

April 30, 2021

**Via Electronic Filing**

Public Utility Commission of Oregon  
Attn: Filing Center  
PO Box 1088  
Salem, OR 97308-1088

**Re: Docket No. UM 1631 – In the Matter of Marquam Creek Solar, LLC,  
Petition for Waiver of OAR 860-082-0025(1)(c)**

Dear Commissioners:

Portland General Electric Company (“PGE”) respectfully submits these supplemental comments on the petition for waiver (“Waiver Petition”) filed by Marquam Creek Solar LLC (“Marquam”) on January 25, 2021. At the public meeting on April 20, 2021, the Public Utility Commission of Oregon (“Commission”) deferred consideration of the Waiver Petition filed by Marquam in light of the discussion at the public meeting. PGE has now had the opportunity to (i) review in detail the EN Engineering Report (“Report”) submitted by Marquam, and (ii) communicate with the lower queue project (SPQ0247) to determine whether it objects or believes it would be harmed if the Commission grants Marquam’s Waiver Petition. Based on the information in this letter, which PGE has communicated to Marquam and Commission Staff, PGE does not believe that there is an interconnection solution or alternative that avoids the need for the Commission to address and resolve the Waiver Petition.

**EN Engineering Report**

Based on PGE’s review of the Report, PGE continues to believe that its most recent Facility Study (dated March 17, 2021) is reasonable and that the proposed interconnection requirements are well-founded. In addition, PGE disagrees with the Report’s suggestion that there are more cost-effective alternatives to the use of fiber communications for the direct transfer trip (“DTT”) scheme required by Marquam’s proposed interconnection.

**(1) Direct Transfer Trip and 3V0 Sensing are required to protect against reverse power flow.**

The primary interconnection issues concern PGE's proposed interconnection requirement to install protection equipment to prevent reverse power flow on the Scotts Mills BR1 transformer that may occur because of the proposed interconnection. To assess this risk and the potential need for protection equipment, PGE compares the aggregate generation (including the Marquam project) on the feeder with the lowest measured net daytime minimum load ("DML" or "MDL" as referred to in the EN Report).

PGE agrees with the EN Engineering Report conclusion that DTT and 3V0 sensing in the substation are required if reverse power flow is reasonably possible as a result of the proposed interconnection.<sup>1</sup> The principal difference between PGE's position and the Report's is the degree of probability that reverse power flow may occur before the installation of protective equipment may be required. The Report appears to assume that PGE must be virtually certain that reverse power flow will occur before PGE is permitted to require the interconnecting generator to pay for equipment to protect against the damage that could be caused by reverse power flow. PGE does not believe this is the correct or appropriate standard. If there is a reasonable prospect of reverse power flow as a result of the interconnection, PGE maintains that requiring protection equipment (DTT and 3V0 sensing) is appropriate. It is common sense that PGE should not have to wait for an accident to occur before it takes reasonable proactive measures to prevent a critical system failure.

In this case, the measured DML is 2.105 MW and the aggregate generation on the feeder (which includes Marquam) is 2.193 MW. Because the aggregate generation exceeds 100% of the DML, PGE requires DTT and 3V0 sensing to

---

<sup>1</sup> Report at 4 ("The majority of US EDU's install 3V0 protection equipment on the high side of the substation transformer when there is reverse power flow possible through the substation transformer"); Report at 3 ("As with most US EDUs, all Oregon EDUs would require a Direct Transfer Trip protection scheme to be installed at the DER electronic recloser relaying and at the distribution feeder breaker relaying to avoid a possible "islanding condition." Anytime there is a possible reverse power flow through the feeder breaker or substation transformer, the DTT protection schemes during various fault conditions will trip the DER recloser-line separating the DER from the electric power system").

protect against an islanding condition and other damage that may be caused by reverse power flow.<sup>2</sup>

PGE's proposed interconnection protection requirements are further warranted by the broader context. As Marquam's Response Comments<sup>3</sup> note, the DML on this feeder has been significantly lower in the past (as low as 1.94 MW in 2016, below Marquam's capacity of 2 MW) and consistently below 2.1 MW from 2016 through 2019. Further, as Staff points out,<sup>4</sup> other higher queue projects of a similar size (2 MW) dropped out of the queue upon consideration of similar PGE proposed interconnection requirements. Finally, we have no doubt that if reasonable protection requirements are not imposed on Marquam, PGE will face strenuous objections from future generators seeking to interconnect that they should not be required to pay for these interconnection protections because PGE should have imposed such costs on Marquam. If reverse power flow occurs after Marquam is interconnected, then the next generator connecting will argue that it should not be responsible for the cost of these protection schemes because reverse power flow is the result of Marquam's interconnection and therefore not the responsibility of the proposed new interconnecting generator. As PGE's studies show, reverse power flow is reasonably likely to occur as a result of the Marquam interconnection and neither EN Engineering nor Marquam offer to guarantee against it. This means Marquam is the responsible party who should bear the cost of the required protection equipment.

**(2) Use of Fiber Communications is required for DTT**

PGE's current standard for DTT schemes is fiber communications. As the Report notes, "[m]any other EDUs in the USA also prefer fiber due to its lack of ongoing maintenance, long equipment life, low security risk, resistance to interference and easy adaptability to various technology platforms."<sup>5</sup> The Report suggests that Multi-Protocol Label Switching ("MPLS"), cellular, or radio may be cost-effective alternatives to fiber communications. PGE believes that these

---

<sup>2</sup> The Report appears to misunderstand PGE's position when it claims that PGE is requiring DTT and 3V0 sensing because the proposed generation exceeds 90% of MDL. Report at 4. As we explained in our initial comments, if aggregate generation exceeds 90% of MDL, PGE requires the interconnecting generator to pay for a protective scheme on the distribution feeder that is known as 'hot line blocking.' DTT and 3V0s sensing is required only if aggregate generation exceeds 100% of MDL.

<sup>3</sup> Marquam Response Comments (dated April 16, 2021) at 8.

<sup>4</sup> Staff Memo (dated April 12, 2021) at 8 (footnote 36).

<sup>5</sup> Report at 6.

alternatives to fiber communications for DTT are not proven, reliable alternatives that could be adopted and implemented for Marquam.

### **Lower Queue Project**

PGE has communicated with SPQ0247 regarding the Waiver Petition and the potential impact granting the waiver would have on its interconnection application. PGE asked that the project inform PGE in advance of filing this letter if it had any objection to the Waiver Petition. SPQ0247 has not communicated any objection to PGE. PGE informed SPQ0247 that the Waiver Petition would be discussed at the Public Meeting on May 4 and that the project could intervene or appear at the Public Meeting to communicate its objection or position on the Waiver Petition. The developer behind SPQ0247 is an experienced QF developer with multiple completed Oregon QF projects and is knowledgeable regarding Commission procedures and process. SPQ0247 has informed PGE that it intends to submit comments in this docket before or at the May 4 Public Meeting.

### **Other Issues**

As PGE communicated at the Public Meeting on April 20, 2021, if the Waiver Petition is denied, PGE agrees that it will not remove Marquam from the queue for a period of 60 days while Marquam determines its next steps in resolving the remaining interconnection issues.

PGE wishes to highlight one final point should the Commission be inclined to grant the Waiver Petition. The purpose of Marquam's Waiver Petition is to avoid certain protection requirements (DTT, 3V0 sensing, and fiber communications). During this proceeding, Marquam has occasionally referred to the amount of the capacity reduction *it believes* is necessary to avoid these protection requirements. See Waiver Petition at 9 (proposed reduction in capacity is in the range of only 100 kW). However, a determination of the amount of the reduction needed to avoid such protection requirements is not part of the Waiver Petition and should not be addressed in the event the request to waive OAR 860-082-0025(1)(c) is granted. That rule concerns the ability (or lack of ability) of an interconnection applicant to change its application without submitting a new application. It does not concern the completely independent issue of what size project on the relevant feeder would avoid the requirements of DTT, 3V0, and fiber communications. In the event the Commission grants the Waiver Petition, PGE will determine the level of reduction required to avoid DTT,

Public Utility Commission of Oregon  
April 30, 2021  
Page 5

3V0, and fiber communications as part of the re-study process that will be required for the proposed change in the project size.

We will be available at the Public Meeting on May 4 to address any questions. Thank you for considering these supplemental comments.

Very truly yours,



Jeffrey S. Lovinger

1139240