BEFORE THE PUBLIC UTILITY COMMISSION OF OREGON

UM 2111

In the Matter of

PUBLIC UTILITY COMMISSION OF OREGON,

Investigation Into Interconnection Process and Policies.

JOINT UTILITIES' INITIAL COMMENTS REGARDING RULEMAKING PROCESS AND LEVEL 1 SCREENS

I. INTRODUCTION

1 In accordance with Staff's "Summary of October 6 Meeting," filed in docket UM 2111 on 2 October 12, 2022, and "Summary of November 17 Meeting," filed on December 1, 2022, Portland 3 General Electric Company (PGE), PacifiCorp dba Pacific Power (PacifiCorp), and Idaho Power 4 Company (together, the Joint Utilities) provide the following comments addressing several issues in the Screens Workstream. First, the Joint Utilities respond to rulemaking process questions 5 6 posed by Staff in its "Summary of November 17 Meeting," and discussed during the December 7, 7 2022, workshop. Second, the Joint Utilities respond to Staff's questions regarding their Export 8 Control and Supplemental Review comments contained in an email on December 1, 2022, and in 9 Staff's "Summary of December 7 Meeting," filed on December 9, 2022. Third, the Joint Utilities 10 respond to proposals from the Interstate Renewable Energy Council (IREC) that would revise 11 existing Level 1/Tier 1 interconnection screens for Distributed Energy Resources (DERs), 1 as

¹ As currently proposed by IREC, DER "means the equipment used by an interconnection customer to generate and/or store electricity that operates in parallel with the electric distribution system. A DER may include but is not limited to an electric generator and/or energy storage system, a prime mover, or combination of technologies with the capability of injecting power and energy into the electric distribution system, which also includes the interconnection equipment required to safely interconnect the facility with the distribution system." See IREC Export Control Section Discussion Starter, Definitions.

reflected in IREC's "Level 1 Screen Comparison" table.

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II. RULEMAKING PROCESS

In its Summary of November 17 Meeting memorandum, Staff requested that stakeholders provide comment on their preferred approach to the rulemaking process to address the issues raised in the two workstreams. The workstreams involve two sets of existing rules—the Public Utility Commission of Oregon's (Commission) small generator interconnection procedures (SGIP) rules, which govern the interconnection of a small generator facility with a nameplate capacity of 10 megawatts (MW) or less to a public utility's transmission or distribution system and are found in OAR Chapter 860, Division 82; and the net metering (NEM) rules, which govern the interconnection of customer-generated NEM facilities to a public utility and are found in OAR Chapter 860, Division 39. The Joint Utilities favor considering both Divisions 39 and 82 and both the IEEE 1547 and Screens workstreams in the same rulemaking. Moving forward in a single rulemaking would likely be most efficient and would avoid any potential for inconsistencies stemming from multiple rulemakings or confusion about where specific issues should be addressed. Moreover, the Joint Utilities propose minimal revisions to the existing rules to incorporate the updated IEEE 1547 standard, which further reduces the need for a separate rulemaking. At this time, the Joint Utilities have not developed a final position regarding whether the interconnection-related rules in Divisions 39 should be combined into Division 82. Conceptually, the Joint Utilities understand that there could be value in having one set of interconnection rules for small DERs, but also question whether the existence of separate rules (as exists today) presents a hurdle for interconnection customers, whether potential interconnection customers desire a consolidated set of interconnection rules, whether consideration has been given to the work

of rules, and, consequently, what incremental benefit would actually result. The benefits, if any,
need to be carefully weighed against the complex and time-consuming work that will be required.
Combining the rules will also likely delay the quick wins that Staff sought in Phase 1 of this docket.
Combining the rules also would likely raise new issues that have not yet been discussed.

interconnection customers will need to undertake to familiarize themselves with a consolidated set

For example, the size limits for NEM Level 3 projects (2 MW) and SGIP Tier 3 projects (10 MW) are significantly different. In addition, Idaho Power Company is exempt from Oregon's NEM rules, and therefore any combined rules would need to be carefully designed to preserve the exemption.² The Joint Utilities look forward to reviewing Staff's upcoming straw proposal and continuing to discuss how to efficiently complete the rulemaking process.

Finally, with respect to process, the Joint Utilities do not object to repurposing workshops and discussing the Screens workstream every other week, but with the increased cadence, it will be especially important for Staff to inform stakeholders at least one week in advance what specific issues and questions will be discussed at the workshop so that stakeholders can be prepared and ensure the appropriate subject matter experts are present.

III. EXPORT CONTROL/SUPPLEMENTAL REVIEW FOLLOW-UP

On December 1, 2022, as follow-up to the Joint Utilities' October 25 Export Control and Supplemental Review comments, Staff requested more detailed information on the current DERs on each utility's system that are implementing non- or limited-export with relays set to less than two second delays. At the December 7 workshop, the Joint Utilities provided responses to Staff's questions, which Staff captured in its Summary of December 7 Meeting. Staff correctly

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² See ORS 757.300(9).

- 1 summarized PGE's and Idaho Power Company's information in its workshop summary: PGE has
- 2 three projects implementing faster than two-second relays—two non-exporting and one limited-
- 3 export project—all of which are inverter-based. Idaho Power Company has no export-limited
- 4 generators in Oregon.
- As follow-up to the workshop, PacifiCorp confirmed that it has it has no DERs in Oregon
- 6 that have a non- or limited-export contract. However, PacifiCorp confirmed that there are several
- 7 projects, both on the Pacific Power side and Rocky Mountain Power side, that have relays set up
- 8 to trip either the main breaker or generation breaker in less than two seconds. This setting is used
- 9 for over/under voltage, over/under frequency, and for faults detected on the 480V side or the
- distribution voltage, as well as projects that require a grounding bank. The projects are able to
- meet these two-second relay requirements, and include generators that are inverter based, rotating
- machine, and storage.

IV. LEVEL 1 SCREENS

- 13 IREC prepared a comparison of the existing Level 1 (NEM) and Tier 1 (SGIP) screens,
- with a column presenting IREC's proposed language for updating the screens, to "be modernized
- 15 consistent with national standards." The Joint Utilities' comments address each row of IREC's
- 16 Level 1 Screen Comparison in separate sections below.

A. Application

- 18 IREC's first issue relates to the application process—specifically, whether the applicant
- submits a signed interconnection agreement (IA) at the same time the applicant submits the initial
- application. The Commission's current NEM rules provide that the applicant "may choose" to

³ Sept. 7, 2022, Email from IREC attorney Yochi Zakai.

submit an executed IA at the time of application.⁴ The Commission's current SGIP rules do not address this issue, and instead require that the utility provide an executable IA *after* approval of an

interconnection application.⁵

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IREC proposes that the current SGIP Tier 1 rules be revised to require the applicant to submit a signed interconnection agreement as part of the initial application. However, at the workshop, IREC explained that it seeks to standardize the NEM and SGIP rules, and therefore the Joint Utilities are unclear whether IREC also proposes to revise the NEM rules to make the provision of an executed IA at the time of application mandatory, rather than optional. In its Summary of October 6 Meeting, Staff asked whether parties object to including "the option" for interconnection customers to submit a signed IA with an SGIP Tier 1 application.

The Joint Utilities do not object to giving SGIP Tier 1 applicants *the option* to submit an executed IA along with the initial applications; however, as explained further below, the Joint Utilities do not view this as being particularly time saving and, if the addition requires changes to the structure of the SGIP rules, then the benefits of the addition would not outweigh the burden of restructuring. The current Power Clerk submittal system utilized by PacifiCorp and PGE can be updated to allow this option for SGIP Tier 1 applicants. Idaho Power Company does not use Power Clerk; however, Idaho Power states that it will not be difficult for it to provide this option to the interconnection customer, outside of the Power Clerk application. The Joint Utilities recommend that any addition to the SGIP rules be permissive and that the permissive language in the current NEM rules remain unchanged.

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⁴ OAR 860-039-0020(7).

⁵ OAR 860-082-0025(7)(e).

⁶ Level 1 Screen Comparison at 1.

IREC explained at the November 17, 2022, workshop that its proposal is intended to
streamline the interconnection process—specifically for small, residential rooftop applicants—and
as such, providing a signed IA should remain optional, rather than becoming a requirement with
which applicants must comply before their application can be processed. Further, as Staff
explained at the October 6 workshop, requiring a signed IA could give applicants the incorrect
impression that the application will be automatically approved, but making provision of the IA
optional decreases this risk. The Joint Utilities note that applicants who choose not to provide an
executed IA at the outset are unlikely to experience any significant delay, because the process of
executing an IA via DocuSign is quick and simple.

Finally, the Joint Utilities caution that adopting a new rule specific to SGIP Tier 1 applicants could require significant changes to the structure of the SGIP rules. The current SGIP rule addressing the application process applies to *all* SGIP applicants, and the utility then determines the appropriate Tier under which to review the application consistent with the relevant SGIP rule. The Joint Utilities believe the benefits of adopting the option to provide an IA for applicants who will be reviewed under Tier 1 would not outweigh the burden of restructuring the SGIP rules.

B. Eligibility/Size

IREC proposes that both the SGIP Tier 1 and the NEM Level 1 rules apply to facilities with an export capacity of up to 25 kW and a nameplate rating of up to 50 kW. ⁷ The Commission's

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⁷ Level 1 Screen Comparison at 1. In this docket, export capacity "means the amount of power that can be transferred from the DER to the Distribution System. Export Capacity is either the Nameplate Rating, or a lower amount if limited using an acceptable means identified in Section [Export Controls]." See IREC Export Control Section Discussion Starter, Definitions. Nameplate rating "means the sum total of maximum rated power output of all of a DER's constituent generating units and/or ESS as identified on the manufacturer nameplate, regardless of whether it is limited by any approved means." See IREC Export Control Section Discussion Starter, Definitions.

- current NEM Level 1 rules apply to a facility with a "capacity of 25 [kw] or less"8 and the 1
- 2 Commission's current SGIP Tier 1 rules apply to a facility with a "nameplate capacity of 25 [kw]
- 3 or less." Staff asked whether parties object to IREC's proposal. 10
- 4 The Joint Utilities do not object and support adopting consistent language in both the SGIP
- 5 and NEM rules. To implement IREC's proposal, the definition of export capacity must be added
- 6 to the rules, and the definitions of nameplate capacity in the SGIP rules 11 and generation capacity 12
- 7 in the NEM rules may need to be standardized or updated.

C. **Fault Current Screen**

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IREC proposes removing the fault current screen from the NEM rules. ¹³ The current SGIP rules do not require a fault current screen, 14 but the current NEM rules do. 15 The Joint Utilities agree that removing the requirement to conduct fault current screens on NEM Level 1 projects is appropriate. Small projects are unlikely to contribute fault current, and thus, removing this requirement should not result in system safety or reliability issues.

⁸ OAR 860-039-0030 ("Level 1 Net Metering Interconnection Review - (1) A net metering facility meeting the following criteria is eligible for Level 1 interconnection review:...(b) The facility has a capacity of 25 kilowatts or less.").

⁹ OAR 860-082-0045 ("Tier 1 Interconnection Review - (1) A public utility must use the Tier 1 review procedures for an application to interconnect a small generator facility that meets the following requirements: ... (b) The small generator facility must have a nameplate capacity of 25 kilowatts or less").

¹⁰ Summary of October 6 Meeting.

¹¹ OAR 860-082-0015(21) "Nameplate capacity' means the full-load electrical quantities assigned by a facility's designer to a generator and its prime mover or other piece of electrical equipment, such as transformers and circuit breakers, under standardized conditions, as expressed in a mperes, kilovolt amperes, kilowatts, volts, megawatts, or other appropriate units. Nameplate capacity is usually indicated on a nameplate attached to the individual device." ¹² OAR 860-039-005(3)(i) "Generation capacity' means the nameplate capacity of the power generating device(s).

Generation capacity does not include the effects caused by inefficiencies of power conversion or plant parasitic loads."

¹³ Level 1 Screen Comparison at 2.

¹⁴ Level 1 Screen Comparison at 2.

¹⁵ OAR 860-039-0030(2)(a).

D. **Network Screen**

2	IREC proposes to standardize the network screen and apply it to both SGIP Tier 1 and		
3	NEM Level 1 projects. 16 Currently, the NEM Level 1 rules do not allow for interconnection of		
4	net metering projects to network systems. 17 The current SGIP Tier 1 rules allow such connections		
5	and include a network screen: "the aggregated nameplate capacity on the load side of the spo		
6	network protectors must not exceed five percent of a spot network's maximum load or 50		
7	kilowatts, whichever is less."18		
8	IREC's proposed screen would require that the "Generating Facility's Nameplate Rating		
9	may not exceed 50 percent of the Spot Network or Area Network's anticipated minimum load."19		
10	IREC proposes that the utility may determine anticipated minimum load using any of the following		
11	methods:		
12	i.	the Spot Network or Area Network's measured minimum load in the previous year,	
13	ii.	if available; five remains of the Street Network on Area Network's maximum lead in the provious	
14 15	11.	five percent of the Spot Network or Area Network's maximum load in the previous year;	
16	iii.	the Applicant's good faith estimate, if provided; or	
17	iv.	the Utility's good faith estimate if provided in writing to the Applicant along with	
18	1 7 .	the reasons why the Utility considered the other methods to estimate minimum load	
19		inadequate. ²⁰	

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requirement that the Generating Facility's Nameplate Rating may not exceed 50 percent of the

The Joint Utilities recommend that the rules instead be updated to reflect the IEEE 1547

¹⁶ For interconnection of a small generator facility to the load side of spot network protectors, the aggregated nameplate capacity on the load side of the spot network protectors must not exceed five percent of a spot network's maximum load or 50 kilowatts, whichever is less. OAR 860-082-0045(2)(c).

¹⁷ OAR 860-039-0030(2)(b) ("(b) A net metering facility's point of common coupling will not be on a transmission line, a spot network, or an area network.").

¹⁸ OAR 860-082-0045(2)(c).

¹⁹ Level 1 Screen Comparison at 3.

²⁰ Level 1 Screen Comparison at 3.

1	network protector load. IEEE 1547 states that "connection of the DER to the Area EPS [electric
2	power system] is only permitted if the Area EPS network bus is already energized by more than
3	50 percent of the installed network protectors."21 Limiting the screen to 50 percent of the network
4	protector load, as opposed to "50 percent of the Spot Network or Area Network's anticipated
5	minimum load" as proposed by IREC, is appropriate because, in addition to being consistent with
6	the IEEE 1547 requirement, the network protector is the line of defense between the EPS and the
7	DER and there cannot be reverse flow through the protector. Under IREC's proposed screen, there
8	is no consideration of the limitations on the network protector, and thus the Joint Utilities' proposal
9	is more accurate.

Staff asked about the extent of network systems for each utility. ²² PGE has five area networks that cover approximately half of downtown Portland; PacifiCorp's area network covers the remaining half of downtown Portland and the Lloyd District. Idaho Power Company has no network systems in Oregon.

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²¹ IEEE 1547-2018 at 68 (citing IEEE Std 1547.6).

²² Summary of October 6 Meeting.

E. Single-Phase Shared Secondary Screen

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IREC proposes two changes to the single-phase shared secondary screen. First, IREC proposes that the screen consider the *aggregate export capacity*, rather than the generation capacity (as in the current NEM rules ²³) or the nameplate capacity (as in the current SGIP rules ²⁴). Second, IREC proposes that a generator would pass the screen if the aggregate export capacity does not exceed 65 percent of the transformer nameplate power rating. ²⁵ The current SGIP Tier 1 and NEM Level 1 rules provide that the aggregate nameplate capacity (SGIP) or generation capacity (NEM) on the line must not exceed 20 kW. ²⁶

With respect to IREC's proposal to consider aggregate export capacity, the Joint Utilities posed questions at the October 6 workshop regarding how currently interconnected projects should be considered, because the utilities track these projects' nameplate/generation capacity, consistent with the existing rules. It would be burdensome to reevaluate all existing resources to determine their export capacity, and therefore the Joint Utilities proposed to continue using the nameplate/generation capacity, as those terms are defined in the current rules, for existing facilities. IREC indicated that it needed to further consider this proposal.

Staff asked for detailed feedback regarding the impacts and the level of effort that would be required to determine the export capacity for grandfathering existing resources. Identifying the export capacity of already interconnected resources would require a very significant amount of time. For example, PGE estimates that it would need to review approximately 12,000 individual projects, and that it would likely require more than 3,000 hours to (1) look up each individual

²³ OAR 860-039-0030(2)(g).

²⁴ 860-082-0045(2)(d)

²⁵ Level 1 Screen Comparison at 4.

²⁶ OAR 860-082-0045(2)(d); OAR 860-039-0030(2)(d).

1 contract; (2) review the single-line drawings to determine the inverter model and look up the

maximum export capacity of that inverter on the manufacturer's website; (3) compare that value

to the nameplate capacity of the panels at the site; and (4) adjust the tracking in Power Clerk to

reflect that difference.

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It is neither necessary nor reasonable to require the Joint Utilities to undertake this level of

6 effort to identify export capacity of existing resources because the difference between the direct

current (DC) nameplate capacity of the generating equipment and the export capacity of the

installed inverter is likely to be small. For example, an existing generating facility could include

solar panels with a nameplate capacity of 10 kW DC installed with an inverter that will output only

9.2 kW alternating current (AC). This difference can go both ways, where the inverter is either

undersized or oversized compared to the generator nameplate.

With respect to the proposed threshold of 65 percent of the transformer nameplate power

rating, the Joint Utilities are not opposed and agree with IREC that a percentage makes more sense

than the current one-size-fits-all approach. The Joint Utilities have a variety of transformer sizes,

and therefore, IREC's proposal would be more conservative than the current rules in some

instances and less conservative in others.

F. Service Imbalance Screen

IREC proposes no change to the language of the current SGIP and NEM rules regarding

the service imbalance screen, which are substantively consistent with IREC's model rules.²⁷ The

Joint Utilities do not propose any changes to these rules at this time.

²⁷ OAR 860-082-0045(2)(e); OAR 860-039-0030(2)(e).

G. **Approval Timeline**

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IREC proposes to decrease the timeline in which the utility must notify the applicant whether it meets the Level 1 screens to seven business days after the utility notified the applicant that the application is complete.²⁸ Currently, the utility has 15 business days under the SGIP rules ²⁹ and 10 business days under NEM rules, ³⁰ in which to notify the applicant whether it passes the Level 1 screens. Staff asked whether seven or 10 days would be an appropriate timeline for both SGIP and NEM applications.³¹

The Joint Utilities do not agree with IREC's proposal and instead recommend that they have 15 business days under both the SGIP and NEM rules for review and notification to the applicant, for several reasons. The existing timelines are already challenging to meet. As noted by the multi-state utility, PacifiCorp, Oregon has the shortest review times of all the states that the utility services. In addition, the number of DERs applying for interconnection has increased since the current rules were adopted and is expected to continue to increase—currently, PGE receives between 180 to 220 NEM and SGIP applications per week, and PacifiCorp receives approximately 90 NEM applications per week in Oregon; they anticipate that this number will continue to increase over the next few years as Virtual Power Plant (VPP) programs expand and Community-Based Renewable Energy resources are integrated. While the Joint Utilities have not received many SGIP Tier 1 applications, the 15-business-day timeline in the SGIP rules applies to all SGIP applications, and the utilities receive numerous SGIP applications that they review under other Decreasing allowable timelines while having to process an increasing number of

SCREENS

²⁸ Level 1 Screen Comparison at 5.

²⁹ OAR 860-082-0045(3).

³⁰ OAR 860-039-0030(3).

³¹ Summary of October 6 Meeting.

1 applications could create substantial backlog and processing issues. Finally, as VPP programs and

smart inverter usage requirements become increasingly complex, utilities may require the full

review time allotted under the current rules, or longer.

H. Deemed Approval

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5 IREC proposes that the SGIP Tier 1 rules be updated to include a deemed approval

provision. Specifically, if the utility does not notify the applicant within 20 business days, the IA

signed by the applicant is deemed effective. 32 IREC's proposal is consistent with the current NEM

rules.³³ The Joint Utilities do not object to the incorporation of this provision for SGIP Tier 1.

There historically have not been many SGIP Tier 1 projects, and the utilities typically meet the 10-

business-day timeline to respond to the applicant.

I. Inspection Timelines

12 IREC proposes to incorporate inspection timelines into the NEM and SGIP rules.

Specifically, IREC proposes that within 10 business days after receiving notice of the anticipated

start date of the facility, the "utility may conduct an inspection . . . at a time aggregable to the

parties."34 The current NEM and SGIP rules do not include a timeline for inspection. Staff asked

parties to provide their suggested timeline for inspections.³⁵

17 The Joint Utilities recommend that the NEM and SGIP rules remain as written, with no

specified timeline for inspection. Currently, the Joint Utilities typically meet a 10-business-day

timeline, however, it is already difficult to meet this timeframe and the expected increase in

³² Level 1 Screen Comparison at 5.

³³ OAR 860-039-0030(4) "If a public utility does not notify a Level 1 applicant in writing or by electronic mail whether the interconnection is approved or denied within 20 business days a fter the receipt of an application, the interconnection will be deemed approved." (emphasis a dded).

³⁴ Level 1 Screen Comparison at 6.

³⁵ Summary of October 6 Meeting.

application volumes will only increase that challenge. The Joint Utilities also note that the inspection timeline can be extended beyond the utility's target date if the customer desires to be present for the inspection, and the rules should not prohibit the Joint Utilities from complying with customer requests. If Staff is inclined to recommend that a timeline be set in rules, the Joint Utilities request 15 business days, rather than 10. A 15-business-day timeline would allow 10 business days for inspection and then five days to establish the rate schedule for the customer, which is consistent with the target timelines in the inspection process for small (100 kV or less) customer generators pursuant to Idaho Power Company's existing tariff approved by the Idaho Public Utility Commission.³⁶

V. STANDARDIZED SCREEN RESULTS

During the October 6, 2022, workshop, stakeholders discussed standardizing the form sent to applicants who fail the screening process. IREC proposes that the information provided to the applicant be consistent. The utilities currently have different approaches regarding the form of the notification and what information is included. Staff requested feedback from the Joint Utilities on what information is provided to applicants who fail the screening process, and if that information is sufficient or can be improved upon, and if stakeholders see value in a standardized form for all utilities to use. The Joint Utilities have provided an example (circulated by PGE prior to the December 7, 2022, workshop) and are open to discussing how the process can be improved to address any specific stakeholder concerns.

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³⁶ Idaho Power Company, *Schedule 68 – Interconnections to Customer Distributed Energy Resources*, March 23, 2021 (a vailable at https://docs.idahopower.com/pdfs/aboutus/ratesregulatory/tariffs/Schedule68.pdf).

- 1 At the October 6 workshop, stakeholders agreed that any best practices for providing screen
- 2 results should not be included in rules.

VI. CONCLUSION

- The Joint Utilities look forward to continuing to work with Staff and stakeholders to refine
- 4 the Level/Tier 1 Screen proposals and answer any remaining questions.

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