an herbaceous perennial plant found in moist crevices and seeps in basalt cliff faces and canyon walls, usually adjacent to major rivers at low elevation. No element occurrences for this species were identified in the ORBIC

database within the analysis area; however, there are OregonFlora occurrence records within the analysis area along the Columbia River and near the mouth of the John Day River (OregonFlora 2024). No suitable habitat is present within the Solar Micrositing Area. Hepatic monkeyflower was not observed during field surveys, and there is no suitable habitat within the Solar Micrositing Area; no potential adverse effects to this species are anticipated.

4.1.5 Sessile Mousetail

Sessile mousetail is an ODA candidate species (ODA 2024b). It is an herbaceous annual plant found in moist areas associated with vernal pools and alkali flats. This species was included in this analysis because it is often overlooked and continues to be documented in new locations; however, there are no recorded occurrences in the analysis area in the ORBIC or OregonFlora databases (ORBIC 2023, 2024; OregonFlora 2024). No vernal pools were identified during wetland surveys (Attachment J-1 in Exhibit J); therefore, there is no suitable habitat within the Solar Micrositing Area. Sessile mousetail was not observed during field surveys and is not known to occur within the analysis area; no potential adverse effects to this species are anticipated.

4.2 Field Surveys

Botanical field surveys were conducted July 9 and 10, 2024 to evaluate the potential presence of the state-listed plant species within a portion of the analysis area where permanent and temporary disturbance is proposed as part of RFA 4 (see the Botanical Survey Report 2024, in Attachment P-1; Tetra Tech 2024). Botanical field surveys were conducted in the Survey Area, which included the entire Solar Micrositing Area and additional lands that have since been omitted, using the Intuitive Controlled survey method, a standard and commonly accepted survey protocol (USFS and BLM 1998). This method incorporates meandering transects that cover the area of interest and target the full array of major vegetation types, aspects, topographical features, habitats, and substrate types. Surveyors search for target species of interest while traversing the landscape. When high potential habitat (that was defined in the pre-field review or encountered during the field visit) is scouted, surveyors then conduct a thorough survey for the target species, covering the entirety of the relevant region.

5.0 Occurrence and Potential Adverse Effects – OAR 345-021-0010(1)(q)(B)

> *OAR 345-021-0010(1)(q)(B) For each species identified under (A), a description of the nature, extent, locations and timing of its occurrence in the analysis area and how the facility might adversely affect it;*

Response: Based on the 2024 desktop review, northern wormwood and hepatic monkeyflower are the only state listed or candidate species with occurrence records in the analysis area. Northern wormwood is considered extirpated and thus is not expected to occur within the analysis area.

There is no suitable habitat for hepatic monkeyflower in the Solar Micrositing Area. Suitable habitat for Lawrence's milkvetch exists in the Solar Micrositing Area; however, there are no known records and the species was not observed during surveys.

None of the species with potential to occur were observed within the Solar Micrositing Area during field surveys. Construction and operation of the Solar Components are not expected to result in adverse effects to these species.

6.0 Avoidance and Minimization – OAR 345-021-0010(1)(q)(C)

OAR 345-021-0010(1)(q)(C) For each species identified under (A), a description of measures proposed by the applicant, if any, to avoid or reduce adverse impact;

Response: No state listed or candidate species were observed within the Solar Micrositing Area during field surveys. No state-listed or candidate species are expected to be affected by the Solar Components and, therefore, no avoidance and minimization measures are proposed.

7.0 Protection and Conservation Program Compliance/Impacts – OAR 345-021-0010(1)(q)(D)

> *OAR 345-021-0010(1)(q)(D) For each plant species identified under (A), a description of how the proposed facility, including any mitigation measures, complies with the protection and conservation program, if any, that the Oregon Department of Agriculture has adopted under ORS 564.105(3);*

Response: There are no state listed or candidate plant species with the potential to occur within the Solar Micrositing Area for which ODA has adopted a protection and conservation program. As a result, the Solar Components will not impact any of ODA's recovery efforts, nor will the Solar Components cause a significant reduction in the likelihood of survival or recovery of plants with a protection or conservation program under ORS 564.105(3).

8.0 Potential Impacts to Plants, Including Mitigation Measures – OAR 345-021-0010(1)(q)(E)

> *OAR 345-021-0010(1)(q)(E) For each plant species identified under paragraph (A), if the Oregon Department of Agriculture has not adopted a protection and conservation program under ORS 564.105(3), a description of significant potential impacts of the proposed facility on the continued existence of the species and on the critical habitat of such species and evidence*

that the proposed facility, including any mitigation measures, is not likely to cause a significant reduction in the likelihood of survival or recovery of the species.

Response: No state listed or candidate plant species were observed within the Solar Micrositing Area during targeted surveys for these species. Because these species are not present within the Solar Micrositing Area, construction, operation, and maintenance of the Solar Components are not expected to result in a significant reduction in the likelihood of survival or recovery of the state endangered northern wormwood, state threatened Lawrence's milk-vetch, or the state candidate species Henderson's ricegrass, hepatic monkeyflower, and sessile mousetail.

9.0 Monitoring – OAR 345-021-0010(1)(q)(G)

OAR 345-021-0010(1)(q)(G) The applicant's proposed monitoring program, if any, for impacts to threatened and endangered species.

Response: No state listed or candidate species were identified within the Solar Micrositing Area, and no additional surveys or monitoring are proposed at this time.

10.0 Conclusion

The Certificate Holder will comply with the following conditions related to threatened or endangered species from the Third Amended Site Certificate: Conditions 55and 57. The information provided in this exhibit and Exhibit P, Attachment P-1 meet the requirements of Condition 55 to provide survey reports for threatened and endangered species with potential to occur. Condition 57 is specific to wildlife, but no state listed wildlife species have potential to occur in the Solar Micrositing Area. Condition 56 is specific to bald eagle (*Haliaeetus leucocephalus*) and peregrine falcon (*Falco peregrinus*); both species have been removed by the Oregon Fish and Wildlife Commission from its list of threatened or endangered species under ORS 496.172(2) and therefore is not applicable to this RFA. Based on the information provided in this exhibit, the Council may conclude that the Solar Components will not cause a significant reduction in the likelihood of survival or recovery of state listed threatened or endangered plant and animal species and therefore meet the Threatened and Endangered Species standard under OAR 345-022-0070.

11.0 References

Dewitz, J. 2019. National Land Cover Database (NLCD) 2016 Products (ver. 2.0, July 2020): U.S. Geological Survey data release. Available online at: https://doi.org/10.5066/P96HHBIE

Meinke, R.J. 1982. Threatened and Endangered Vascular Plants of Oregon: An Illustrated Guide. Available online at: https://cascadiaprairieoak.org/wp-content/uploads/2014/04/Meinke-R.J.-1982.-Threatened-and-endangered-vascular-plants-of-Oregon-An-illustrated-guide.pdf.

ODA (Oregon Department of Agriculture). 2024a. Oregon Listed Plants by County, Interactive Map. Available online at: https://data.oregon.gov/dataset/Oregon-listed-plants-by-county-mapview/5g2r-qwyf. Accessed October 2024.

ODA. 2024b. Oregon's Complete List of Threatened, Endangered, and Candidate Species. Last updated May 2024. Available online at: https://www.oregon.gov/oda/programs/PlantConservation/SiteAssets/Pages/AboutThePlants/ODA%20state-listed%20species%202024.pdf.

ODA. 2024c. Northern wormwood (*Artemisia campestris* var. *wormskioldii*) Fact Sheet. Available online at: https://www.oregon.gov/oda/programs/PlantConservation/SiteAssets/Pages/AboutThePlants/ArtemisiaCampestrisWormskioldiiProfile.pdf.

ODA. 2024d. Lawrence's milkvetch (*Astragalus collinus* var. *laurentii*) Fact Sheet. Available online at: https://www.oregon.gov/oda/shared/Documents/Publications/PlantConservation/AstragalusCollinusLaurentiiProfile.pdf

ODFW (Oregon Department of Fish and Wildlife). 2021. Threatened, endangered and candidate fish and wildlife species. Revised October 2021. Available online at: https://www.dfw.state.or.us/wildlife/diversity/species/docs/Threatened_and_Endangered_Species.pdf

ORBIC (Oregon Biodiversity Information Center). 2023. 2023 Rare, Threatened, and Endangered Species of Oregon (in prep.) Vascular Plants – final version, January 2023. Available online at: https://inr.oregonstate.edu/sites/inr.oregonstate.edu/files/2024-01/2024-rte-vascs.xlsx. Accessed October 2024.

ORBIC. 2024. Rare, Threatened, and Endangered Species GeoDatabase Request Institute for Natural Resources. Portland State University, Portland, Oregon. Received May 2, 2024.

OregonFlora. 2024. OregonFlora Portal. Available online at: https://oregonflora.org/. Accessed October 2024.

Orion Sherman County Wind Farm, LLC. 2005. Site Certificate Application for the Biglow Canyon Wind Farm. Submitted to the Oregon Energy Facility Siting Council. October 2005.

StreamNet. 2024. Fish distribution data for Oregon. Available online at: https://www.streamnet.org/. Accessed October 2024.

Tetra Tech. 2024. 2024 Botanical Survey Report, Biglow Solar Project. Prepared for BrightNight, LLC.

USFS (U.S. Forest Service) and BLM (U.S. Bureau of Land Management). 1998. Survey and Manage Survey Protocol – Vascular Plants.

Figures

(Figure Q-2 is Confidential and provided under separate cover)

Biglow Canyon Wind Farm Request for Amendment #4

Figure Q-1 Analysis Area for Threatened and Endangered Species

SHERMAN COUNTY, OR

Klickitat County

Goodnoe Hills

WASHINGTON
OREGON

Gilliam County

Sherman County

Rufus

Wasco

14

30

84

97

206

- Solar Micrositing Area
- Analysis Area (5-mile Buffer)
- State Boundary
- County Boundary
- City/Town
- Interstate Highway
- US Highway
- State Highway
- Local Roads

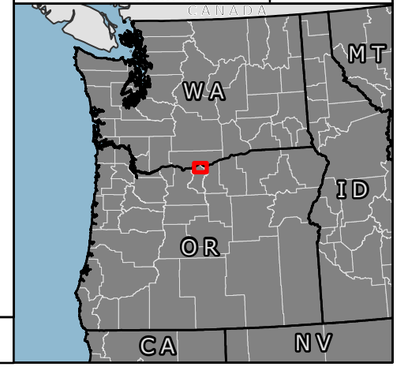
NLCD Land Cover Class

- Open Water
- Developed, Open Space
- Developed, Low Intensity
- Developed, Medium Intensity
- Developed, High Intensity
- Barren Land
- Deciduous Forest
- Evergreen Forest
- Mixed Forest
- Shrub/Scrub
- Herbaceous
- Hay/Pasture
- Cultivated Crops
- Woody Wetlands
- Emergent Herbaceous Wetlands

TETRA TECH

PGE

Reference Map



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WGS 1984 UTM Zone 10N

0 0.42 0.85 1.7 2.55 3.4 Miles

NOT FOR CONSTRUCTION

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Figure Q-2 contains confidential information and is provided under separate cover