



Oregon

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UM 2111 Issues to discuss at the June 20 workshop.



The following is a highlight of issues discussed in parties' comments that were filed on May 5. Some of the issues raised were not discussed previously, there were also new proposals not previously discussed. As such, Staff would like to have parties address the following issues at the upcoming June 20 workshop. There are some issues that will likely need to be addressed by the Commission in the formal rulemaking. Other issues could see consensus at the upcoming workshop. A revised Staff proposal is included following the issues.

Note, Staff plans to open the formal rulemaking next, once the public meeting memo is ready to post, later this summer.

Eligibility

There were two issues raised on issues related to eligibility. The first issue was included in the Interconnection Trade Association's (ITA) comments. They raise the issue of matching definitions used for determining small generator interconnection eligibility with recent changes to the definition of "nameplate capacity rating" used in the Commission's eligibility policies for QF standard contracts and rates.

The Commission uses "Nameplate Capacity Rating" to determine eligibility for standard contracts and rates under the Division 29 rules and the Commission recently updated the definition to capture more than just the total of the maximum rating of the generation equipment:

(32) "Nameplate Capacity Rating" means maximum installed instantaneous power production capacity of the completed Facility, expressed in MW (AC), and measured at the Point of Interconnection, when operated in compliance with the Generation Interconnection Agreement and consistent with the recommended power factor and operating parameters provided by the manufacturer of the generator, inverters, energy storage devices, or other equipment within the Facility affecting the Facility's capability to deliver useful electric energy to the grid at the Point of Interconnection.

Staff's initial redline of the Division 82 rules uses a combination of "nameplate rating" and "small generator facility" to establish eligibility under the Division 82 small generator rules in a manner which limits resources with storage based on the total size of the storage plus generating equipment and does not account for other export limiting elements:

(28) "Nameplate rating" means the sum total of maximum rated power output of all of a small generator facility's constituent generating units and/or ESS as identified on the

manufacturer nameplate in Alternating Current (AC), regardless of whether it is limited by any approved means.

(43)“Small generator facility” means a facility, that operates in parallel with the distribution system, for the production of electrical energy that has a nameplate rating of 10 megawatts or less. A small generator facility may include an energy storage system, and does not include interconnection equipment, interconnection facilities, or system upgrades.

In other words, the combinations of the two definitions above would limit a facility to 10 MW, including storage or other limiting means, which conflicts with the original intent of focusing on allowing storage, and focusing on export capacity as a limit. To align the proposal with both the original intent, and leverage the work done to establish the Nameplate Capacity Rating definition in Division 29, Staff is considering using the revised definition to “Small Generator Facility” below.

(43)“Small generator facility” means a facility, that operates in parallel with the distribution system, for the production of electrical energy that has a maximum installed instantaneous power production capacity of the completed Facility, expressed in MW (AC), and measured at the Point of Interconnection of 10 MW, when operated in compliance with the Generation Interconnection Agreement and consistent with the recommended power factor and operating parameters provided by the manufacturer of the generator, inverters, energy storage devices, or other equipment within the Facility affecting the Facility's capability to deliver useful electric energy to the grid at the Point of Interconnection.

Another eligibility related issue is IREC’s proposal to align eligibility thresholds for current net metering Level 1 projects in Division 39 with the small generator Tier 1 requirements in Division 82. The Tier 1 requirements in Division 82 are as follow:

The facility has an export capacity of 25 kilowatts or less and a nameplate rating of 50 kilowatts or less.

For residential NEM projects the requirements are based on generating capacity:

For residential customer-generators of a public utility, these rules apply to net metering facilities that have a generating capacity of 25 kilowatts or less.

Staff would like to hear what parties think about the proposed change for Division 82, as well as potential changes to the Division 39 rules to allow for residential facilities of up to 50 kw nameplate rating with a maximum 25 kw export.

Data Conversion

Moving interconnection policies from a focus on generating capacity to a focus on export capacity also raises challenges capturing export capacity in historic data used in interconnection screening. Staff notes that the historic data does not contain inaccuracies, as per the data collected, but does not contain the most useful fields for the modern screening and study approach. Staff believes it is important to supplement the historic data in a timely manner but recognizes that this type of data project requires many hours and may not be seen as a top priority in allocating Company resources.

The Joint Utilities (JU) include a proposal to update circuits on an as needed basis as they receive interconnection applications under the following two conditions:

- (1) the aggregated capacity on the feeder including the new generator is equal to or greater than 90 percent of the relevant minimum load, and (2) the aggregated capacity on the feeder excluding the new generator is less than 100 percent of the relevant minimum load

Staff believes this is a good interim step, but would like to include a date certain for updating historic data. It is clear that this is not a small undertaking, but it is an approach that could pay dividends in the future. Staff has reviewed the JU concerns about the time and costs associated with updating the historic data, but continues to hope working with the Energy Trust could unearth efficiencies that would simplify the process and improve the siting and design of interconnection applications, saving time and money.

It appears the majority of the data could be updated within a year, without any Energy Trust efficiencies, with PacifiCorp potentially needing additional time.

Staff would like to know if there are any updates to the JU and Energy Trust coordination, and if so have any efficiencies been unearthed.

Utility Handbooks

In comments circulated on February 14, 2023, and discussed at the February 15 workshop, the ITA raised the issue of interconnection handbooks, and recommended a process for approval. Based on the proposal, and discussion, Staff's initial proposal required utilities to file their Interconnection Handbooks with the Commission for approval, including compliance with Phase 1 policies and upon making future changes. After hearing from parties, and reviewing comments, Staff is planning on revising this proposal.

The JU have proposed a process where they will notify stakeholders of potential changes to interconnection requirements beforehand. They will then take stakeholder comments and

provide feedback on them, prior to revising the requirements. Parties who disagree with the final revisions may ask for the Commission to address their concerns at that point.

Staff believes the JU proposed process is appropriate. Listening to, and addressing stakeholder concerns without a lengthy Commission process seems to be a valid compromise. Staff also believes an initial compliance filing of the handbooks, memorializing the changes made to comply with the rules resulting from this investigation would also be appropriate. An initial filing of the preferred default settings, demonstrating compliance would also be in order.

Staff would like feedback on this proposal; are parties amenable to the compromise. Does there need to be additional procedures included for raising issues of concern before the Commission?

Line Configuration Screen

Staff would like a report out on the JU and IREC work on reaching a consensus position addressing the line configuration screen. From Staff's perspective the two sides are very close, if there is a compromise Staff would like to include it in their final proposal.

Minor Equipment Modifications

The current proposal for minor equipment modifications in Division 82 would allow for interconnection customers to reduce nameplate or export capacity up to ten percent as long as lower queued projects are not impacted. The ITA proposal would allow for much larger changes, up to 60 percent prior to a system impact study, and an additional 15 percent prior to execution of a facilities study. There is no consideration for lower queued projects.

Staff is intrigued by the idea that greater changes can be made prior to the initiation of a study, in a manner that aids in, rather than harms, the efficient processing of projects in the queue or lower queued projects and would like to see if parties can identify a way to incorporate this into the current draft proposal without undue administrative burden or impacts to lower queued projects.

Length of Interconnection Agreements

Staff's proposal includes language that the interconnection customer is entitled to a 20-year term for the agreement, but the term can be different if mutually agreed to by the customer and utility. The ITA would like the potential to require an agreement matching the length of a power purchase agreement, or evergreen roll-over rights for the life of the facility because of the difficulty that a generator would face renewing one contract without understanding the financial viability of the other (PPA v interconnection agreement).

Staff sees the value in working to identify a reasonable solution to this challenge with the current proposal but has not seen enough discussion of the potential solutions at this point to recommend changes to the

requirements on the length of the interconnection agreement and would like to hear more from stakeholders on this topic.

Executed Agreements

Staff's proposal required executed agreements to be sent within five days of providing screen results. The JU raise several objections to this approach, including the potential for the interconnection customer editing an executed agreement, and internal timing issues. The JU would prefer to provide an executable agreement within five business days.

If executed agreements are required, the JU would like 15 days to provide the agreement for several reasons including, avoiding confusion – interconnection customers often make changes to the interconnection agreement, which could lead to disputes, and internal timeline constraints. They believe that Staff proposal could cause delays and disputes that harm generators. Additionally, there are language changes proposed to ensure customers provide any required deposit along with the counter-signed interconnection agreement.

Staff appreciates the JU concern for what will help generators by reducing delays and would like to hear from stakeholders that represent generators about whether they agree that the JU proposal would be more helpful for generators.

Network Screen

Staff's proposal for network screens allowed for passing the screen if the aggregated nameplate rating on the network was under 50 percent of the anticipated minimum load. The JU believe this value is too high and should be set at 20 percent. Safety engineers at Staff agree with the JU proposal setting the ratio at 20%; the updated proposal will reflect this. Staff is not sure consensus will be achieved here and may require a Commission decision.

Additionally, there are four methods to determine the minimum load. One of the options included is the applicant's good faith estimate, if provided. The JU would like to remove this option, stating, "Applicants do not have a reliable mechanism for calculating the anticipated minimum load on the network"

Subsection (D) allows for the utility to provide a good-faith estimate to the applicant along with rationale on why the other estimating methods were inadequate. Staff believes this approach addresses the concerns raised by the JU.

Staff seeks feedback about situations in which the good-faith estimate under Section D does not address their concerns?

Export Controls

Staff's proposal on Export Controls for power protection for Devices 32, 32F and 32R was inconsistent. Under 860-082-003X (3)(a)(A)-(B) there is an allowance for utilities to require a less than 2.0 second delay for reclosing on circuits using high-speed reclosing. This however was not included in (3)(b)(A). In short, the Joint Utilities want it included where Staff excluded it, while IREC does not believe it is necessary in any of the cases listed.

Staff safety engineers do not believe the inverter performance has demonstrated the performance reliability touted by the manufacturers, pointing to Odessa, Texas disturbances. Staff will update (3)(b)(A) to reflect this.

Applicant Option Meeting

In Staff's proposal there is a requirement that the utility set up an applicant options meeting at a mutually agreeable time within 15 days of an applicant requesting such a meeting. The JU would like to eliminate the phrase 'mutually agreeable' in the requirements, not wanting to face a complaint if the utility and applicant cannot come to a mutually agreeable time. Staff does not see this as a concern that needs to be addressed at this point. It is our belief that the parties should be able to come up with a time that will work for all and that the Commission will be able to easily recognize complaints from interconnection applications that abuse this provision. However, if there is an influx of evidence of applicants that do not act in good-faith for arranging meetings in the future, Staff is able to revisit the rule.

Next Steps

Following the June 20 workshop Staff will prepare a memo explaining the final proposal. This final proposal will be informed by discussion at the June 20 meeting especially as related to the issues listed above. At this point, Staff does not see any new, major changes to the proposal. There may be minor edits to tighten language, remove ambiguity and other clarifications.

Staff appreciates stakeholders taking the time and effort to participate in these discussions.

For any questions or concerns please contact:

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To receive meeting notices and agendas for this docket, send an email to puc.hearings@puc.oregon.gov, and ask to be added to the service list for Docket No. UM 2111. You will then receive emails with workshop details, when new documents have been added to the docket, or there is a change to the schedule.

Below is Staff's revised proposal for Oregon Small Generator Interconnection Rules. This version builds upon the original draft proposal posted March 10, 2023 and can be found [here](#).

860-082-0005 Scope and Applicability

860-082-0010 Waiver

860-082-0015 Definitions

860-082-0020 Pre-Application Process

860-082-0025 Applications to Interconnect a Small Generator Facility

860-082-0030 Construction, Operation, Maintenance, and Testing of Small Generator Facilities

860-082-003~~X~~3 Export Controls

860-082-0035 Cost Responsibility

860-082-0040 Insurance

860-082-0045 Tier 1 Interconnection Review

860-082-0050 Tier 2 Interconnection Review

860-082-0055 Tier 3 Interconnection Review

860-082-0060 Tier 4 Interconnection Review

860-082-006~~X~~3 Supplemental Review

860-082-0065 Recordkeeping and Reporting Requirements

860-082-0070 Metering and Monitoring

860-082-0075 Temporary Disconnection

860-082-0080 Arbitration of Disputes

860-082-0085 Complaints for Enforcement

860-082-0005 Scope and Applicability

860-082-0005 Scope and Applicability

(1) OAR 860-082-0005 through 860-082-0085 (the “small generator interconnection rules”) govern the interconnection of a small generator facility with a nameplate rating of 10 megawatts or less to a public utility’s transmission or distribution system. These rules do not apply if the interconnection between the small generator facility and the public utility is subject to the jurisdiction of the Federal Energy Regulatory Commission (FERC). ~~These rules do not apply to the interconnection of a net metering facility to a public utility that meets the requirements of ORS 757.300(9).~~

(2) Except as specified in OAR 860-082-0025(1)(b), the small generator interconnection rules do not apply retroactively to a small generator facility that was interconnected to a public utility’s transmission or distribution system prior to the effective date of the small generator interconnection rules (an “existing small generator facility”). These rules become applicable to an existing small generator facility at the expiration of the agreement governing the terms of the interconnection of the existing small generator facility to the interconnecting public utility’s transmission or distribution system. If an existing agreement does not have an expiration date, then the small generator interconnection rules become applicable to the existing small generator facility 10 years after the effective date of the rules. An existing small generator facility must submit an application under OAR 860-082-0025(1)(e) to the interconnecting public utility no later than 60 business days before the date that the small generator interconnection rules become applicable.

(3) Except where explicitly noted in OAR chapter 860, division 039, the small generator interconnection rules do not apply to the interconnection of a net metering facility, which is governed by ~~OAR chapter 860~~, division 039.

(4) A small generator facility that qualifies as a “small power production facility” under OAR 860-029-0010(25) must also comply with the rules in OAR chapter 860, division 029. If there is a conflict between the small generator interconnection rules and the rules in OAR chapter 860, division 029, then the small generator interconnection rules control.

Statutory/Other Authority: ORS 183, 756 & 757

Statutes/Other Implemented: ORS 756.040 & 756.060

History:

PUC 10-2009, f. & cert. ef. 8-26-09

860-082-0010

Waiver

(1) Upon request or its own motion, the Commission may waive any of the Division 082 rules for good cause shown. A request for waiver must be made in writing, unless otherwise allowed by the Commission.

(2) A public utility and an applicant or interconnection customer may agree to reasonable extensions to the required timelines in these rules without requesting a waiver from the Commission.

(a) If a public utility and an applicant or interconnection customer are unable to agree to waive a timeline, then the public utility, applicant, or interconnection customer may request that the Commission grant a waiver.

(b) In deciding whether to grant a waiver of a timeline, the Commission will consider the number of pending applications for interconnection review and the type of applications, including review level, facility type, and facility size.

(c) Waiver of a timeline, whether by agreement or Commission order, does not affect an application's queue position.

Statutory/Other Authority: ORS 183, 756 & 757

Statutes/Other Implemented: ORS 756.040 & 756.060

History:

PUC 6-2011, f. & cert. ef. 9-14-11

PUC 10-2009, f. & cert. ef. 8-26-09

860-082-0015

Definitions

As used in 860-082-0005 through 860-082-0085:

- (1) "Adverse system impact" means a negative effect caused by the interconnection of a small generator facility that may compromise the safety or reliability of a transmission or distribution system.
- (2) "Affected system" means a transmission or distribution system, not owned or operated by the interconnecting public utility, which may experience an adverse system impact from the interconnection of a small generator facility.
- (3) "Aggregated export capacity" means the total combined export capacity of:
 - (a) A proposed Small generator facility;
 - (b) Existing Small generator facilities, net metering facilities, FERC jurisdictional generators, and state jurisdictional generators with a nameplate rating greater than 10 megawatts; and
 - (c) Small generator ~~facility~~ **facilities**, net metering facilities, FERC jurisdictional generators, and state jurisdictional generators with a nameplate rating greater than 10 megawatts that have pending completed applications with higher queue positions than the proposed small generator facility.
- (4) "Aggregated nameplate rating" means the total combined nameplate rating of: A proposed Small generator facility;
 - (a) A proposed Small generator facility;
 - (b) Existing Small generator facilities, net metering facilities, FERC jurisdictional generators, and state jurisdictional generators with a nameplate rating greater than 10 megawatts; and
 - (c) Small generator facility, net metering facilities, FERC jurisdictional generators, and state jurisdictional generators with a nameplate rating greater than 10 megawatts that have pending completed applications with higher queue positions than the proposed small generator facility.
- (5) "Applicant" means a person who has submitted an application to interconnect
 - (a) A small generator facility to a public utility's transmission or distribution system, or
 - (b) A net metering facility to an electric distribution system.

Commented [DT*P1]: JU - not needed here as the Division 39 rules still exist. Staff included this to make sue it was clear the screening requirements would also apply to NWM projects.

- (6) "Application" means a written request to interconnect a Small generator facility with a public utility's transmission or distribution system, ~~and which~~ must follow the standard form ~~applications~~ developed by the public utility and approved by the Commission
- (7) "Area network" means a type of distribution system served by multiple transformers interconnected in an electrical network circuit in order to provide high reliability of service.
- (8) "Certificate of completion" means a certificate signed by an applicant and an interconnecting public utility attesting that a small generator facility is complete, meets the applicable requirements of the small generator interconnection rules, has passed all applicable federal, state, and local inspection requirements, ~~any required witness tests are complete,~~ and certified as physically ready for operation. A certificate of completion includes the "as built" specifications and initial settings for the small generator facility and its associated interconnection equipment.
- (9) "Distribution system" means the portion of an electric system that delivers electricity from transformation points on the transmission system to points of connection on a customer's premises.
- (10) "Energy storage system" or "ESS" means a mechanical, electrical, or electrochemical means to store and release electrical energy, and its associated interconnection and control equipment. For the purposes of these ~~interconnection Procedures~~ rules, an ESS can be considered part of a Small generator facility or a small generator facility in whole that operates in parallel with the distribution system.
- (11) "Export capacity" means the amount of power that can be transferred from the small generator facility to the distribution system. Export capacity is either the nameplate rating, or a lower amount if limited using an acceptable means identified in OAR 860-082-00~~3X~~33.
- (12) "Fault current" means an electrical current that flows through a circuit during a fault condition. A fault condition occurs when one or more electrical conductors contact ground or each other. Types of faults include phase to ground, double-phase to ground, three-phase to ground, phase to phase, and three-phase.
- (13) "Field-tested equipment" means interconnection equipment that is identical to equipment that was approved by the interconnecting public utility for a different small generator facility interconnection and successfully completed a witness test under the requirements included in the current version of the public utility's interconnection requirements handbook before the date of the submission of the current application.
- (14) "Host load" means electrical power, less the small generator facility auxiliary load, consumed by the customer at the location where the small generator facility is connected.
- (15) "IEEE 1547" means the standards published in the 2018 edition of the Institute of Electrical and Electronics Engineers (IEEE) Standard 1547, titled "IEEE Standard for Interconnection and Interoperability of Distributed Energy Resources with Associated Electric Power Systems Interfaces" and approved by the IEEE SA Standards Board on February 15, 2018.
- (16) "IEEE 1547.1" means the standards published in the 2020 edition of the IEEE Standard 1547.1, titled "IEEE Standard Conformance Test Procedures for Equipment Interconnecting Distributed Resources with Electric Power Systems and Associated Interfaces" and approved by the IEEE SA Standards Board on March 5, 2020.

- (17) "Inadvertent export" means the unscheduled export of active power from a small generator facility, exceeding a specified magnitude and for a limited duration, generally due to fluctuations in load-following behavior.
- (18) "Interconnection agreement" means a contract between an applicant or interconnection customer and an interconnecting public utility that governs the interconnection of a small generator facility to the public utility's transmission or distribution system and the ongoing operation of the small generator facility after it is interconnected. An interconnection agreement will follow the standard form agreement developed by the public utility and filed with the Commission
- (19) "Interconnection customer" means a person with one or more small generator facilities interconnected to a public utility's transmission or distribution system.
- (20) "Interconnection equipment" means a group of components or an integrated system provided by an interconnection customer or applicant to connect a small generator facility to a public utility's transmission or distribution system.
- (21) "Interconnection facilities" means the facilities and equipment required by a public utility to accommodate the interconnection of a small generator facility to the public utility's transmission or distribution system and used exclusively for that interconnection. Interconnection facilities do not include system upgrades.
- (22) "Interconnection facilities study" means a study conducted by a utility for the customer-generator that determines the additional or upgraded distribution system facilities, the cost of those facilities, and the time schedule required to interconnect the ~~net metering~~ small generator facility to the utility's distribution system.
- (23) "Interconnection service" means service provided by an interconnecting public utility to an interconnection customer.
- (24) "Lab-tested equipment" means interconnection equipment that has been designed to comply with IEEE 1547, tested in accordance with IEEE 1547.1, and certified and labeled as compliant with these IEEE standards at the point of manufacture by a nationally recognized testing lab. For interconnection equipment to be considered lab-tested equipment under these rules, the equipment must be used in a manner consistent with the certification.
- (25) "Limited export" means the exporting capability of a small generator facility whose export capacity is limited by the use of any configuration or operating mode described in OAR 860-082-00~~33~~33.
- (26) "Line section" means that portion of a public utility's transmission or distribution system that is connected to an interconnection customer and bounded by automatic sectionalizing devices or the end of a distribution line.
- (27) "Minor equipment modification" means a change to a small generator facility or its associated interconnection equipment that:
- (a) Includes a change or replacement of equipment that is a like-kind substitution in size, ratings, impedances, efficiencies, or capabilities of the equipment specified in the original interconnection application, ~~minor~~ Minor variations that do not affect safety, performance, or interoperability are acceptable;

(b) Includes a replacement of existing inverters with new inverters that conform to standards in effect at the time of replacement;

(c) Includes a reduction in the nameplate rating and/or export capacity of the small generator facility of 10 percent or less provided that a change made to a small generator facility with a pending completed application must not adversely impact lower queued projects; or

(d) For changes not specified in subsections (a) through (c) of this definition, the change must not, in the interconnecting public utility's reasonable opinion, have a material impact on the safety or reliability of the public utility's transmission or distribution system or an affected system.

(e) Applicants must inform the interconnecting utility of minor equipment modifications, prior to making the change.

Commented [DT*P2]: QFTA would like to allow changes to allow for reductions up to 60% prior to execution of SIS and an additional 15% prior to execution of facilities study agreement.

(28) "Nameplate rating" means the sum total of maximum rated power output of all of a small generator facility's constituent generating units and/or ESS as identified on the manufacturer nameplate in Alternating Current (AC), regardless of whether it is limited by any approved means. For a generating unit that uses an inverter to change direct current energy supplied to an AC quantity, the nameplate rating will be the manufacturer's AC output rating for the inverter(s).

(29) "Nationally recognized testing laboratory" or "NRTL" means a qualified private organization that performs independent safety testing and product certification. Each NRTL must meet the requirements set forth by the United States Occupational Safety and Health Administration.

(30) "Net metering facility" has the meaning set forth in ORS 757.300(1)(d).

(31) "Non-export or non-exporting" means when the small generator facility is sized and designed, and operated using any of the methods in OAR 860-082-00~~33~~33, such that the output is used for host load only and no electrical energy (except for any Inadvertent Export) is transferred from the small generator facility to the distribution system.

(32) "Pending completed application" means an application for interconnection of a small generator facility, a net metering facility, or a FERC jurisdictional generator that an interconnecting public utility has deemed complete.

(33) "Person" includes individuals, joint ventures, partnerships, corporations and associations or their officers, employees, agents, lessees, assignees, trustees or receivers, as supplemented to include governmental entities.

(34) "Point of interconnection" means the point where a small generator facility is electrically connected to a public utility's transmission or distribution system. This term has the same meaning as "point of common coupling" as defined in IEEE 1547.

(35) "Power control system" ~~or "PCS"~~ means systems or devices which electronically limit or control steady state currents to a programmable limit.

(36) "Primary line" means a distribution line with an operating voltage greater than 600 volts.

(37) "Public utility" has the meaning set forth in ORS 757.005 and is limited to a public utility that provides electric service.

- (38) "Queue position" means the rank of a pending completed application, relative to all other pending completed applications, that is established based on the date and time that the interconnecting public utility receives the completed applications, including application fees.
- (39) "Reference point of applicability" (RPA) means a location proximate to the generation where the interconnection and interoperability performance requirements, as specified by IEEE 1547, apply.
- (40) "Relevant minimum load" means the lowest measured load coincident with the generating facility's production. For solar-only facilities this ~~shall be~~ the daytime minimum load (i.e. 10 a.m. to 4 p.m. for fixed panel systems and 8 a.m. to 6 p.m. for PV systems utilizing tracking systems).
- (41) "Scoping meeting" means an initial meeting between representatives of an applicant and an interconnecting public utility that is conducted to discuss the ~~reference point of applicability RPA; to discuss~~ alternative interconnection options; to exchange information, including any relevant transmission or distribution system data and earlier studies that would reasonably be expected to affect the interconnection options; to analyze such information; and to determine the potentially feasible points of interconnection.
- (42) "Secondary line" means a service line with an operating voltage of 600 volts or less.
- (43) "Small generator facility" means a facility, that operates in parallel with the distribution system, for the production of electrical energy that has a maximum installed instantaneous power production capacity of the completed Facility, expressed in MW (AC), and measured at the Point of Interconnection of 10 MW, when operated in compliance with the Generation Interconnection Agreement and consistent with the recommended power factor and operating parameters provided by the manufacturer of the generator, inverters, energy storage devices, or other equipment within the Facility affecting the Facility's capability to deliver useful electric energy to the grid at the Point of Interconnection, nameplate rating of 10 megawatts or less. A small generator facility may include an energy storage system, and does not include interconnection equipment, interconnection facilities, or system upgrades.
- (44) "Spot network" means a type of transmission or distribution system that uses two or more intertied transformers protected by network protectors to supply an electrical network circuit. A spot network may be used to supply power to a single customer or a small group of customers.
- (45) "System upgrade" means an addition or modification to a public utility's transmission or distribution system or to an affected system that is required to accommodate the interconnection of a small generator facility.
- (46) "Transmission line" means any electric line operating at or above 50,000 volts.
- (47) "Transmission system" means a public utility's high voltage facilities and equipment used to transport bulk power or to provide transmission service under the public utility's open access transmission tariff.
- (48) "Witness test" means the on-site visual verification of the interconnection installation and commissioning as required in IEEE 1547. For interconnection equipment that does not meet the definition of lab-tested equipment, the witness test may, at the discretion of the public utility, also include a type test and Small generator facility evaluation according to IEEE 1547 as applicable to the specific interconnection equipment used.

Commented [DT*P3]: Definition changed as prior definition capped combination of generation and storage at 10 MW - revised approach will allow the 10 MW to be measured at POI - more reflective of export capacity.

(49) "Written notice" means a required notice sent by the utility via electronic mail if the customer-generator has provided a functioning electronic mail address. If the customer-generator has not provided a functioning electronic mail address, or has requested in writing to be notified by United States mail then written notices from the utility ~~shall~~must be sent via First Class United States mail to the notification address provided by the customer generator. The utility ~~shall~~be deemed to have fulfilled its duty to respond under these rules on the day it sends the customer-generator notice via electronic mail or deposits such notice in First Class mail. The customer-generator ~~shall~~be responsible for informing the utility of any changes to its notification address.

Statutory/Other Authority: ORS 183, 756 & 757

Statutes/Other Implemented: ORS 756.040 & 756.060

History:

PUC 10-2009, f. & cert. ef. 8-26-09

860-082-0020

Pre-Application Process

(1) Each public utility must designate an employee or office from which relevant information about the small generator interconnection process, the public utility's transmission or distribution system, and affected systems may be obtained through informal requests for a potential applicant proposing a small generator facility at a specific site. The public utility must post contact information for the employee or office on the public utility's website. The information provided by the public utility in response to a potential applicant's request must include relevant existing studies and other materials that may be used to understand the feasibility of interconnecting a small generator facility at a particular point on the public utility's transmission or distribution system. The public utility must comply with reasonable requests for access to or copies of such information, except to the extent that providing such materials would violate security requirements, confidentiality obligations to third parties, or be contrary to federal or state regulations. The public utility may require a person to sign a confidentiality agreement if required to protect confidential or proprietary information. For potential Small generator facility requiring Tier 4 review, and at the potential applicant's request, the public utility must meet with the potential applicant to exchange information. A public utility employee with relevant technical expertise must attend any such meeting.

(2) A person requesting information under section (1) must reimburse the public utility for the reasonable costs of gathering and copying the requested information.

Statutory/Other Authority: ORS 183, 756 & 757

Statutes/Other Implemented: ORS 756.040 & 756.060

History:

PUC 10-2009, f. & cert. ef. 8-26-09

860-082-0025

Applications to Interconnect a Small Generator Facility

(1) A person may not interconnect a small generator facility to a public utility's transmission or distribution system without authorization from the public utility.

- (a) A person proposing to interconnect a new small generator facility to a public utility's transmission or distribution system must submit an application to the public utility.
- (b) A person with an existing interconnected Small generator facility who proposes to make any change to the facility, other than a minor equipment modification, must submit an application to the public utility. This includes changes affecting the nameplate rating of the existing interconnected small generator facility or the output capacity authorized in the agreement governing the terms of the interconnection.
- (c) An applicant with a pending completed application to interconnect a small generator facility must submit a new application if the applicant proposes to make any change to the small generator facility other than a minor equipment modification. This includes changes affecting the nameplate rating of the proposed small generator facility.
- (A) The applicant relinquishes the queue position assigned to the pending completed application, and the public utility assigns a new queue position based on the date and time the public utility receives the new application.
- (B) If the new application is submitted within 30 business days of the date of submission of the original application, then the public utility must apply the original application fee to the application fee required for the new application.
- (d) A person with a pending completed application to interconnect a net metering facility or a FERC jurisdictional generator who proposes to change the facility to a small generator facility must submit a new application under the small generator interconnection rules.
- (A) The applicant relinquishes the queue position assigned to the pending completed application, and the public utility assigns a new queue position based on the date and time that the interconnecting public utility receives the small generator interconnection application.
- (B) If the small generator interconnection application is received within 30 business days of the date of submission of the original net metering or FERC jurisdictional generator interconnection application, then the public utility must apply the original application fee to the application fee required for the new application.
- (e) An interconnection customer must submit an application to renew an existing small generator facility interconnection before the expiration of the interconnection agreement between the interconnection customer and the interconnecting² public utility. The application must be submitted no later than 60 business days before the interconnection agreement's expiration date.
- (A) A public utility may not unreasonably refuse to grant expedited review of an application to renew an existing small generator facility interconnection if there have been no changes to the small generator facility other than minor equipment modifications.
- (B) A public utility may not require an existing small generator facility to undergo Tier 4 review if there have been no changes to the small generator facility other than minor equipment modifications and there have been no material changes to the portion of the public utility's transmission or distribution system affected by the interconnection of the small generator facility.

(C) A public utility may require the interconnection customer to pay for interconnection facilities, system upgrades, or changes to the small generator facility or its associated interconnection equipment that are necessary to bring the small generator facility interconnection into compliance with the small generator interconnection rules or IEEE 1547 or 1547.1.

(D) If the public utility has not completed its review of an application to renew and a new interconnection agreement is not signed before the expiration of the current interconnection agreement governing the interconnection of an existing small generator facility to a public utility's transmission or distribution system, then the current interconnection agreement remains in effect until the renewal process is completed and a new interconnection agreement is signed.

(2) All applications must be made using the appropriate application form, and must follow the standard form applications developed by the public utility and approved by the Commission. The public utility must provide separate application forms for review under Tier 1 and for review under Tiers 2, 3, and 4. The Tier 1 application form must include an unexecuted interconnection agreement. The public utility must provide a copy of an application form to any person upon request and must post copies of the application forms on the public utility's website.

(a) Applicants may use the Tier 1 application form only for a Small generator facility that meets the requirements of OAR 860-082-0045(1).

(b) All applicants may use the application form for Tiers 2, 3, or 4.

(3) A public utility may require payment of a nonrefundable application processing fee. The amount of the fee depends upon the review tier requested in the application and is intended to cover the reasonable costs of processing and evaluating the application.

(a) The application fee may not exceed \$100 for Tier 1 review, \$500 for Tier 2 review, and \$1000 for review under Tiers 3 and 4.

(b) An applicant must pay the reasonable costs incurred by the public utility to perform any studies and engineering evaluations permitted by these rules and necessary to evaluate the proposed application to interconnect. Before the public utility may assess any costs in excess of the application fee, the public utility must receive written authorization from the applicant. If the applicant does not authorize the additional costs, then the application is deemed withdrawn and the original application fee is forfeited.

(c) If an application is denied at one review tier, and the applicant resubmits the application at a higher review tier within 15 business days after the date the applicant received notification of the denial, then the applicant maintains the queue position assigned to the original application and the public utility must apply the original application fee and any other fees paid in conjunction with the original application to the fees applicable to the resubmitted application.

(4) If an applicant proposes to interconnect multiple Small generator facilities to the public utility's transmission or distribution system at a single point of interconnection, then the public utility must evaluate the applications based on the combined total nameplate rating for all of the Small generator facilities. If the combined total nameplate rating exceeds 10 megawatts, then the small generator interconnection rules do not apply.

(5) An applicant must provide documentation of site control with an interconnection application. Site control may be demonstrated through ownership of the site, a leasehold interest in the site, or an option or other right to develop the site for the purpose of constructing the small generator facility. Site control may be documented by a property tax bill, deed, lease agreement, or other legally binding contract.

(6) A public utility may propose to interconnect multiple Small generator facilities at a single point of interconnection to minimize costs, and an affected applicant or interconnection customer may not unreasonably refuse such a proposal. An applicant or interconnection customer may, however, elect to maintain a separate point of interconnection if the applicant or interconnection customer agrees to pay the entire cost of the separate interconnection facilities.

(7) Application review process.

(a) Within 10 business days of receipt of an application to interconnect a small generator facility, the interconnecting public utility must provide written notice to the applicant stating whether the application is complete.

(A) If the application is incomplete, then the public utility must provide the applicant with a detailed list of the information needed to complete the application. An application is deemed complete when the public utility receives the listed information. The applicant must provide the listed information within 10 business days of receipt of the list or the application is deemed withdrawn.

(B) If a public utility does not have a record of receipt of an application or cannot locate an application, then the applicant must provide an additional copy of the application to the public utility. If the applicant can demonstrate that a complete application was originally delivered to the public utility at a particular time on a particular date, then the public utility must assign a queue position to the application based on the original time and date of delivery.

(b) Once the public utility deems an application to be complete, the public utility must assign the application a queue position. An applicant must meet all applicable deadlines in the small generator interconnection rules to maintain its queue position unless the deadlines have been waived by agreement with the interconnecting public utility or by Commission order.

(c) If the public utility determines during the evaluation process that supplemental or clarifying information is required, then the public utility must request the information from the applicant, and the applicant must provide the requested information within 15 business days of the request, or the application will be deemed withdrawn. The time necessary to complete the evaluation of the application may be extended by the time required for the receipt of the additional information. Requests for information do not affect the applicant's queue position.

(d) A public utility must use IEEE 1547 and IEEE 1547.1 to evaluate small generator interconnection applications unless otherwise specified in these rules or unless the Commission grants a waiver to use different or additional standards.

(e) Reference Point of Applicability Review.

(A) For ~~tier-Tier~~ 4 applications, the public utility will raise any concerns about the ~~reference point of applicability~~RPA in the scoping meeting.

(B) For ~~tier-Tier~~ 1 through ~~tier-Tier~~ 3 applications, the public utility notifies an applicant if the proposed RPA is appropriate when it provides screen results. If the RPA is inappropriate the public utility will notify the applicant in writing, including an explanation as to why it requires correction. The applicant ~~shall~~ must resubmit the application with the corrected RPA within ten business days. If the applicant does not provide the appropriate RPA, a request for an extension of time, or request an applicant options meeting within the deadline, the application will be deemed withdrawn.

(f) Interconnection Agreement. If the proposed interconnection requires no construction of facilities by the public utility, or the public utility approves the proposed interconnection despite screen failure or at the applicant options meeting the public utility must provide the applicant an ~~executed~~ interconnection agreement no later than five business days after the applicant options meeting, providing supplemental review screen results, or completing the last ~~tier-Tier~~ 4 study. If the applicant does not return a countersigned interconnection agreement ~~and any required deposit~~ to the public utility or request negotiation of a non-standard interconnection agreement within 15 business days of receipt of an executed interconnection agreement, the application is deemed withdrawn.

Commented [DT*P4]: JU prefer sending an executable form - otherwise suggest 15 days to send executed agreement.

Commented [DT*P5]: If executed agreements are required JU would like to ensure deposits come in with the counter-signed agreement

(A) An applicant or a public utility is entitled to the terms in the standard form agreement, but may choose to negotiate for different terms.

(B) If negotiated changes to a standard interconnection agreement are materially inconsistent with the small generator interconnection rules, then the applicant and the public utility must seek Commission approval of the negotiated interconnection agreement.

(g) The applicant must provide the public utility written notice at least 20 business days before the planned commissioning for the small generator facility.

(A) The public utility has the option of conducting a witness test at a mutually agreeable time within 10 business days of receipt of the certificate of completion.

(B) The public utility must provide written notice to the applicant indicating whether the public utility plans to conduct a witness test or will waive the witness test within three business days of receipt of the certificate of completion.

(C) If the public utility notifies the applicant that it plans to conduct a witness test, but fails to conduct the witness test within 10 business days of receipt of the certificate of completion or within a time otherwise agreed upon by the applicant and the public utility, then the witness test is deemed waived.

(D) If the witness test is conducted and is successful, or if the public utility waives ~~the~~ witness test, the public utility must provide the countersigned certificate of completion within five business days of conducting the witness test or waiver of witness test.

(E) If the witness test is conducted and is not acceptable to the public utility, then the public utility must provide written notice to the applicant describing the deficiencies within five

business days of conducting the witness test. The public utility must give the applicant 20 business days from the date of the applicant's receipt of the notice to resolve the deficiencies. If the applicant fails to resolve the deficiencies to the reasonable satisfaction of the public utility within 20 business days or at a mutually agreeable time, then the application is deemed withdrawn.

(h) A public utility must meet all applicable deadlines in the small generator interconnection rules unless the deadlines have been waived by agreement with an applicant or interconnection customer or by Commission order. If the public utility cannot meet an applicable deadline, then the public utility must provide written notice to the applicant or interconnection customer explaining the reasons for the failure to meet the deadline and an estimated alternative deadline. A public utility's failure to meet an applicable deadline does not affect an applicant's queue position.

Statutory/Other Authority: ORS 183, 756 & 757

Statutes/Other Implemented: ORS 756.040 & 756.060

History:

PUC 10-2009, f. & cert. ef. 8-26-09

860-082-0030

Construction, Operation, Maintenance, and Testing of Small Generator Facilities

(1) IEEE 1547. An interconnection customer or applicant must construct, operate, and maintain a small generator facility and its associated interconnection equipment in compliance with IEEE 1547 and 1547.1. For purposes of OAR 860-082-0030, capitalized terms not otherwise defined in Division 082 have the meaning set forth in IEEE 1547-~~2018~~.

(a) ~~Applications to interconnect new Small generator facilities submitted on or after January 1, 2024, or a later date set by Commission order, shall comply with IEEE 1547-2018. Applications submitted before July 1, 2023 that are reviewed under Tier 4 or supplemental review may, but are not required to, comply with IEEE 1547-2018.~~ Small generator facilities compliant with IEEE 1547-~~2018~~ shall must conform with the following minimum requirements:

Commented [DT*P6]: JU prefer to have the compliance date set in the Commission order

(A) Abnormal performance requirements: Category III Ride-Through capabilities must be supported for inverter-based Small generator facilities. Rotating Small generator facilities must meet Category I Ride-Through capabilities, at minimum.

(B) Normal performance requirements: Inverter-based Small generator facilities must meet reactive power requirements of IEEE 1547-~~2018~~ Category B. Rotating Small generator facilities must meet Category A, and may meet Category B.

(C) Inverter-based interconnection equipment shall will be tested to and certified as being compliant with UL 1741 Third Edition, Supplement SB, by a ~~Nationally Recognized Test Laboratory (NRTL)~~. Equipment that is not certified by a NRTL may require additional evaluation and commissioning testing to confirm compliance with IEEE 1547-~~2018~~.

(b) Interconnection requirements handbook. Each public utility shall must post an interconnection requirements handbook on its public website. ~~Prior to revising its interconnection requirements handbook, a public utility must provide public notice and an~~

~~opportunity to comment and the public utility must respond to any comments received. Interconnection requirements handbooks shall be filed with the commission for public notice and comment, and commission approval by September 1, 2023. Subsequent changes to interconnection requirements handbooks shall also be filed with the commission for public notice and comment and commission approval~~

(c) Preferred default settings. A public utility ~~shall~~ **must** allow Small generator facilities to interconnect using preferred default settings, except when the application reviewed under Tier 4, OAR 860-082-0060, or the application fails the Tier 1, Tier 2, or Tier 3 approval criteria in OAR 860-082-0045(2), OAR 860-082-0050(2), or OAR 860-082-0055(2). Interconnection requirements handbooks ~~shall~~ **must** include preferred default settings. ~~For Small generator facilities compliant with IEEE 1547-2018 before July 1, 2023, these settings shall be determined by mutual agreement between the public utility and applicant.~~ As applicable, the following ~~shall~~ **must** be identified in the interconnection requirements handbook:

Commented [DT*P7]: Advised to not use "shall" in rules, and use "must" or "is required to"

- (A) Voltage and frequency trip settings;
- (B) Frequency droop settings;
- (C) Activated reactive power control function and default settings;
- (D) Voltage active power (volt-watt) mode activation and default settings; and
- (E) Communication protocols and ports requirements.

(2) The applicant must provide written notice to the interconnecting public utility 10 business days before beginning operation of an approved small generator facility.

(3) Before beginning operation of a small generator facility, an interconnection customer or applicant must receive approval of the facility under the small generator interconnection rules and must execute an interconnection agreement with the interconnecting public utility.

Applicants or interconnection customers are entitled to a 20-year term for an interconnection agreement, but ~~can be~~ a **different** term ~~can be~~ mutually agreed upon between the interconnecting utility and customer.

Commented [DT*P8]: QFTA want this term to match with any PPA - or potentially have roll-over rights like FERC's LGIP, for life of project.

(4) A small generator facility must be capable of being isolated from the interconnecting public utility's transmission or distribution system. An interconnection customer may not disable an isolation device without the prior written consent of the interconnecting public utility.

(a) For a Small generator facility interconnecting to a primary line, the interconnection customer or applicant must use a lockable, visible-break isolation device readily accessible to the public utility.

(b) For Small generator facility interconnecting to a secondary line, the interconnection customer or applicant must use a lockable isolation device that is readily accessible by the public utility. The status of the isolation device must be clearly indicated. An exception from the requirement to use a lockable isolation device is allowed for a small generator facility that has a maximum total output of 30 amperes or less; is connected to a secondary line; uses lab-tested, inverter-based interconnection equipment; and is interconnected to the distribution system through a

metered service owned by the interconnecting public utility. In this limited case, the meter base may serve as the required isolation device if it is readily accessible to the public utility.

(A) A draw-out type circuit breaker with the provision for padlocking at the draw-out position can be considered an isolation device.

(B) The interconnection customer or applicant may elect to provide the public utility access to an isolation device that is contained in a building or area that may be unoccupied and locked or not otherwise readily accessible to the public utility. The interconnection customer or applicant must provide a lockbox capable of accepting a lock provided by the public utility that provides ready access to the isolation device. The interconnection customer or customer must install the lockbox in a location that is readily accessible by the public utility and must affix a placard in a location acceptable to the public utility that provides clear instructions to utility personnel on how to access the isolation device.

(c) Other than the exception in (4)(b), all isolation devices must be installed, owned, and maintained by the interconnection customer or applicant; must be capable of interrupting the full load of the small generator facility; and must be located between the small generator facility and the point of interconnection.

(5) An interconnecting public utility must have access to an interconnection customer's or an applicant's premises for any reasonable purpose related to an interconnection application or an interconnected small generator facility. The public utility must request access at reasonable hours and upon reasonable notice. In the event of an emergency or hazardous condition, the public utility may access the interconnection customer's or applicant's premises at any time without prior notice, but the public utility must provide written notice within five business days after entering the interconnection customer's or applicant's premises that describes the date of entry, the purpose of entry, and any actions performed on the premises.

(6) When a small generator facility undergoes maintenance or testing in compliance with the small generator interconnection rules, IEEE 1547, or IEEE 1547.1, the interconnection customer must retain written records for at least seven years documenting the maintenance and the results of testing. The interconnection customer must provide copies of these records to the interconnecting public utility upon request.

Statutory/Other Authority: ORS 183, 756 & 757

Statutes/Other Implemented: ORS 756.040 & 756.060

History:

PUC 10-2009, f. & cert. ef. 8-26-09

~~860-082-003X-0033~~

Export Controls

(1) If a Small generator facility uses any configuration or operating mode in subsection (3) to limit the export of electrical power across the Point of Interconnection, then the Export Capacity ~~shall be~~ only the amount capable of being exported (not including any Inadvertent Export). To prevent impacts on system safety and reliability, any Inadvertent Export from a Small generator facility must comply with the limits identified in this Section. The Export Capacity specified by the

interconnection customer in the application will subsequently be included as a limitation in the interconnection agreement.

- (2) An ~~Application~~ application proposing to use a configuration or operating mode to limit the export of electrical power across the Point of Interconnection ~~shall~~ must include proposed control and/or protection settings.

(3) Acceptable Export Control Methods

(a) Export Control Methods for Non-Exporting Small generator facility

(A) **Reverse Power Protection (Device 32R):** To limit export of power across the Point of Interconnection, a reverse power protective function is implemented using a utility grade protective relay. The default setting for this protective function ~~shall be is~~ 0.1% (export) of the service transformer's nominal base ~~Nameplate nameplate Rating~~ power rating, with a maximum 2.0 second time delay to limit Inadvertent Export. When a project is located on a circuit using high speed reclosing the utility may require a maximum delay of less than 2.0 seconds to safely facilitate the reclosing.

Commented [DT*P9]: JU suggest using "nameplate power rating" when discussing transformers.

(B) **Minimum Power Protection (Device 32F):** To limit export of power across the Point of Interconnection, a minimum import protective function is implemented utilizing a utility grade protective relay. The default setting for this protective function ~~shall be is~~ 5% (import) of the Small generator facility's total Nameplate Rating, with a maximum 2.0 second time delay to limit Inadvertent Export. When a project is located on a circuit using high speed reclosing the utility may require a maximum delay of less than 2.0 seconds to safely facilitate the reclosing.

(C) **Relative Distributed Energy Resource Rating:** ~~Upon utility agreement,~~ This option requires the Small generator facility's Nameplate Rating to be so small in comparison to its host facility's minimum load that the use of additional protective functions is not required to ensure that power will not be exported to the electric distribution system. This option requires the Small generator facility's Nameplate Rating to be no greater than 50% of the interconnection customer's verifiable minimum host load during relevant hours over the past 12 months. This option is not available for interconnections to area networks or spot networks.

Commented [DT*P10]: IREC believes this should be stricken - citing its use in California since 2000, HI/IL/NV and NM.

(b) Export Control Methods for Limited Export Small generator facility

(A) **Directional Power Protection (Device 32):** To limit export of power across the Point of Interconnection, a directional power protective function is implemented using a utility grade protective relay. The default setting for this protective function ~~shall is~~ be the Export Capacity value, with a maximum 2.0 second time delay to limit Inadvertent Export. When a project is located on a circuit using high speed reclosing the utility may require a maximum delay of less than 2.0 seconds to safely facilitate the reclosing.

Commented [DT*P11]: Added to conform with (3)(a)(A)-(B)

(B) **Configured Power Rating:** A reduced output power rating utilizing the power rating configuration setting may be used to ensure the Small generator facility does not generate power beyond a certain value lower than the Nameplate Rating. The configuration setting corresponds to the active or apparent power ratings in Table 28 of IEEE Std 1547-2018, as described in subclause 10.4. A local Small generator facility communication interface is not required to utilize the configuration setting as long as it can be set by other means. The reduced power rating may be indicated by means of a Nameplate Rating replacement, a supplemental adhesive Nameplate Rating tag to indicate the reduced Nameplate Rating, or a signed attestation from the customer confirming the reduced capacity.

(c) Export Control Methods for Non-Exporting Small generator facility or Limited Export Small generator facility

- (A) **Certified Power Control Systems:** Small generator facility may use certified power control systems to limit export. Small generator facility utilizing this option must use a power control system and inverter certified per UL 1741 by a ~~nationally recognized testing laboratory~~ (NRTL) with a maximum open loop response time of no more than 30 seconds to limit Inadvertent Export. NRTL testing to the UL Power Control System Certification Requirement Decision ~~shall~~ **must** be accepted until similar test procedures for power control systems are included in a standard. This option is not available for interconnections to area networks or spot networks.
- (B) **Agreed-Upon Means:** Small generator facility may be designed with other control systems and/or protective functions to limit export and Inadvertent Export if mutual agreement is reached with the Distribution Provider. The limits may be based on technical limitations of the interconnection customer's equipment or the electric distribution system equipment. To ensure Inadvertent Export remains within mutually agreed-upon limits, the interconnection customer may use an uncertified power control system, an internal transfer relay, energy management system, or other customer facility hardware or software if approved by the Distribution Provider.

860-082-0035

Cost Responsibility

(1) Study costs. Whenever a study is required under Tier 4 of the small generator interconnection rules, the applicant must pay the public utility for the reasonable costs incurred in performing the study. The public utility must base study costs on the scope of work determined and documented in the feasibility study agreement, the system impact study agreement, or the facilities study agreement, as applicable. The estimated engineering costs used in calculating study costs must not exceed \$100 per hour. A public utility may adjust the \$100 hourly rate once in January of each year to account for inflation and deflation as measured by the Consumer Price Index. Before beginning a study, a public utility may require an applicant to pay a deposit of up to 50 percent of the estimated costs to perform the study or \$1000, whichever is less.

(2) Interconnection facilities. For interconnection review under Tier 4, a public utility must identify the interconnection facilities necessary to safely interconnect the small generator facility with the public utility's transmission or distribution system. The applicant must pay the reasonable costs of the interconnection facilities. The public utility constructs, owns, operates, and maintains the interconnection facilities.

(3) Interconnection equipment. An applicant or interconnection customer must pay all expenses associated with constructing, owning, operating, maintaining, repairing, and replacing its interconnection equipment. Interconnection equipment is constructed, owned, operated, and maintained by the applicant or interconnection customer.

(4) System upgrades. A public utility must design, procure, construct, install, and own any system upgrades to the public utility's transmission or distribution system necessitated by the interconnection of a small generator facility. A public utility must identify any adverse system impacts on an affected system caused by the interconnection of a small generator facility to the public utility's transmission or distribution system. The public utility must determine what actions or upgrades are required to mitigate these impacts. Such mitigation measures are considered system upgrades as defined in these rules. The applicant must pay the reasonable costs of any system upgrades.

(5) A public utility may not begin work on interconnection facilities or system upgrades before an applicant receives the public utility's good-faith, non-binding cost estimate and provides written notice to the public utility that the applicant accepts the estimate and agrees to pay the costs. A public utility may require an applicant to pay a deposit before beginning work on the interconnection facilities or system upgrades.

(a) If an applicant agrees to make progress payments on a schedule established by the applicant and the interconnecting public utility, then the public utility may require the applicant to pay a deposit of up to 25 percent of the estimated costs or \$10,000, whichever is less. The public utility and the applicant must agree on progress billing, final billing, and payment schedules before the public utility begins work.

(b) If an applicant does not agree to make progress payments, then the public utility may require the applicant to pay a deposit of up to 100 percent of the estimated costs. If the actual costs are lower than the estimated costs, then the public utility must refund the unused portion of the deposit to the applicant within 20 business days after the actual costs are determined.

Statutory/Other Authority: ORS 183, 756 & 757

Statutes/Other Implemented: ORS 756.040 & 756.060

History:

PUC 10-2009, f. & cert. ef. 8-26-09

860-082-0040

Insurance

(1) A public utility may not require an applicant or an interconnection customer with a small generator facility with a nameplate rating of 200 kilowatts or less to obtain liability insurance in order to interconnect with the public utility's transmission or distribution system.

(2) A public utility may require an applicant or an interconnection customer with a small generator facility with a nameplate rating greater than 200 kilowatts to obtain prudent amounts of general liability insurance in order to interconnect to the public utility's transmission or distribution system.

Statutory/Other Authority: ORS 183, 756 & 757

Statutes/Other Implemented: ORS 756.040 & 756.060

History:

PUC 10-2009, f. & cert. ef. 8-26-09

860-082-0045

Tier 1 Interconnection Review

(1) A public utility must use the Tier 1 review procedures when an applicant submits an application to interconnect a Small generator facility that meets the following requirements:

(a) The Small generator facility must have an export capacity not greater than 25 kilowatts, a nameplate rating not greater than 50 kilowatts and use a UL 1741 certified inverter; and

(b) The Small generator facility must not be interconnected to a transmission line, or an area network.

(2) Tier 1 Approval Criteria. A public utility must approve an application for interconnection under the Tier 1 interconnection review procedures if the Small generator facility meets the approval criteria in subsections (a) through (e). A public utility may not impose different or additional approval criteria.

(a) A Tier 1 Small generator facility interconnection must use existing public utility facilities.

(b) Substation transformer backfeed screen. Where existing protective devices and equipment cannot adequately support backfeed, the aggregated export capacity on the substation transformer must be less than 80 percent of the relevant minimum load for the substation transformer.

(c) Penetration Screen for interconnection to a radial distribution circuit.

(A) If 12 months of minimum load data (including onsite load but not station service load served by the proposed Small generator facility) are available for the line section, the aggregated export capacity on the line section is less than 90 percent of the relevant minimum load for all line sections bounded by automatic sectionalizing devices upstream of the proposed Small generator facility;

(B) If 12 months of minimum load data (including onsite load but not station service load served by the proposed Small generator facility) are not available for line section, the aggregated export capacity on the circuit is less than 90 percent of the relevant minimum load for the feeder;

(C) If minimum load data are not available for the line section or the circuit, the aggregated export capacity on the circuit must not exceed 15 percent of the line section annual peak load as most recently measured at the substation or calculated for the line section.

(d) Network Screen. ~~Network Screen.~~ For interconnection of a Small generator facility within a spot network, the aggregate nameplate rating ~~including the Small generator facility's nameplate rating~~ may not exceed ~~50-20~~ percent of the spot network or area network's anticipated minimum load. ~~If solar energy generating facilities are used exclusively, only the anticipated daytime minimum load shall be considered.~~ The public utility may select any of the following methods to determine anticipated minimum load:

(A) the spot network ~~or area network~~'s measured minimum load in the previous year, if available;

Commented [DT*P12]: JU propose setting this at 20% - Staff safety engineers agree with the change. Protections are more complex for spot or area networks. Use of DC ratings in the current utility datasets, as opposed to DC, make reliance on the larger number (50%) problematic.

(B) five percent of the spot network-~~or area network~~'s maximum load in the previous year;

~~(C) the applicant's good faith estimate, if provided; or~~

(D) the public utility's good faith estimate if provided in writing to the applicant along with the reasons why the public utility considered the other methods to estimate minimum load inadequate.

(e) Single-Phase Shared Secondary Screen. For interconnection of a Small generator facility to a single-phase shared secondary line, the aggregated export capacity on the shared secondary must not exceed 65 percent of the transformer nameplate power rating.

(f) Service Imbalance Screen. For interconnection of a single-phase Small generator facility to the center tap neutral of a 240-volt service line, the addition of the Small generator facility must not create a current imbalance between the two sides of the 240-volt service line of more than 20 percent of the nameplate power rating of the service transformer.

(3) In addition to the timelines and requirements in OAR 860-082-0025, the public utility must provide written notice to the applicant stating whether the small generator facility meets the Tier 1 approval criteria no later than 15 business days from the date a Tier 1 interconnection application is deemed complete. If a public utility does not notify an applicant whether the interconnection is approved or denied within 20 business days after the receipt of an application, the interconnection will be deemed approved.

(4) Interconnection after passing screens. If the proposed interconnection passes the screens, the public utility shall-must provide the applicant with a copy of the Tier 1 application form, no later than five business days after approval, signed by the public utility, forming the Tier 1 interconnection agreement. ~~If the public utility does not notify an applicant whether an application is approved or denied in writing within twenty business days after notification of the Tier 1 review results, the interconnection agreement signed by the applicant as part of the Tier 1 application shall be deemed effective.~~

(5) Approval despite screen failure. Despite the failure of one or more screens, the public utility, at its sole option, may approve the interconnection provided such approval is consistent with safety and reliability. If the public utility determines that the Small generator facility can be interconnected safely if minor modifications to the transmission or distribution system were made (for example, changing meters, fuses, or relay settings), then the public utility must offer the applicant a good-faith, non-binding estimate of the costs of such proposed minor modifications. Modifications are not considered minor under this subsection if the total cost of the modifications exceeds \$10,000. If the applicant authorizes the public utility to proceed with the minor modifications and agrees to pay the entire cost of the modifications, then the public utility must approve the application.

(6) Process after screen failure. If the public utility cannot determine that the Small generator facility may nevertheless be interconnected consistent with safety, reliability, and power quality standards, at the time the public utility notifies the applicant of the Tier 1 review results the public utility shall-must provide the applicant with

Commented [DT*P13]: JU want to eliminate this provision, but the following clause should address their concerns. If the utility does not believe the applicant's estimate the utility is free to use a different estimate, and provide support for not using other methods for an estimate.

Commented [DT*P14]: JU want to make the 20 business days from the date notifying the customer of the application is complete - this is not how the current rules are for NEM customers, see below. It also extends the timeline.

Utility has 10 days to say if app is complete
15 days for review of application
Then 20 more days if they fail to respond? Could change it to 25 days, in line with current processes...

(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 after the receipt of an application, the interconnection will be deemed approved. Interconnections approved under this section remain subject to section 7 below.

Commented [DT*P15]: JU suggest this is unnecessary, given deemed approval above.

(a) Specific information on the reason(s) for failure in writing using a standard format approved by the Commission,

(b) An executable Supplemental Review Agreement

(c) In addition, the public utility ~~shall~~must allow the applicant to select one of the following, at the applicant's option:

(A) Request an applicant options meeting;

(B) Undergo supplemental review in accordance with OAR 860-082-00~~6X~~63;

(C) Continue evaluating the application under Tier 4.

The applicant must notify the public utility of its selection within 10 business days or the application will be deemed withdrawn.

(7) Applicant options meeting. ~~If the applicant requests an applicant options meeting, the public utility shall will offer to convene a meeting at a mutually agreeable time within 15 business days of the applicant's request. At the time the public utility notifies the applicant of the Tier 1 review results, the public utility shall provide the applicant the option of participating in an~~At the applicant options meeting with the public utility there will be an opportunity to review possible Small generator facility modifications, opportunity to designate a different RPA, or the screen analysis and related results, to determine what further steps are needed to permit the Small generator facility to be connected safely and reliably. ~~If the applicant requests an applicant options meeting, the public utility shall offer to convene a meeting at a mutually agreeable time within 15 business days of the applicant's request.~~

Commented [DT*P16]: JU do not want this requirement included - do not want to be responsible for a customer who will not cooperate on setting meetings.

(8) The interconnection process is not complete until:

(a) The witness test, if conducted by the public utility, is successful; and

(b) The applicant and public utility execute a certificate of completion. The certificate of completion must follow the standard form certificate developed by the public utility and approved by the Commission.

Statutory/Other Authority: ORS 183, 756 & 757

Statutes/Other Implemented: ORS 756.040 & 756.060

History:

PUC 10-2009, f. & cert. ef. 8-26-09

860-082-0050

Tier 2 Interconnection Review

(1) A public utility must use the Tier 2 interconnection review procedures when an applicant submits an application requesting Tier 2 review to interconnect a Small generator facility that meets the following requirements:

- (a) The Small generator facility does not qualify for the Tier 1 interconnection review;
- (b) If the Small generator facility is inverter-based, the Small generator facility’s export capacity does not exceed the limits identified in the table below, which vary according to the voltage of the line at the proposed point of interconnection.

Line Voltage	Export Capacity for Tier 2 Eligibility	
	Regardless of location	On > 600 amp line and < 2.5 line miles from substation
< 5 kV	< 1 MW	< 2 MW
5 kV – 14 kV	< 2 MW	< 3 MW
15 kV – 30 kV	< 3 MW	< 4 MW
31 kV – 69 kV	< 4 MW	< 5 MW

Inverter-based small generator facilities ~~located~~ within 2.5 line miles of a substation and on a main distribution line with minimum 600-amp capacity are eligible for Tier 2 interconnection under higher thresholds;

- (c) If the Small generator facility is not inverter-based, the Small generator facility’s export capacity is two megawatts or less;
 - (d) The Small generator facility must not interconnect to a transmission line, or area network; and
 - (e) The Small generator facility must use interconnection equipment that is either lab-tested equipment or field-tested equipment. For equipment to gain status as field-tested equipment, the applicant must provide all the documentation from the prior utility approval including any interconnection studies and the certificate of completion.
- (2) Tier 2 Approval Criteria. A public utility must approve an application to interconnect a Small generator facility under the Tier 2 interconnection review procedures if the facility meets the approval criteria in subsections (a) through (l). A public utility may not impose different or additional approval criteria.

- (a) Substation transformer backfeed screen. Where existing protective devices and equipment cannot adequately support backfeed, the aggregated export capacity on the substation transformer must be less than 80 percent of the relevant minimum load for the substation transformer.
 - (b) Penetration Screen for interconnection to a radial distribution circuit.
- (A) If 12 months of minimum load data (including onsite load but not station service load served by the proposed Small generator facility) are available for the line section, the aggregated export capacity on the line section is less than 90 percent of the relevant minimum load for all line sections bounded by automatic sectionalizing devices upstream of the proposed Small generator facility;

(B) If 12 months of minimum load data (including onsite load but not station service load served by the proposed Small generator facility) are not available for line section, the aggregated export capacity on the circuit is less than 90 percent of the relevant minimum load for the feeder;

(C) If minimum load data are not available for the line section or the circuit, the aggregated export capacity on the circuit must not exceed 15 percent of the line section annual peak load as most recently measured at the substation or calculated for the line section.

(c) Network Screen. For interconnection of a Small generator facility within a spot network, the aggregate nameplate rating may not exceed 20 percent of the spot network's anticipated relevant minimum load. Small generator facility must be inverter-based and use a minimum import relay or other protective scheme that will ensure that power imported from the public utility to the network will, during normal public utility operations remain above one percent of the network's maximum load over the past year or will remain above a point reasonably set by the public utility in good faith. At the public utility's discretion, the requirement for minimum import relays or other protective schemes may be waived. The public utility may select any of the following methods to determine anticipated minimum load:

Commented [DT*P17]: JU want this to match the Tier 1 screen above

(A) the spot network's measured minimum load in the previous year, if available;

(B) five percent of the spot network's maximum load in the previous year;

(C) the applicant's good faith estimate, if provided; or

(D) the public utility's good faith estimate if provided in writing to the applicant along with the reasons why the public utility considered the other methods to estimate minimum load inadequate.

(d) Fault Current Screen. The Small generator facility, aggregated with other generation on the distribution circuit, will not contribute more than 10 percent to the distribution circuit's maximum fault current at the point on the primary voltage distribution line nearest the point of interconnection.

(e) Short-Circuit Interrupting Capability Screen. The Small generator facility, aggregated with other generation on the distribution circuit must not cause any distribution protective devices and equipment (including substation breakers, fuse cutouts, and line reclosers) or other public utility equipment on the transmission or distribution system to be exposed to fault currents exceeding 90 percent of the short circuit interrupting capability. The Small generator facility's point of interconnection must not be located on a circuit that already exceeds 90 percent of the short circuit interrupting capability.

(f) Transient Stability Screen. The Small generator facility's nameplate rating, in aggregate with other Small generator facilities interconnected to the distribution side of a substation transformer feeding the circuit where the Small generator facility proposes to interconnect must not exceed 10 megawatts in an area where there are known or posted transient stability limitations to generating units located in the general electrical vicinity (for example, three or four distribution busses from the point of interconnection).

(g) Line Configuration Screen. Using the table below, determine the type of interconnection to a primary distribution line. This screen includes a review of the type of electrical service provided to the project, including line configuration and the transformer connection to limit the potential for creating over-voltages on the interconnecting public utility's electric power system due to a loss of ground during the operating time of any anti-islanding function

Primary Distribution Line Type	Type of Interconnection to Primary Distribution Line Required To Pass Screen
Three-phase, three-wire	Interface connection transformer high side is phase-to-phase Ungrounded on primary or any type on secondary
Three-phase, four-wire	Interface connection transformer high side is: <ul style="list-style-type: none"> • Single-phase line-to-neutral • Three-phase line-to-neutral and effectively grounded Single-phase line to neutral
Three-phase, four-wire or mixed three-wire and four-wire	Interface connection transformer high side is three-phase, line-to neutral and effectively grounded, or For inverter-based generation interface connection transformer is <ul style="list-style-type: none"> • Yg-yg, or Yg-y, or • Yg-delta with the small generator facility using medium voltage sensing for voltage protection with preferred default settings found in the interconnection requirements handbook. For inverter-based generation: interface connection transformer is Yg yg, or the small generator facility is on a mixed three-wire/four wire line and uses medium voltage sensing for voltage protection with preferred default settings found in the interconnection requirements handbook. For rotating generation: connected line to neutral and effectively grounded.

Commented [DT*P18]: Undergoing discussion

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(h) Single-Phase Shared Secondary Screen. For interconnection of a Small generator facility to a single-phase shared service line on the transmission or distribution system, the aggregated export capacity on the shared secondary must not exceed 65 percent of the transformer nameplate power rating.

(i) Service Imbalance Screen. For interconnection of a single-phase Small generator facility to the center tap neutral of a 240-volt service line, the addition of the Small generator facility must not create a current imbalance between the two sides of the 240-volt service line of more than 20 percent of the nameplate power rating of the service transformer.

(j) Except as provided in subsection (4)(l), the interconnection of the Small generator facility must not require system upgrades or interconnection facilities different from or in addition to the applicant's proposed interconnection equipment.

(k) If the public utility's distribution circuit uses high speed reclosing with less than two seconds of interruption, then the Small generator facility must not be a synchronous machine. If the Small generator facility is a synchronous machine, then the applicant must submit a Tier 4 application.

(l) Inadvertent Export Screen. For interconnection of a proposed Small generator facility that can introduce inadvertent export, where the nameplate rating minus the export capacity is greater than 250 kilowatts, the following inadvertent export screen is required. With a power change equal to the nameplate rating minus the export capacity, the change in voltage at the point on the medium voltage (primary) level nearest the point of interconnection does not exceed three percent. Voltage change will be estimated applying the following formula:

$$\frac{(R_{SOURCE} \times \Delta P) - (X_{SOURCE} \times \Delta Q)}{V^2}$$

Where:

$$\Delta P = (\text{DER apparent power Nameplate Rating} - \text{Export Capacity}) \times \text{PF},$$

$$\Delta Q = (\text{DER apparent power Nameplate Rating} - \text{Export Capacity}) \times \sqrt{(1 - \text{PF}^2)},$$

**R_{SOURCE} is the grid resistance, X_{SOURCE} is the grid reactance,
 V is the grid voltage, PF is the power factor**

(3) Timelines. In addition to the timelines and requirements in OAR 860-082-0025, and if a net metering facility OAR 860-039, the following timelines and requirements apply to Tier 2 interconnection reviews:

(a) Within 20 business days after a public utility notifies an applicant that its application is complete, the public utility must:

(A) Evaluate the application using the Tier 2 approval criteria in section (2);

(B) Review any independent analysis of the proposed interconnection provided by the applicant that was performed using the Tier 2 approval criteria; and

(C) Provide written notice to the applicant stating whether the public utility approved the application. If the proposed interconnection passes the screens, the public utility ~~shall~~must provide the applicant an ~~executed~~ interconnection agreement within five days of the screen results. If applicable, the public utility must include a comparison of its evaluation to the applicant's independent analysis.

Commented [DT*P19]: JU would prefer a longer time to provide the executed agreement - for several reasons.

(4) Approval despite screen failure. Despite the failure of one or more screens, the public utility, at its sole option, may approve the interconnection provided such approval is consistent with safety and reliability. If the public utility determines that the Small generator facility could be interconnected safely if minor modifications to the transmission or distribution system were made (for example, changing meters, fuses, or relay settings), then the public utility must offer the applicant a good-faith, non-binding estimate of the costs of such proposed minor modifications. Modifications are not considered minor under this subsection if the total cost of the modifications exceeds \$10,000. If the applicant authorizes the public utility to proceed with the minor modifications and agrees to pay the entire cost of the modifications, then the public utility must approve the application.

(5) Process after screen failure. If the public utility cannot determine that the Small generator facility may nevertheless be interconnected consistent with safety and reliability standards, at the time the public utility notifies the applicant of the Tier 2 review results the public utility ~~shall~~must provide the applicant with:

(a) Specific information on the reason(s) for failure in writing using a standard format approved by the Commission,

(b) An executable Supplemental Review Agreement

(c) In addition, the public utility ~~shall~~must allow the applicant to select one of the following, at the applicant's option:

(A) Request an applicant options meeting;

(B) Undergo supplemental review in accordance with OAR 860-082-00~~6X~~63;

(C) Continue evaluating the application under Tier 4.

The applicant must notify the public utility of its selection within 10 business days or the application will be deemed withdrawn.

(6) Applicant options meeting. ~~If the applicant requests an applicant options meeting, the public utility shall~~must offer to convene a meeting at a mutually agreeable time within 15 business days of the applicant's request. ~~At the time the public utility notifies the applicant of the Tier 2 review results, the public utility shall provide the applicant the option of participating in an~~ applicant options meeting with the public utility there will be an opportunity to review possible Small generator facility modifications or the screen analysis, opportunity to designate a different RPA, and related results, to determine what further steps are needed to permit the Small generator facility to be connected safely and reliably. ~~If the applicant requests an applicant options meeting, the public utility shall offer to convene a meeting at a mutually agreeable time within 15 business days of the applicant's request.~~

(7) The interconnection process is not complete until:

- (a) The public utility approves the application;
- (b) Any minor modifications to the transmission or distribution system required under subsection (4) are complete;
- (c) The witness test, if conducted by the public utility, is successful; and
- (d) The applicant and public utility execute a certificate of completion. The certificate of completion must follow the standard form certificate developed by the public utility and approved by the Commission.

Statutory/Other Authority: ORS 183, 756 & 757

Statutes/Other Implemented: ORS 756.040 & 756.060

History:

PUC 10-2009, f. & cert. ef. 8-26-09

860-082-0055

Tier 3 Interconnection Review

(1) A public utility must use the Tier 3 interconnection review procedures when an applicant submits an application requesting Tier 3 review to interconnect a Small generator facility that meets the following requirements:

- (a) The Small generator facility must have a nameplate rating of 10 megawatts or less;
- (b) The Small generator facility must not be connected to a transmission line;
- (c) The Small generator facility must not export power beyond the point of interconnection; and
- (d) The Small generator facility must use low forward power relays or other protection functions that prevent power flow onto the area network.

(2) Tier 3 Approval Criteria. A public utility must approve an application to interconnect a Small generator facility under the Tier 3 interconnection review procedures if the Small generator facility meets the Tier 2 approval criteria in OAR 860 082 0050(2)(a), (b), (i), and the additional approval criteria in subsections (a), (b), or (c) of this section. A public utility may not impose different or additional approval criteria.

(a) For a Small generator facility to interconnect to the load side of an area network distribution circuit, the small generator facility must meet the following criteria:

- (A) The nameplate rating of the Small generator facility must be 50 kilowatts or less;
- (B) The Small generator facility must use lab-tested, inverter-based interconnection equipment;
- (C) The aggregated nameplate rating on the area network must not exceed five percent of an area network's maximum load or 50 kilowatts, whichever is less; and

(D) Except as allowed in subsection (2)(c), the interconnection of the Small generator facility must not require system upgrades or interconnection facilities different from or in addition to the applicant's proposed interconnection equipment.

(b) For a Small generator facility to interconnect to a distribution circuit that is not networked, the small generator facility must meet the following criteria:

(A) The aggregated nameplate rating on the circuit must be 10 megawatts or less;

(B) The Small generator facility's point of interconnection must be to a radial distribution circuit;

(C) The Small generator facility must not be served by a shared transformer;

(D) Except as allowed in subsection (2)(c), the interconnection of the Small generator facility must not require system upgrades or interconnection facilities different from or in addition to the applicant's proposed interconnection equipment; and

(E) If the public utility's distribution circuit uses high speed reclosing with less than two seconds of interruption, then the Small generator facility must not be a synchronous machine. If the Small generator facility is a synchronous machine, then the applicant must submit a Tier 4 application.

(c) If the Small generator facility fails to meet one or more of the Tier 3 approval requirements, but the public utility determines that the Small generator facility could be interconnected safely if minor modifications to the transmission or distribution system were made (for example, changing meters, fuses, or relay settings), then the public utility must offer the applicant a good-faith, non-binding estimate of the costs of such proposed minor modifications. Modifications are not considered minor under this subsection if the total cost of the modifications exceeds \$10,000. If the applicant authorizes the public utility to proceed with the minor modifications and agrees to pay the entire cost of the modifications, then the public utility must approve the application under Tier 3.

(3) In addition to the timelines and requirements in OAR 860-082-0025, the following timelines and requirements apply to Tier 3 interconnection reviews:

(a) An interconnecting public utility must schedule a scoping meeting within 10 business days after notifying an applicant that its application is complete. The ~~public utility and the~~ applicant may agree to waive the scoping meeting requirement.

(b) Within 20 business days after a public utility notifies an applicant its application is complete or a scoping meeting is held, whichever is later, the public utility must:

(A) Evaluate the application using the Tier 3 approval criteria;

(B) Review any independent analysis of the proposed interconnection provided by the applicant that was performed using the Tier 3 approval criteria; and

(C) Provide written notice to the applicant stating whether the public utility approved the application. If the proposed interconnection passes the screens, the public utility ~~shall~~ must provide the applicant an ~~executed~~ interconnection agreement within five days of the screen

Commented [DT*P20]: As discussed previously, JU don't like this approach.

results. If applicable, the public utility must include a comparison of its evaluation to the applicant's independent evaluation.

(4) Approval despite screen failure. Despite the failure of one or more screens, the public utility, at its sole option, may approve the interconnection provided such approval is consistent with safety and reliability.

(5) Process after screen failure. If the public utility cannot determine that the Small generator facility may nevertheless be interconnected consistent with safety and reliability standards, at the time the public utility notifies the applicant of the Tier 3 review results the public utility ~~shall~~ must provide the applicant with:

(a) Specific information on the reason(s) for failure in writing using a standard format approved by the Commission,

(b) An executable Supplemental Review Agreement

(c) In addition, the public utility ~~shall~~ will allow the applicant to select one of the following, at the applicant's option:

(A) Request an applicant options meeting;

(B) Undergo supplemental review in accordance with OAR 860-082-00~~6X63~~;

(C) Continue evaluating the application under Tier 4.

The applicant must notify the public utility of its selection within 10 business days or the application will be deemed withdrawn

(6) Applicant options meeting. If the applicant requests an applicant options meeting, the public utility shall must offer to convene a meeting at a mutually agreeable time within 15 business days of the applicant's request. At the ~~time the public utility notifies the applicant of the Tier 3 review results, the public utility shall provide the applicant the option of participating in an~~ applicant options meeting with the public utility there will be an opportunity to review possible Small generator facility modifications, opportunity to designate a different RPA, or the screen analysis and related results, to determine what further steps are needed to permit the Small generator facility to be connected safely and reliably. ~~If the applicant requests an applicant options meeting, the public utility shall offer to convene a meeting at a mutually agreeable time within 15 business days of the applicant's request.~~

(7) The interconnection process is not complete until:

(a) The public utility approves the application;

(b) Any minor modifications to the transmission or distribution system required under subsection

(2)(c) are complete;

(c) The witness test, if conducted by the public utility, is successful; and

(d) The applicant and public utility execute a certificate of completion. The certificate of completion must follow the standard form certificate developed by the public utility and approved by the Commission.

Statutory/Other Authority: ORS 183, 756 & 757

Statutes/Other Implemented: ORS 756.040 & 756.060

History:

PUC 10-2009, f. & cert. ef. 8-26-09

860-082-0060

Tier 4 Interconnection Review

(1) A public utility must use the Tier 4 interconnection review procedures when an applicant submits an application requesting Tier 4 review to interconnect a small generator facility meeting the following:

(a) The small generator facility must have a nameplate rating of 10 megawatts or less.

(b) An applicant whose Tier 1, Tier 2, or Tier 3 application was denied may request that the public utility treat that existing application already in the public utility's possession as a new Tier 4 application. Within ten business days of receipt of the applicant's request to use the existing application, the public utility ~~shall will~~ transfer ~~of~~ the existing application to the Tier 4 process and notify the applicant whether or not the application is complete. If the application is incomplete, the public utility ~~shall must~~ provide a written list detailing all information that the applicant must provide to complete the application. The applicant will have ten business days after receipt of the list to submit the listed information. Otherwise, the application will be deemed withdrawn. The public utility ~~shall must~~ notify the applicant within ten business days of receipt of the revised application whether the revised application is complete or incomplete. The public utility may deem the application withdrawn if it remains incomplete.

(2) A public utility must approve an application to interconnect a small generator facility under the Tier 4 interconnection review procedures if the public utility determines that the safety and reliability of the public utility's transmission or distribution system will not be compromised by interconnecting the small generator facility. The applicant must pay the reasonable costs of any interconnection facilities or system upgrades necessitated by the interconnection.

(3) In addition to the timelines and requirements in OAR 860-082-0025, the timelines and requirements in sections (5) through (12) of this rule apply to Tier 4 interconnection reviews.

(4) A public utility and an applicant may agree to waive the requirement for a scoping meeting the system impact study, or the facilities study. The applicant may waive the requirement for a feasibility study.

(5) A public utility must schedule a scoping meeting within 10 business days after notifying an applicant that its application is complete.

(a) The public utility and the applicant must bring to the scoping meeting all personnel, including system engineers, as may be reasonably required to accomplish the purpose of the meeting.

(b) The public utility and applicant must discuss whether the public utility should perform a feasibility study or proceed directly to a system impact study, a facilities study, or an interconnection agreement.

(c) If the public utility determines that no studies are necessary, then the public utility must send the applicant an executed interconnection agreement within 15 business days of the scoping meeting if:

(A) The application meets the criteria in section (2); and

(B) The interconnection of the small generator facility does not require system upgrades or interconnection facilities different from or in addition to the applicant's proposed interconnection equipment.

(d) If the public utility determines that no studies are necessary and that the small generator facility could be interconnected safely if minor modifications to the transmission or distribution system were made (for example, changing meters, fuses, or relay settings), then the public utility must offer the applicant a good-faith, non-binding estimate of the costs of such proposed minor modifications. Modifications are not considered minor under this subsection if the total cost of the modifications exceeds \$10,000. If the applicant authorizes the public utility to proceed with the minor modifications and agrees to pay the entire cost of the modifications, then the public utility must send the applicant an executed interconnection agreement within 15 business days of receipt of the applicant's agreement to pay for the minor modifications.

(6) If the applicant requests a feasibility study, the public utility must provide the applicant with an executable feasibility study agreement within five business days of the date of the scoping meeting.

(a) The feasibility study agreement must include a detailed scope for the feasibility study, a reasonable schedule for completion of the study, and a good-faith, non-binding estimate of the costs to perform the study.

(b) The feasibility study agreement must follow the standard form agreement developed by the public utility and approved by the Commission.

(c) The applicant must execute the feasibility study agreement within 15 business days of receipt of the agreement or the application is deemed withdrawn.

(d) The public utility must make reasonable, good-faith efforts to follow the schedule set forth in the feasibility study agreement for completion of the study.

(e) The feasibility study must identify any potential adverse system impacts on the public utility's transmission or distribution system or an affected system that may result from the interconnection of the small generator facility. In determining possible adverse system impacts, the public utility must consider the aggregated nameplate rating ~~and-or~~ export capacity of all generating facilities that, on the date the feasibility study begins, are directly interconnected to the public utility's transmission or distribution system, have a pending completed application to interconnect with a higher queue position, or have an executed interconnection agreement with the public utility.

(f) The public utility must evaluate multiple potential points of interconnection at the applicant's request. The applicant must pay the costs of this additional evaluation.

(g) The public utility must provide a copy of the feasibility study to the applicant within five business days of the study's completion.

(h) If the feasibility study identifies any potential adverse system impacts, then the public utility must perform a system impact study.

(i) If the feasibility study does not identify any adverse system impacts, then the public utility must perform a facilities study if the public utility reasonably concludes that a facilities study is necessary to adequately evaluate the application.

(A) If the public utility concludes that a facilities study is not required, then the public utility must approve the application if the application meets the criteria in section (2) and the interconnection of the small generator facility does not require system upgrades or interconnection facilities different from or in addition to the applicant's proposed interconnection equipment.

(B) If the public utility concludes that a facilities study is not required and that the small generator facility could be interconnected safely if minor modifications to the transmission or distribution system were made (for example, changing meters, fuses, or relay settings), then the public utility must offer the applicant a good-faith, non-binding estimate of the costs of such proposed minor modifications. Modifications are not considered minor under this subsection if the total cost of the modifications exceeds \$10,000. If the applicant authorizes the public utility to proceed with the minor modifications and agrees to pay the entire cost of the modifications, then the public utility must approve the application.

(7) If a public utility is required to perform a system impact study under subsection (6)(h), or if an applicant and a public utility agree in the scoping meeting to waive the feasibility study and proceed directly to the system impact study, then the public utility must provide the applicant with an executable system impact study agreement within five business days of completing the feasibility study or from the date of the scoping meeting, whichever is applicable.

(a) The system impact study agreement must include a detailed scope for the system impact study, a reasonable schedule for completion of the study, and a good-faith, non-binding estimate of the costs to perform the study.

(b) The system impact study agreement must follow the standard form agreement developed by the public utility and approved by the Commission.

(c) The applicant must execute the system impact study agreement within 15 business days of receipt of the agreement or the application is deemed withdrawn.

(d) The public utility must make reasonable, good-faith efforts to follow the schedule set forth in the system impact study agreement for completion of the study.

(e) The system impact study must identify and detail the impacts on the public utility's transmission or distribution system or on an affected system that would result from the

interconnection of the small generator facility if no modifications to the small generator facility or system upgrades were made. The system impact study must include evaluation of the adverse system impacts identified in the feasibility study and in the scoping meeting.

(f) In determining possible adverse system impacts, the public utility must consider the aggregated nameplate rating, or export capacity when applicable, of all generating facilities that, on the date the system impact study begins, are directly interconnected to the public utility's transmission or distribution system, have a pending completed application to interconnect with a higher queue position, or have an executed interconnection agreement with the public utility. The system impact study must take into account the proposed small generator facility's design and operating characteristics, including but not limited to the proposed operating profile, and study the small generator facility according to how it is proposed to be operated. If the small generator facility limits export pursuant to OAR 860-082-~~0033~~0033, the system impact study must use export capacity instead of the nameplate rating, except when assessing fault current contribution. To assess fault current contribution, the system impact study must use the rated fault current; if the customer provides the relevant information for example, the customer may provide manufacturer test data (pursuant to the fault current test described in IEEE 1547.1-2020 clause 5.18) showing that the fault current is independent of the nameplate rating. The utility must provide an explanation for any cases where they do not want to rely on customer-provided data.

(g) The system impact study must include:

- (A) A short circuit analysis;
- (B) A stability analysis;
- (C) A power flow analysis;
- (D) Voltage drop and flicker studies;
- (E) Protection and set point coordination studies;
- (F) Grounding reviews;
- (G) The underlying assumptions of the study;
- (H) The results of the analyses; and
- (I) Any potential impediments to providing the requested interconnection service.

(h) If an applicant provides an independent system impact study to the public utility, then the public utility must evaluate and address any alternative findings from that study.

(i) The public utility must provide a copy of the system impact study to the applicant within five business days of completing the study.

(j) If a public utility determines in a system impact study that interconnection facilities or system upgrades are necessary to safely interconnect a small generator facility, then the public utility must perform a facilities study.

Commented [DT*P21]: JU would like to strike this sentence..

As discussed in comments, the Joint Utilities oppose this addition because this issue has not been discussed in workshops to-date and requires further discussion in a later phase to understand how it could be implemented and explore potential implications.

Commented [DT*P22]: JU want this as 'may'. I added a sentence at the end to alleviate concerns.

(k) If the public utility determines that no interconnection facilities or system upgrades are required, and the public utility concludes that the application meets the criteria in section (2), then the public utility must approve the application with 15 business days of completion of the system impact study.

(l) If the public utility determines that no interconnection facilities or system upgrades are required and that the small generator facility could be interconnected safely if minor modifications to the transmission or distribution system were made (for example, changing meters, fuses, or relay settings), then the public utility must offer the applicant a good-faith, non-binding estimate of the costs of such proposed minor modifications. Modifications are not considered minor under this subsection if the total cost of the modifications exceeds \$10,000. If the applicant authorizes the public utility to proceed with the minor modifications and agrees to pay the entire cost of the modifications, then the public utility must approve the application within 15 business days of the applicant's agreement to pay for the minor modifications.

(8) If a public utility is required to perform a facilities study under subsection (6)(i) or 7(j), or if an applicant and a public utility agree in the scoping meeting to waive the system impact study and proceed directly to the facilities study, then the public utility must provide the applicant with an executable facilities study agreement within five business days of completing the system impact study or within five business days from the date of the scoping meeting, whichever is applicable.

(a) The facilities study agreement must include a detailed scope for the facilities study, a reasonable schedule for completion of the study, and a good-faith, non-binding estimate of the costs to perform the study.

(b) The facilities study agreement must follow the standard form agreement developed by the public utility and approved by the Commission.

(c) The applicant must execute the interconnection facilities study agreement within 15 business days after receipt of the agreement or the application is deemed withdrawn.

(d) The public utility must make reasonable, good-faith efforts to follow the schedule set forth in the facilities study ~~shall be completed within 45 business days of the applicant's delivery of the executed facilities study agreement for completion of the study.~~

Commented [DT*P23]: Reworded - back to the original

(e) The facilities study must identify the interconnection facilities and system upgrades required to safely interconnect the small generator facility and must determine the costs for the facilities and upgrades, including equipment, engineering, procurement, and construction costs. Design for any required interconnection facilities or system upgrades must be performed under the facilities study agreement. The public utility must also identify the electrical switching configuration of the equipment, including transformer, switchgear, meters, and other station equipment.

(f) The public utility may contract with a third-party consultant to complete the interconnection facilities and system upgrades identified in the facilities study. A public utility and an applicant may agree in writing to allow the applicant to hire a third-party consultant to complete the interconnection facilities and system upgrades, subject to public utility oversight and approval.

(g) The interconnection facilities study must include a detailed estimate of the time required to procure, construct, and install the required interconnection facilities and system upgrades.

(h) If the applicant agrees to pay for the interconnection facilities and system upgrades identified in the facilities study, then the public utility must approve the application .

(9) The public utility may contract with a third-party consultant to complete a feasibility study, system impact study, or facilities study. A public utility and an applicant may agree in writing to allow the applicant to hire a third-party consultant to complete a feasibility study, system impact study, or facilities study, subject to public utility oversight and approval.

(10) The interconnection process is not complete until:

(a) The public utility approves the application;

(b) Any interconnection facilities or system upgrades have been completed;

(c) Any minor modifications to the public utility’s transmission or distribution system required under subsections (5)(d), 6(i)(B), or (7)(l) have been completed;

(d) The witness test, if conducted by the public utility, is successful; and

(e) The applicant and public utility execute a certificate of completion.

(11) If a small generator facility is not approved under the Tier 4 interconnection review procedures, then the public utility must provide a written explanation of the denial to the applicant.

Statutory/Other Authority: ORS 183, 756 & 757

Statutes/Other Implemented: ORS 756.040 & 756.060

History:

PUC 10-2009, f. & cert. ef. 8-26-09

Statutory/Other Authority: ORS 183, 756 & 757

Statutes/Other Implemented: ORS 756.040 & 756.060

History:

PUC 10-2009, f. & cert. ef. 8-26-09

[860-082-006X63](#)

Supplemental Review

(1) To accept the offer of a Supplemental Review, the Applicant ~~shall~~must submit a signed copy of the Supplemental Review Agreement and pay a Supplemental Review fee of \$1,000, both within ten (10) Business days of the offer. If the written agreement and fee have not been received within that timeframe, the Application ~~shall~~will be deemed withdrawn unless the Applicant has notified the Utility that they wish to continue being evaluated under the Tier 4 review procedures.

(2) Within twenty (20) Business Days an Applicant’s election to undergo Supplemental Review, the Utility ~~shall~~must perform Supplemental Review using the screens set forth

below, notify the Applicant of the results, and include with the notification a written report of the analysis and data underlying the Utility’s determinations under the screens.

- (a) Supplemental Review Penetration Screen: Where 12 months of Line Section minimum load data (including onsite load but not station service load served by the proposed Small generator facility) are available, can be calculated, can be estimated from existing data, or determined from a power flow model, the aggregate Export Capacity on the feeder or line section is less than 100 percent of the minimum load on the feeder. If minimum load data is not available, or cannot be calculated, estimated, or determined, the Export Capacity of the Project, aggregated with the Export Capacity of other Projects on the Line Section, is less than 30 percent of the peak load for all Line Sections bounded by automatic sectionalizing devices upstream of the proposed Project.

~~The type of Project used by the proposed Project will be taken into account when calculating, estimating, or determining circuit or Line Section minimum load relevant for the application this screen. Solar photovoltaic (PV) Projects with no battery storage use daytime minimum load (i.e. 10 a.m. to 4 p.m. for fixed panel systems and 8 a.m. to 6 p.m. for PV systems utilizing tracking systems), while all other Projects use absolute minimum load.~~

Commented [DT*P24]: JU - not needed, defined above. I have clarified the definition above to include the time aspects for solar that are included here.

- (A) Load that is co-located with load-following, non-exporting or export-limited Projects should be appropriately accounted for. The utility may take the impacts of non-export or export limited generation on the calculation of daytime minimum load, when evaluating potential system impacts.

- (B) The Interconnecting Utility will not consider as part of the aggregate Export Capacity for purposes of this screen ~~the export capacity of generators known to be already reflected in the minimum load data~~ ~~Project Export Capacity, including combined heat and power (CHP) facility capacity and behind the meter or net-metered capacity, known to be already reflected in the minimum load data.~~

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- (b) Voltage and Power Quality Screen. In aggregate with existing generation on the Line Section:

- (A) The voltage regulation on the Line Section can be maintained in compliance with relevant requirements under all system conditions;
- (B) The voltage fluctuation is within acceptable limits as defined by IEEE Std 1547™;
- (C) The harmonic levels meet IEEE ~~Std~~ 1547™ limits at the Point of Interconnection; and
- (D) Substation transformer backfeed screen. Where existing protective devices and equipment cannot adequately support backfeed, the aggregated export capacity on the substation transformer must be less than 80 percent of the relevant minimum load for the substation transformer.
- (E) Supplemental Grounding Screen: If the Project failed the Line Configuration Screen, apply this Supplemental Grounding Screen:

ii. For Projects with a rotating machine, if effective grounding is maintained the Project passes the screen.

iii. For Projects with a three-phase inverter, apply one of the following screens:

I. If the Line-to-Neutral connected load on the feeder or line section is greater than 33% of peak load on the feeder or line-section, the Project passes the screen.

II. If using a supplemental grounding software tool:

1. If the tool determines that supplemental grounding is not required to maintain effective grounding, the Project passes this screen.
2. If the tool determines that supplemental grounding is required, the Applicant must agree to modify the Project to include supplemental grounding. If the Applicant does not agree to modify the Project, the Project fails this screen.

iv. If using detailed hosting capacity analysis that incorporates evaluation of temporary overvoltage risk for inverters: the Project passes the screen if the Nameplate Rating of the Project is below the available hosting capacity at the Point of Interconnection.

If the Project limits export pursuant to Section 860-082-00~~3X33~~, the Export Capacity must be included in any analysis including power flow simulations.

(c). Safety and Reliability Screen. The location of the proposed Small generator facility and the aggregate Export Capacity on the Line Section do not create impacts to safety or reliability that cannot be adequately addressed without application of the Study Process. If the Project limits export pursuant to OAR 860-082-00~~3X33~~, the Export Capacity must be included in any analysis including power flow simulations, except when assessing fault current contribution. To assess fault current contribution, the analysis must use the Rated Fault Current; for example, the Interconnection Requestor may provide manufacturer test data (pursuant the fault current test described in IEEE 1547.1-2020 clause 5.18) showing that the fault current is independent of the Nameplate Rating. The Interconnecting Utility may consider the following factors and others in determining potential impacts to safety and reliability in applying this screen:

- (A) Whether the Line Section has significant minimum loading levels dominated by a small number of customers (i.e., several large commercial customers).
- (B) Whether the loading along the Line Section is uniform or even.
- (C) Whether the Project is located in close proximity to the substation (i.e., less than 2.5 electrical circuit miles), and whether the Line Section from the substation to the Point of Interconnection is a Mainline rated for normal and emergency ampacity.
- (D) Whether the Project incorporates an adjustable time delay function to prevent reconnection of the generator to the system until system voltage and frequency are within normal limits

for a prescribed time.

- (E) Whether operational flexibility is reduced by the Project, such that transfer of the Line Section(s) of the Project to a neighboring distribution circuit/substation may trigger overloads or voltage issues.
- (F) Whether the Project employs equipment or systems certified by a recognized standards organization to address technical issues such as, but not limited to, islanding, reverse power flow, or voltage quality.
- (3) If the proposed interconnection passes the supplemental screens, the Application ~~shall~~ must be approved and the Utility will provide the Applicant an executable Interconnection Agreement pursuant to the procedure set forth in OAR 860-082-0025(7)(e).
- (4) After receiving an Interconnection Agreement executed by the Utility, the Applicant ~~shall~~ must proceed under the terms of the applicable level of review under which the Application was initially studied.
- (5) Applicants undergoing Supplemental Review will be able to access, review, and verify minimum load calculations except in cases where the minimum load data contains identifiable individual customer data

860-082-0065

Recordkeeping and Reporting Requirements

- (1) The public utility must maintain a record of the following information for at least two years:
 - (a) The number of complete small generator interconnection applications received;
 - (b) The time required to complete the review process for each application; and
 - (c) The reasons for the approval or denial of each application.
- (2) For as long as an interconnection customer's small generator facility is interconnected to a public utility's transmission or distribution system, the interconnecting public utility must maintain copies of the interconnection application, interconnection agreement, and certificate of completion for the small generator facility. The public utility must provide a copy of the interconnection customer's records to the interconnection customer within 15 business days after receipt of a written request.
- (3) The public utility must submit an annual report to the Commission summarizing the public utility's interconnection activities for the previous calendar year. The annual report must be filed by May 30 and must include the following information:
 - (a) The number of complete small generator interconnection applications received;
 - (b) The number of small generator facility interconnections completed;

(c) The types of Small generator facilities applying for interconnection and the nameplate rating of the facilities;

(d) The location of completed and proposed Small generator facilities by zip code;

(e) For each Tier 3 and Tier 4 small generator interconnection approval, the basic telemetry configuration, if applicable; and

(f) For each Tier 4 small generator interconnection approval:

(A) The interconnection facilities required to accommodate the interconnection of a small generator facility and the estimated costs of those facilities; and

(B) The system upgrades required to accommodate the interconnection of a small generator facility and the estimated costs of those upgrades.

Statutory/Other Authority: ORS 183, 756 & 757

Statutes/Other Implemented: ORS 756.040 & 756.060

History:

PUC 10-2009, f. & cert. ef. 8-26-09

860-082-0070

Metering and Monitoring

(1) The public utility must install, maintain, test, repair, operate, and replace any metering and data acquisition equipment necessary under the terms of the public utility's interconnection agreement, power purchase agreement, or power service agreement with an applicant or interconnection customer. The applicant or interconnection customer is responsible for all reasonable costs associated with the metering and data acquisition equipment. The public utility and the applicant or interconnection customer must have unrestricted access to such equipment as necessary to conduct routine business or respond to an emergency.

(2) Except as provided in subsection 3(b), a public utility may not require an applicant or interconnection customer with a small generator facility with a nameplate rating of less than three megawatts to provide or pay for the data acquisition or telemetry equipment necessary to allow the public utility to remotely monitor the small generator facility's electric output.

(3) At its discretion, a public utility may require an applicant or interconnection customer to pay for the purchase, installation, operation, and maintenance of the data acquisition or telemetry equipment necessary to allow the public utility to remotely monitor the small generator facility's electric output if:

(a) The small generator facility has a nameplate rating greater than or equal to 3 megawatts; or

(b) The small generator facility meets the criteria in OAR 860-082-0055(1) for Tier 3 interconnection review and the aggregated nameplate generation on the circuit exceeds 50 percent of the line section annual peak load.

(4) A public utility and an applicant or interconnection customer may agree to waive or modify the telemetry requirements in this rule.

(5) Telemetry Requirements.

(a) The communication must take place via a private network link using a frame relay, fractional T-1 line, or other suitable device. Dedicated remote terminal units from the interconnected small generator facility to a public utility's substation and energy management system are not required.

(b) A single communication circuit from the small generator facility to the public utility is sufficient.

(c) Communications protocol must be DNP 3.0 or another reasonable standard used by the public utility.

(d) The small generator facility must be capable of sending telemetric monitoring data to the public utility at a minimum rate of every two seconds from the output of the small generator facility's telemetry equipment to the public utility's energy management system.

(e) A small generator facility must provide the following minimum data to the public utility:

(A) Net real power flowing out or into the small generator facility (analog);

(B) Net reactive power flowing out or into the small generator facility (analog);

(C) Bus bar voltage at the point of common coupling (analog);

(D) Data processing gateway heartbeat (used to certify the telemetric signal quality); and

(E) On-line or off-line status (digital).

(f) If an applicant or interconnection customer operates the equipment associated with the high voltage switchyard interconnecting the small generator facility to the transmission or distribution system and is required to provide monitoring and telemetry, then the interconnection customer must provide the following data to the public utility in addition to the data in subsection (e):

(A) Switchyard line and transformer megawatt and mega volt ampere reactive values;

(B) Switchyard bus voltage; and

(C) Switching device status.

Statutory/Other Authority: ORS 183, 756 & 757

Statutes/Other Implemented: ORS 756.040 & 756.060

History:

PUC 10-2009, f. & cert. ef. 8-26-09

860-082-0075

Temporary Disconnection

(1) Under emergency conditions, a public utility or an interconnection customer may suspend interconnection service and temporarily disconnect a small generator facility from the public utility's transmission or distribution system at any time and for as long as reasonably necessary.

(a) A public utility must notify an interconnection customer immediately after becoming aware of an emergency condition that may reasonably be expected to affect a small generator facility's operation. To the extent possible, the notice must describe the emergency condition, the extent of the damage or deficiency, the expected effect on the small generator facility, the anticipated duration of the condition, and the necessary corrective action.

(b) An interconnection customer must notify the public utility immediately after becoming aware of an emergency condition that may reasonably be expected to affect the public utility's transmission or distribution system. To the extent possible, the notice must describe the emergency condition, the extent of the damage or deficiency, the expected effect on the public utility's transmission or distribution system, the anticipated duration of the condition, and the necessary corrective action.

(2) A public utility or an interconnection customer may suspend interconnection service and temporarily disconnect a small generator facility to perform routine maintenance, construction, or repairs. A public utility or an interconnection customer must provide written notice five business days before suspending interconnection service or temporarily disconnecting the small generator facility. A public utility and an interconnection customer must use reasonable efforts to coordinate interruptions caused by routine maintenance, construction, or repairs.

(3) A public utility must use reasonable efforts to provide written notice to an interconnection customer affected by a forced outage of the public utility's transmission or distribution system at least five business days before the forced outage. If prior written notice is not given, then the public utility must provide the interconnection customer written documentation explaining the circumstances of the disconnection within five business days after the forced outage.

(4) A public utility may disconnect a small generator facility if the public utility determines that operation of the small generator facility will likely cause disruption or deterioration of service to other customers served by the public utility's transmission or distribution system, or if the public utility determines that operation of the small generator facility could cause damage to the public utility's transmission or distribution system.

(a) The public utility must provide written notice to the interconnection customer of the disconnection at least five business days before the disconnection. If the condition requiring disconnection can be remedied, then the public utility must describe the remedial action necessary.

(b) If requested by the interconnection customer, the public utility must provide documentation supporting the public utility's decision to disconnect.

(c) The public utility may disconnect the small generator facility if the interconnection customer fails to perform the remedial action identified in the notice of disconnection within a reasonable time, but no less than five business days after the interconnection customer received the notice of disconnection.

(5) A public utility may temporarily disconnect a small generator facility if an interconnection customer makes any change to the facility, other than a minor equipment modification, without the public utility's prior written authorization. The public utility may disconnect the small

generator facility for the time necessary for the public utility to evaluate the affect of the change to the small generator facility on the public utility's transmission or distribution system.

(6) A public utility has the right to inspect an interconnection customer's small generator facility at reasonable hours and with reasonable prior written notice to the interconnection customer. If the public utility discovers that the small generator facility is not in compliance with the requirements of the small generator interconnection rules, then the public utility may require the interconnection customer to disconnect the small generator facility until compliance is achieved.

Statutory/Other Authority: ORS 183 & 756

Statutes/Other Implemented: ORS 756.040 & 756.060

History:

PUC 10-2009, f. & cert. ef. 8-26-09

860-082-0080

Arbitration of Disputes

(1) An interconnecting public utility or an interconnection applicant may petition the Commission for arbitration of disputes arising during review of an application to interconnect a small generator facility or during negotiation of an interconnection agreement. If the public utility or the applicant petitions the Commission to arbitrate their dispute, then the Commission will use an administrative law judge (ALJ) as arbitrator unless workload constraints necessitate the use of an outside arbitrator.

(2) A petition for arbitration of an interconnection agreement must contain:

(a) A statement of all unresolved issues;

(b) A description of each party's position on the unresolved issues; and

(c) A proposed agreement addressing all issues, including those on which the parties have reached agreement and those that are in dispute.

(3) A petition for arbitration of a dispute arising during review of an application to interconnect a small generator facility must contain:

(a) A statement of all unresolved issues;

(b) A description of each party's position on the unresolved issues; and

(c) A proposed resolution for each unresolved issue.

(4) Respondent may file a response within 25 calendar days of the petition for arbitration. In the response, the respondent must address each issue listed in the petition, describe the respondent's position on those issues, and present any additional issues for which the respondent seeks resolution.

(5) The filing of a petition for arbitration of a dispute arising during review of an application to interconnect a small generator facility does not affect the application's queue position.

(6) The arbitration is conducted in a manner similar to a contested case proceeding, and the arbitrator has the same authority to conduct the arbitration process as an ALJ has in conducting hearings under the Commission's rules, but the arbitration process is streamlined. The arbitrator holds an early conference to discuss processing of the case. The arbitrator establishes the schedule and decides whether an oral hearing is necessary. After the oral hearing or other procedures (for example, rounds of comments), each party submits its final proposed interconnection agreement or resolution of disputed issues. The arbitrator chooses between the two final offers. If neither offer is consistent with applicable statutes, Commission rules, and Commission policies, then the arbitrator will make a decision that meets those requirements.

(7) The arbitrator may allow formal discovery only to the extent deemed necessary. Parties are required to make good faith attempts to exchange information relevant to any disputed issue in an informal, voluntary, and prompt manner. Unresolved discovery disputes are resolved by the arbitrator upon request of a party. The arbitrator will order a party to provide information if the arbitrator determines the requesting party has a reasonable need for the requested information and that the request is not overly burdensome.

(8) Only the two negotiating parties have full party status. The arbitrator may confer with Commission staff for assistance throughout the arbitration process.

(9) To keep the process moving forward, appeals to the Commission are not allowed during the arbitration process. An arbitrator may certify a question to the Commission if the arbitrator believes it is necessary.

(10) To accommodate the need for flexibility, the arbitrator may use different procedures so long as the procedures are fair, treat the parties equitably, and substantially comply with the procedures listed here.

(11) The arbitrator must serve the arbitration decision on the interconnecting public utility and the interconnection applicant. The parties may file comments on the arbitration decision with the Commission within 10 calendar days after service.

(12) The Commission must accept, reject, or modify an arbitration decision within 30 calendar days after service of the decision.

(13) Within 14 calendar days after the Commission issues an order on a petition for arbitration of an interconnection agreement, the petitioner must prepare an interconnection agreement complying with the terms of the decision and serve it on respondent. Respondent must either sign and file the interconnection agreement or file objections to it within 10 calendar days of service of the agreement. If objections are filed, respondent must state how the interconnection agreement fails to comply with the Commission order and offer substitute language complying with the decision. The Commission must approve or reject a filed interconnection agreement within 20 calendar days of its filing or the agreement is deemed approved.

(14) If petitioner, without respondent's consent, fails to timely prepare and serve an interconnection agreement on respondent, respondent may file a motion requesting the Commission dismiss the petition for arbitration with prejudice. The Commission may grant such motion if the petitioner's failure to timely prepare and serve the interconnection agreement was the result of inexcusable neglect on the part of petitioner.

(15) The public utility and the applicant may agree to hire an outside arbitrator rather than file a petition with the Commission. The public utility and the applicant must share equally the costs of an outside arbitrator unless they mutually agree to a different payment arrangement.

Statutory/Other Authority: ORS 756

Statutes/Other Implemented: ORS 756.040 & 756.500

History:

PUC 10-2009, f. & cert. ef. 8-26-09

860-082-0085

Complaints for Enforcement

(1) This rule specifies the procedure for a public utility, an interconnection customer, or an applicant to file a complaint for the enforcement of an interconnection agreement. Filing dates for enforcement complaint proceedings are calculated and enforced per OAR 860-001-0150.

(2) At least 10 days prior to filing a complaint for enforcement, complainant must give written notice to defendant and the Commission that complainant intends to file a complaint for enforcement. The notice must identify the provisions in the agreement that complainant alleges were or are being violated and the specific acts or failure to act that caused or are causing the violation, and whether complainant anticipates requesting temporary or injunctive relief. On the same day the notice is filed with the Commission, complainant must serve a copy of the notice on defendant's authorized representative, attorney of record, or designated agent for service of process. Complainant must also serve the notice on all persons designated in the interconnection agreement to receive notices;

(3) A complaint for enforcement must:

(a) Contain a statement of specific facts demonstrating that the complainant conferred with defendant in good faith to resolve the dispute, and that despite those efforts the parties failed to resolve the dispute;

(b) Include a copy of the written notice, required by section (2), indicating that the complainant intends to file a complaint for enforcement;

(c) Include a copy of the interconnection agreement or the portion of the agreement that the complainant contends that defendant violated or is violating. If a copy of the entire agreement is provided, complainant must specify the provisions at issue;

(d) Contain a statement of the facts or law demonstrating defendant's failure to comply with the interconnection agreement and complainant's entitlement to relief. The statement must indicate that the remedy sought is consistent with the dispute resolution provisions in the agreement, if any. Statements of facts must be supported by written testimony with affidavits made by persons competent to testify and having personal knowledge of the relevant facts. Statements of law must be supported by appropriate citations. If exhibits are attached to the affidavits, the affidavits must contain the foundation for the exhibits;

(e) Designate up to three persons to receive copies of pleadings and documents;

- (f) Include an executive summary, filed as a separate document not to exceed 8 pages, outlining the issues and relief requested; and
- (g) Include any motions for affirmative relief, filed as a separate document and clearly marked. Nothing in this subsection precludes complainant from filing a motion subsequent to the filing of the complaint if the motion is based upon facts or circumstances unknown or unavailable to complainant at the time the complaint was filed.
- (4) On the same day the complaint is filed with the Commission, complainant must serve a copy of the complaint on defendant's authorized representative, attorney of record, or designated agent for service of process. Service may be by telephonic facsimile, electronic mail, or overnight mail, but the complaint must arrive at defendant's location on the same day the complaint is filed with the Commission. Service by facsimile or electronic mail must be followed by a physical copy of the complaint the next day by overnight delivery.
- (5) Within 10 business days after service of the complaint, defendant may file an answer with the Commission. Any allegations raised in the complaint and not addressed in the answer are deemed admitted. The answer must:
- (a) Contain a statement of specific facts demonstrating that the defendant conferred with complainant in good faith to resolve the dispute and that despite those efforts the parties failed to resolve the dispute;
 - (b) Respond to each allegation in the complaint and set forth all affirmative defenses;
 - (c) Contain a statement of the facts or law supporting defendant's position. Statements of facts must be supported by written testimony with affidavits made by persons competent to testify and having personal knowledge of the relevant facts. Statements of law must be supported by appropriate citations. If exhibits are attached to the affidavits, then the affidavits must contain the foundation for the exhibits; and
 - (d) Designate up to three persons to receive copies of other pleadings and documents.
- (6) On the same day as the answer is filed, the defendant must also file its response to any motion filed by complainant and its motions for affirmative relief. Each response and each motion must be filed as a separate filing. Nothing in this section precludes defendant from filing a motion subsequent to the filing of the answer if the motion is based upon facts or circumstances unknown or unavailable to defendant at the time the answer was filed.
- (7) On the same day the answer is filed with the Commission, the defendant must serve a copy of the answer to the complainant's authorized representative, attorney of record, or designated agent for service of process.
- (8) Complainant must file a reply to an answer that contains affirmative defenses within 5 business days after the answer is filed. On the same day the reply is filed with the Commission, complainant must serve a copy of the reply to defendant's authorized representative, attorney of record, or designated agent for service of process.

(9) A cross-complaint or counterclaim must be answered within the 10-business day time frame allowed for answers to complaints.

(10) The Commission will conduct a conference regarding each complaint for enforcement of an interconnection agreement.

(a) The administrative law judge (ALJ) schedules a conference within 5 business days after the answer is filed, to be held as soon as practicable. At the discretion of the ALJ, the conference may be conducted by telephone.

(b) Based on the complaint and the answer, all supporting documents filed by the parties, and the parties' oral statements at the conference, the ALJ determines whether the issues raised in the complaint can be determined on the pleadings and submissions without further proceedings or whether further proceedings are necessary. If further proceedings are necessary, the ALJ establishes a procedural schedule. Nothing in this subsection is intended to prohibit the bifurcation of issues where appropriate.

(c) In determining whether further proceedings are necessary, the ALJ must consider, at a minimum, the positions of the parties, the need to clarify evidence through the examination of witnesses, the complexity of the issues, the need for prompt resolution, and the completeness of the information presented.

(d) The ALJ may make oral rulings on the record during the conference on all matters relevant to the conduct of the proceeding.

(11) A party may file with the complaint or answer a request for discovery, stating the matters to be inquired into and their relationship to matters directly at issue.

(12) When warranted by the facts, the complainant or defendant may file a motion requesting that an expedited procedure be used. The moving party must file a proposed expedited procedural schedule along with its motion. The ALJ must schedule a conference to be held as soon as practicable to determine whether an expedited schedule is warranted.

(a) The ALJ will consider whether the issues raised in the complaint or answer involve a risk of imminent, irrevocable harm to a party or to the public interest.

(b) If a determination is made that an expedited procedure is warranted, the ALJ will establish a procedure that ensures a prompt resolution of the merits of the dispute, consistent with due process and other relevant considerations. The ALJ will consider, but is not bound by, the moving party's proposed expedited procedural schedule.

(c) In general, the ALJ will not entertain a motion for expedited procedure where the dispute solely involves the payment of money.