Exhibit DD

Specific Standards for Transmission Lines

Bakeoven Solar Project
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Prepared for

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Acronyms and Abbreviations

Council	Oregon Energy Facility Siting Council
kV	kilovolt
kV/m	kilovolts/meter
OAR	Oregon Administrative Rules

1.0 Introduction

Bakeoven Solar, LLC proposes to construct and operate a solar energy generation facility and related or supporting facilities in Wasco County, Oregon. This Exhibit DD was prepared to meet the submittal requirements in Oregon Administrative Rules (OAR) 345-021-0010(1)(dd).

2.0 Specific Standards

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.

Not applicable, although the 230-kilovolt (kV) transmission line and 34.5-kV collector cables do amount to related or supporting facilities to the Bakeoven Solar Project.

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:

Although the 230-kV transmission and 34.5-kV collector lines do not constitute energy facilities under Oregon Energy Facility Siting Council (Council) jurisdiction as defined by Oregon Revised Statute 469.300 because they do not cross more than one city or county, they do amount to related or supporting facilities to the solar energy facility that is under Council jurisdiction.

(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;

Exhibit AA provides modeling results for alternating current electric fields and demonstrates that these electric fields do not exceed 9 kilovolts/meter (kV/m) in areas accessible to the public.

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

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 majority of concern is about the potential for small electric currents to be induced by electric

fields in metallic objects close to transmission lines. Metallic roofs, large vehicles and farming equipment, 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 on wire fences that 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 AC 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.

Induced currents from 230-kV or 34.5-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 AC 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 would be a rare situation for the ideal conditions to occur (a large metallic object which is perfectly insulated from the ground, located in the highest calculated electric field of almost 2.7 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 (0.038 kV/m for the 230-kV H-frame transmission line and 0.009 kV/m for the 34.5-kV double-circuit collector line) at both right-of-way edges and beyond will be sufficiently low enough that nuisance shocks should not occur. The calculated maximum magnetic field (155.3 milligauss within the right-of-way of the 230-kV H-frame transmission line, and 200.1 milligauss within the right-of-way of the 34.5-kV double-circuit collector line) is sufficiently low that induced current in a metallic object should not occur.

4.0 Submittal Requirements and Approval Standards

4.1 Submittal Requirements

Table DD-1. Submittal Requirements Matrix

Requirement	Location
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:	–
(A) For wind energy facilities, OAR 345-024-0010 and -0015.	N/A
(B) For surface facilities related to underground gas storage reservoirs, OAR 345-024-0030, including information required by 345-021-0020.	N/A
(C) For any transmission line under Council jurisdiction, OAR 345-024-0090	Section 2.0, Section 3.0

4.2 Approval Standards

Table DD-2. Approval Standards

Requirement	Location
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; and	Exhibit AA
(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.	Exhibit AA

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