Exhibit DD

Specific Standards

Biglow Canyon Wind Farm
December 2025

Prepared for

Portland General Electric Company

Prepared by

TETRA TECH

Table of Contents

Acronyms and Abbreviations

AC	alternating current
BCWF or Existing Facility	Biglow Canyon Wind Farm
BESS	battery energy storage system
BIGL or Project Developer	BIGL bn, LLC
Certificate Holder or PGE	Portland General Electric Company
Council or EFSC	Oregon Energy Facility Siting Council
gen-tie	generation tie
kV	kilovolt
m	meter
MW	megawatt
OAR	Oregon Administrative Rules
RFA	Request for Amendment
Site Certificate	Site Certificate on Amendment 3
Solar Components	photovoltaic solar energy generation and battery storage
Tetra Tech	Tetra Tech, Inc.

1.0 Introduction

The Portland General Electric Company (PGE or Certificate Holder) submits this Request for Amendment (RFA) 4 to the Site Certificate on Amendment 3, issued October 31, 2008 (Site Certificate) for the Biglow Canyon Wind Farm (BCWF or Existing Facility) to add photovoltaic 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. 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. 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 photovoltaic 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 (kV) 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 DD provides the information required by Oregon Administrative Rules (OAR) 345-021-0010(1)(dd) in support of RFA 4. This exhibit presents a new analysis, based on an assessment of existing and proposed infrastructure. This analysis demonstrates that the Facility, as modified by

[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.

RFA 4, continues to comply with applicable Site Certificate Conditions. Analysis in this exhibit incorporates and/or relies on reference information, analysis, and findings found in the Application for Site Certificate, previous RFAs, and Oregon Department of Energy Final Orders to demonstrate that the Facility, as modified by RFA 4, continues to comply with applicable Site Certificate Conditions. OAR 345 Division 22 does not provide an approval standard specific to Exhibit DD.

2.0 Specific Standards Applicable to the Project – OAR 345-021-0010(1)(dd)(C)

OAR 345-021-0010(1)(dd) If the proposed facility is a facility for which the Council has adopted specific standards, information about the facility providing evidence to support findings by the Council as required by the following rules:

(C) For any transmission line under Council jurisdiction, OAR 345-024-0090.

Response: The proposed 230-kV gen-tie line will total approximately 600 feet in length and does not constitute an energy facility under Oregon Energy Facility Siting Council (Council) jurisdiction as defined by Oregon Revised Statute 469.300 because it does not cross more than one city or county and is not greater than 10 miles in length. However, the gen-tie line is classified as a related or supporting facility to the solar energy facility that is under Council jurisdiction.

3.0 Siting Standards for Transmission Lines

OAR 345-024-0090 Siting Standards for Transmission Lines

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

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

Response: Exhibit AA provides modeling results for alternating current electric fields and demonstrates that these electric fields do not exceed 9 kilovolts/meter (kV/m).

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

Response: Electric currents can be induced by electric and magnetic fields in conductive objects near transmission lines. In particular, the concern is for very long objects parallel and close to the line. The primary concern is the potential for small electric currents to be induced by electric fields in metallic objects close to transmission lines. Metallic roofs, farming equipment and large vehicles, vineyard trellises, and fences are examples of objects that can develop a small electric charge in proximity to high-voltage transmission lines. Object characteristics, degree of grounding, and electric field strength affect the amount of induced charge. An electric current can flow when an object has an induced charge and a path to ground is presented. The amount of current flow is determined by the impedance of the object to ground and the voltage induced between the object and ground. The amount of induced current that can flow is important to evaluate because of the potential for nuisance shocks.

A common induced voltage hazard occurs when wire fences parallel overhead transmission lines. If the fence is ungrounded, it possesses the voltage of the net electric field of the overhead conductors at the location of the fence. A person touching such a fence becomes a conducting path for the current to flow to ground and will feel a momentary shock. The alternating current static voltage on the fence bleeds off quickly but can be annoying. This hazard is easily removed by bonding the fence wires along the length of the fence to grounding rods that are driven into the soil. Existing wire fences that run parallel to proposed transmission lines shall be bonded as necessary.

Induced currents from 230-kV transmission line magnetic fields are typically not a hazard because almost no voltage is involved. A current-carrying conductor will induce a current to flow in another conductor that is parallel to it. Induced currents result from the net alternating current magnetic field. In the common case of grounded fences, electrical loops can be created in which induced currents can flow. The value of the induced current will depend on the magnetic field strength; the size, shape, and location of the conducting object; and the object-to-ground resistance.

It will be a rare situation for the ideal conditions to occur (a large metallic object that is perfectly insulated from the ground, located in the highest calculated electric field of approximately 3.4 kV/m within the right-of-way, and touched by a perfectly grounded person) where the possibility of a perceived nuisance shock could occur. The calculated electric field for the Solar Area gen-tie line is 0.039 and 0.055 kV/m at 200 feet of centerline. This field at 200 feet of the centerline and beyond will be sufficiently low enough that nuisance shocks should not occur. Note that there are no aboveground collector lines proposed; thus, all electric fields from the underground cables are shielded within the cable and by the surrounding soil and therefore are not externally detectable.

The calculated maximum magnetic field for the Solar Area gen-tie line is 73.58 milligauss. This field is sufficiently low and induced current in a metallic object should not occur. Note that the proposed transmission line is located within the Solar Micrositing Area.