November 22, 2022

Docket Update

UM 2111

Dear Public Utility Commission of Oregon (OPUC):

This letter serves as an update from OPUC Staff on the status of Docket No. UM 2111.

Docket No. UM 2111: *Investigation Into Interconnection Process And Policies,* was opened to address the modernization of interconnection policies and practices in Oregon. At the April 19 Public Meeting, the Commission adopted Staff's recommendation to proceed with a phased approach to address issues in the docket. In addition to the proposal for a phased approach, the Commission adopted Staff's proposal for a working-group process designed to surface issues of contention, and consensus, as well as a commitment that Staff update the Commission every six-months on the process.[1]

Background

Following approval of the scope for Phase 1 of the investigation, Staff scheduled an initial workshop for June 28. Due to scheduling conflicts the initial workshop was moved to July 15. The purpose of the kick-off meeting was to develop a roadmap to work through Group 1 issues, including subgroups, roles, workshop schedules, meeting logistics, and further issue identification as needed. The presentation of Phase 1 topics included:

1. Modernizing the screening and interconnection study practices;
2. Incorporating advanced inverters, storage, islanding, and other modern configuration;
3. Incorporating IEEE 1547-2018 standards; and
4. Access to transparent data about utility standards, costs, and study assumptions (Stakeholder-led process).

The issues were divided into two workstreams, with one focusing on Screens, Study Methods and Modern Configurations (items one and two above). The second workstream focuses on updating the IEEE 1547 – 2018 standards, item three above. The fourth topic, dealing with access to transparent data, et al., was to be included as a separate workstream if there was interest in a Stakeholder-led process, which did not materialize. There was not consensus on proceeding with a stakeholder-led process; and with no parties volunteering to lead the topic, the issue will be addressed in a future phase of the investigation.

The initial presentation of issues also included an introduction by the Interstate Renewable Energy Council (IREC) introducing the following issues:

1. BATRIES Project
2. Level 2 Screening Criteria, a.k.a Fast Track Process
3. Incorporating updated standards such as IEEE 1547-2018

Staff appreciates the contribution the stakeholders have made to the discussion to date. Parties involved in the docket besides IREC include the three investor-owned electric utilities, Idaho Power (IPC) Portland General Electric (PGE), and PacifiCorp (PAC), as well as groups representing stakeholders: Community Renewable Energy Association (CREA), Energy Trust of Oregon (ETO),

[1] Order No. 22-126

Northwest Independent Power Producers (NIPPC), Oregon Solar + Storage Industries Association (OSSIA), Renewable Energy Coalition (REC), and Renewable Northwest (RN).

Approach

Staff's approach through the workshops has been to identify party positions, find areas of agreement, and areas of disagreement requiring Commission resolution. Participants were asked to self-select if they were interested in working on proposals between the scheduled workshops. The participants that opted-in were to be included on emails presenting proposals, red-lines, comments, etc. while working towards consensus between workshops. It was later determined that all stakeholders would like to be included on the sub-group emails, including those who had not opted-in. Given this, the approach was altered to include the entire Service List on the subgroup emails.

Following the kick-off workshop the parties held two workshops for initial discussion of each workstream. The following tables include the schedule of workshops held to date, as well as the current schedule. To date, Staff has held three workshops in each workstream – a total of seven workshops including the kick-off to Phase 1. As shown below, workshops are on a monthly basis, with future workshops scheduled through the first quarter of 2023.

After the second workshop, Staff prepared a meeting summary to post to the docket, links to those, as well as the presentations are included in the following tables. The summary also posed questions to stakeholders to prepare for the next workshops. There were differing levels of engagement among parties, but stakeholders were generally prepared to discuss Staff's questions in the subsequent workshops.

Staff has attempted to be flexible on the workshops, with two being moved to accommodate stakeholder schedules, and the November 8 workshop in Workstream 1 canceled. These moves are designed to help ensure the appropriate people are on hand for the technical discussion.

Table 1: Workstream 1: Screens, Study Methods, and Modern Configurations

Description	Event Date	Presentation	Notes
Workshop 1	August 9, 2022	Slides	
Workshop 2	September 14, 2022	Slides	Summary
Workshop 3	October 6 ~~11~~, 2022	Slides	Summary
~~Workshop 4~~	~~November 8, 2022~~	Meeting Canceled	
Workshop 4	December 7, 2022		
Workshop 5	January 17, 2023		
Workshop 6	February 15, 2023		
Workshop 7	March 15, 2023		

Table 2: Workstream 2: Incorporating Updated Standards

Description	Event Date	Presentation	Notes
Workshop 1	August 31, 2022	Slides	
Workshop 2	September 28, 2022	Slides	Summary
Workshop 3	October 25, 2022	Slides	Summary
Workshop 4	November 17 ~~22~~, 2022	Slides	To Be Posted
Workshop 5	December 20, 2022		
Workshop 6	January 31, 2023		
Workshop 7	February 28, 2023		
Workshop 8	March 28, 2023		

Workstream 1. Screens, Study Methods, and Modern Configurations:
At the initial Workstream 1 workshop, parties discussed opportunities for quick wins and agreed to use IREC's model policies for Export Controls and Supplemental Review as a starting point for initial discussions in the workstream. Below are some of the highlights of these documents and discussions.

Export Controls:
Export Controls are, as the name implies, are methods to limit the amount of energy a distributed energy resource (DER) places on the grid. IREC's model rules include methods for controlling output, such as relays, settings, power control systems, and alternatives agreed upon by the utility and customer. If employed, export control limits could replace "Nameplate Capacity" of the DER utilities to determine the "Export Capacity" of a DER for purposes of interconnection screens and studies. The use of Export Capacity could more precisely capture the impact of the DER on the system and may help improve the interconnection process and associated costs for DERs, especially in cases with generation paired with storage and those utilizing advanced and other modern configurations in particular. The use may also allow more DER connections on a feeder.

Generally, it appears stakeholders are in agreement with the use of Export Controls and many of the policies proposed in the model rules, although there are some issues that will need to be ironed out. For instance, there is disagreement on how to treat projects on feeders using high-speed reclosing. IREC proposes a maximum delay of 2.0 seconds for a project to limit inadvertent power exports, others argue for a delay of less than 2.0 seconds on circuits using high-speed reclosing. Staff makes no recommendations at this point; the issue will need further discussion.

Supplemental Review
Supplemental Review is an additional interconnection screening category for DERs that fail the existing interconnection screens but may still be able to interconnect safely without a full system impact study.

Parties have engaged in a productive discussion of the procedural and methodological polices in IREC's model rules for Supplemental Review, but here are still issues to work through. This discussion has also created a near-term venue for important interconnection study methodology issues that will inform more than the Supplemental Review screen. For example, the level of daytime minimum load to use for the supplemental review, appropriate exceptions based on the feeder – if it is on a dedicated substation transformer, and some other wordsmithing.

Overall, the addition of Supplemental Review for DER customers seems non-controversial. That is, parties seem to support this use, outside of some issues identified above. Staff believes that further consensus may be reached prior to bringing recommendations before the Commission.

PGE NEM Proposal
At the August 9 workshop PGE introduced a proposal for a waiver that would allow them to approve NEM applications in which the generator failed a Level 1 screen when a safe interconnection would nonetheless be possible. PGE's proposal is in line with the direction the workgroup appeared to be moving. Note, the utility currently can approve Level 2 or 3 applications even if the screens are failed, but cannot do so for Level 1 screen failures. This proposal was addressed again at the September 14 workshop, with no stakeholders raising concerns. More recently, PGE filed a waiver request in UM 1631 on November 4, 2022, seeking authority to implement its proposal, Staff is targeting the December 13, 2022 Public Meeting to bring this to the Commission.

Screens
At the second and third workshops IREC presented its model policies for DER interconnection screens. and presented a comparison of these screens with Oregon's current net metering and small generator interconnection requirements. While Oregon uses separate rules, terminology, and practices for net metering and small generator interconnection screens, IREC's model rules are a single set of screening policies for all DER types. Other major differences include new metrics, for instance, current Oregon Level 1/Tier 1 screens are applicable to facilities with a nameplate capacity of 25 kw; IREC's proposal would allow for facilities with 25 kw of export capacity, and a nameplate of up to 50 kw. Multiple other screens were discussed including, fault current, penetration, network, single-phase shared secondary, and service imbalance. Staff believes changes to current screening process is helpful in modernizing the interconnection process.

Other Issues
Several other issues were raised at the August 9 workshop, many regarding discrepancies between Oregon's NEM rules, and SGIP. For instance, approval timelines differ in the two sets of rules, with SGIP requiring notification within 15 days, while NEM facilities are on a 10-day timeline. There appears to be consensus that standardization would be helpful here, consistent with IREC's approach.

Another issue raised is the inspection timeline, which currently does not have requirements. With more complex installations likely on the horizon, with renewables paired with storage, standard requirements may provide efficiencies in the interconnection process. Likewise the applications, and forms sent to parties failing screens should be standardized as much as possible.

Moving Forward:
Staff believes the process for Workstream 1 has been productive, with room for additional progress through future workshops before bringing recommendations forward to the Commission. While the November 8 workshop was canceled, the process will continue at the December 7 workshop. Depending on progress made, Staff could see a request to open a rulemaking by the second quarter of 2023 to formalize the recommendations, and finalize this workstream.

Workstream 2. Incorporating Updated Standards:
The second workstream in Phase 1 is focused on incorporating IEEE 1547-2018 standards for advanced inverters. The group agreed to use IREC's Decision Options Matrix to guide the discussion of IEEE 1547 adoption decisions. This matrix puts the issues to determine into different buckets for near-, mid- and long-term classifications.

Near-term Issues
Staff believes there was much progress on the near-term issues in the decision matrix. Issues discussed include policies for the process to require the use of smart inverters and requirements for inverter settings and corresponding utility practices such as abnormal operating performance category, normal operating performance category, voltage trip settings & ranges, frequency trip settings & ranges, frequency droop Settings, voltage regulation modes by reactive power, voltage regulation modes by active power, and interconnection rule.

Staff believes for the near-term issues there is general consensus for the majority of topics discussed. However, additional discussion on voltage regulation by reactive power may be necessary. Voltage regulations would consider activating a non-unity power factor, volt-var, watt-var, or constant var function as a default standard. California and Hawaii have required settings, both states use volt-var. In general, Oregon-serving utilities would prefer more of an individualized approach, noting the settings here may change based on project size, location and the feeder. Other stakeholders would like more transparency. There is a possibility that preferred settings for small generator projects could be part of the utility required profile (URP) if it is used going forward, which could help in transparency issues. This URP is a mid-term issue, which is discussed further below.

Mid-term Issues
The initial discussion of mid-term issues began at the September 28 workshop, which continued at the October 25 workshop. Issues discussed included reference point of applicability[2], treatment of replacement units, volt-watt process reporting, normal ramp rates, and updates to standard interconnection agreements and application forms.

There is still need for further discussion on the mid-term issues. Staff posed several questions in the October 25 meeting summary. The information requested will help in determining the appropriate course of action.

Moving Forward:
Following discussion of the mid-term issues will be discussion of the long-term issues. Given the progress on the near-term issues, it is likely that continued discussions will result in progress for the mid- and long-term issues. Staff believes a rulemaking to address this workstream could be launched in the first or second quarter of 2023. This would address the near-term issues, and, at least some of the mid-term issues. The long-term issues are for consideration after implementation of the IEEE 1547 standards. They are more strategic decision, that may help in the future development of the network.

Conclusion
The UM 2111 investigation continues apace. Staff appreciates stakeholders taking the time to participate in these discussions. Stakeholders have reached consensus on several issues, and there is potential for further advancement in the coming months before bringing recommendations for changes in the OARs. Staff believes that will occur in the first half of the coming year. Following those, Phase 2 of the investigation will commence.

Sincerely,

Ted Drennan

[2] The reference point of applicability is either the Point of Common Coupling or the Point of DER Connection, where the interconnection and interoperability performance requirements specified in IEEE 1547 apply

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