

**BEFORE THE PUBLIC UTILITY COMMISSION
OF OREGON
AR 515**

A Rulemaking to Adopt Rules Related to
Net Metering.

STAFF'S OPENING COMMENTS

Pursuant to Judge Kirkpatrick's memorandum of March 30, 2007, staff submits opening comments on its proposed net metering rules (AR 515).

The 1999 Oregon Legislature established net metering requirements for all electric utilities. Under net metering, the utility bills the customer for the net energy consumed during the billing period – the difference between the energy the customer consumes and the energy produced by an eligible generating system installed at the home or business. In Oregon, eligible systems include those using all types of renewable fuels, as well as fuel cells which may run on fossil fuel.

The 2005 Legislature enacted Senate Bill 84 primarily to allow the Public Utility Commission of Oregon to adopt rules to increase the eligible net metering facility size for customers of Portland General Electric (PGE) and Pacific Power from the minimum 25 kilowatts (kW) required by law.¹ See ORS 757.300(8). Staff proposes to increase the eligible facility size significantly, requiring the adoption of other net metering rules to ensure safety, reliability and power quality and provide for just and reasonable rates.

Staff began hosting workshops in March 2006 to develop net metering rules. Parties had the opportunity to comment on several drafts. Initially, staff proposed to raise the eligible facility size to 500 kW until such time as the Commission adopted rules for the interconnection of small generating facilities.² Consistent with the Energy Policy Act of 2005, staff intends to file proposed interconnection rules later this year. Through workshops, data requests to the utilities and public comments, however, it became clear that a necessary step for resolving key issues in the net metering rulemaking is the adoption of interconnection standards for net metering facilities to ensure safety, reliability and power quality and to address cost treatment.³

Parties agreed to use as a basis for net metering interconnection standards the rules adopted by the New Jersey Board of Public Utilities.⁴ These rules have been in place several years and are widely considered to be model standards. Staff proposes that the

¹ The bill also made biomass facilities eligible for net metering.

² Up to 10 megawatts.

³ Including interconnection standards in net metering rules is a common practice among states.

⁴ See N.J.A.C. 14:4-9, Net Metering and Interconnection Standards for Class I Renewable Energy Systems.

Commission adopt these standards for net metering facilities with the changes and additions noted below and as reorganized and edited for consistency with other Commission rules. Parties generally support these interconnection standards and procedures, which allowed for general agreement on the most important changes in net metering practice staff proposes for PGE and Pacific Power — eligible facility size of 2 megawatts (MW) and annualized netting. It is staff's understanding that the utilities agree to a 2 MW limit and annualized netting given certain other proposed rules, including those related to interconnection costs and treatment of excess energy credits.

Treatment of excess energy credits is among the important remaining disputed issues in this proceeding. Other key disputed issues are disconnect switch requirements and aggregation of meters.

The proposed rules represent what staff finds to be a balanced proposal for customer-generators, utilities, ratepayers and the general public. We request timely adoption of these rules to accommodate renewable resource projects awaiting the outcome of this proceeding.

Staff Requests for Direction in Commission Order

For staff's review of compliance with the order in this proceeding, staff requests the Commission direct PGE and Pacific Power to file⁵ the utility's standard forms for:

- Interconnection applications for each level of review (levels 1, 2 and 3)
- Interconnection agreements for each level of review
- Net metering agreements

In addition, the utilities have noted that the Commission should review the net metering rules after gaining experience with larger net metering facilities. The Commission may find it appropriate to address in the order the manner in which it expects to review how the net metering rules work in practice.

For certain provisions, such as annualized netting, PGE has noted the Commission should provide some time from order issuance to the effective date of the rule in order to provide the utilities time to revise their business processes to accommodate the change. Regarding aggregation of meters, staff notes that the proposed rules require customer-generators to provide 60 days notice, which should accommodate implementation of that provision.

Scope and Applicability (860-039-0005)

The proposed rules apply only to PGE and Pacific Power. Idaho Power offers net metering to its Oregon customers pursuant to requirements in Idaho. See ORS 757.300(9). Customer-owned utilities direct the requirements of their own net metering programs.

⁵ In the utilities' compliance filings amending tariffs and utility rules.

The proposed rules include waiver provisions and allow the utility and a net metering applicant to mutually agree upon extensions of timelines to provide flexibility to address special circumstances. A utility may request a waiver at a regular Commission public meeting in order to receive a timely decision given the timelines contained in the proposed rules.

Definitions included in this section rely on the Oregon Revised Statutes and common industry usage. In particular, the proposed net metering rules rely on the term "customer-generator," defined as "a user of a net metering facility." See ORS 757.300(1)(a). PacifiCorp raised a number of questions related to use of this term in the proposed rules, seeking clarification. Staff's counsel advises that the Commission must rely on the statutory definition. However, rules addressing size limits and aggregation of meters apply this term to the customer's contiguous property in order to provide the clarity needed.

Net Metering Kilowatt Limit (860-039-0010)

For residential customers, staff proposes to retain the 25 kW limit in law. This is roughly the expected load (peak demand) of a typical residence. Some parties argued for a higher residential limit – for example, 50 kW – to accommodate very large residential loads. Staff sees no reason to develop rules around atypical cases. Further, staff is concerned that such a high limit could mislead an unwitting residential consumer to install a grossly oversized system. To ensure the most economical installation, customers should match the annual output of the net metering system, based on system size and capacity factor, to their annual energy usage, not peak demand.

Among the states that provide for net metering, facility size limit generally ranges from 10 kW to 2 MW.⁶ Colorado and New Jersey represent the high end of this range. California limits net metering facilities to 1 MW.⁷ Pennsylvania allows net metering for nonresidential customers up to 1 MW,⁸ and Iowa and Virginia set the limit at 500 kW.

Staff proposes a 2 MW limit for nonresidential customers together with the proposed net metering interconnection standards and procedures, as well as excess energy credits granted to the utility at the end of the annual billing period. The interconnection standards and procedures ensure the safety, reliability and power quality of the utility system, and require the customer-generator to pay for any detailed studies and

⁶ See Interstate Renewable Energy Council (IREC) "Connecting to the Grid" Project, State and Utility Net-Metering Rules and Regulations (October 2006), available at:

http://www.irecusa.org/fileadmin/user_upload/ConnectDocs/SatebyStateNetMeteringTable1006.pdf. The New Mexico Public Regulation Commission recently adopted an 80 MW net metering limit, applicable to all Qualifying Facilities under the federal Public Utility Regulatory Policies Act (PURPA). See Order Amending 17.9.570 NMAC, Case No. 06-00241-UT, In the Matter of an Inquiry Into the Provision of Net Metering Services by Electric Utilities., Jan. 11, 2007. Excess generation is credited at the PURPA avoided cost rates at the end of each billing month, and customers must pay standby charges.

⁷ Three biogas systems up to 10 MW per unit may net meter. See IREC, October 2006.

⁸ Systems connected to microgrids or available for emergencies are eligible for net metering up to 2 MW.

modifications of the utility system to accommodate the net metering system. Staff's proposal for excess energy credits, described further below, encourages customer-generators to size net metering systems to meet, not exceed, annual energy usage. That mitigates the potential impact that a higher size limit and annualized netting may have on utility revenues to cover fixed transmission and distribution system costs, as well as any cost-shifting between net metering participants and non-participants.

To the extent a party may argue that eligible facility size for net metering should be lower than staff recommends because the customer-generator could install a larger system as a Qualifying Facility (QF) under the federal Public Utility Regulatory Policies Act (PURPA), staff notes that under Oregon law, net metering "[i]s intended primarily to offset part or all of the customer-generator's requirements for electricity." See ORS 757.300(1)(d)(D). That distinguishes the net metering law from PURPA, which requires electric utilities to offer to purchase electric energy from QFs.⁹ As the Commission noted, "A basic purpose of PURPA is to provide a *market* for the electricity produced by small power producers and cogenerators." See Order No. 05-584 (Docket UM 1129) at 1 (emphasis added).

Some parties argue for no limit on net metering facility size. The utilities initially advocated for a far lower limit than staff proposes. Given the interconnection standards and proposed treatment of excess energy credits in the proposed rules, it is staff's understanding that the utilities generally agree with a 2 MW limit. With generous state and federal energy tax credits, federal depreciation provisions, Energy Trust incentives, and business interest in sustainable energy solutions, under staff's proposed rules net metering projects could approach 2 MW in the not too distant future.

Some parties argued to change the basis for the limit — nameplate capacity (kW) — in order to account for such issues as capacity factor and parasitic load. For example, some parties argued for using annual energy output. Staff recommends retaining the basis in statute for the limit — simple nameplate capacity, which is easily verifiable. Some parties recommended different limits for different resource types — for example, solar vs. biomass. There was not general support for such an approach.

The proposed kW/MW limits would apply to a customer-generator's contiguous property. For example, if a chain of restaurants installed net metering systems, the 2 MW (business customer) limit would apply to the total of systems at *each* restaurant.

Installation, Operation, Maintenance and Testing (860-039-0015)

Disconnect Switch

The purpose of a manual, lockable disconnect switch is to ensure the safety of utility personnel when working on customer meters or electrical lines. The National Electrical Code, the National Electrical Safety Code and Institute of Electrical and Electronics

⁹ See 16 U.S.C. § 824a-3(a).

Engineers (IEEE) Standard 1547 reference the utility's disconnect switch requirements.¹⁰

Staff recommends a manual, lockable disconnect switch be required for all net metering facilities, with one exception: certified inverter-based systems, such as solar electric systems, with up to 30 amps of connected generation behind the inverter. Staff proposes to use amps as the basis for the waiver because the amperage of the system determines the impact on the utility system. The proposed rules include a table that makes it easy for customers and installers to determine what size systems (in kW) qualify for the disconnect switch exemption for most service types. Under the proposed rules, for example, a typical solar electric system for residential customers would not require a disconnect switch.

Staff proposes a waiver for an *external* disconnect switch requirement for such small net metering systems because certified inverters have a disconnect switch built into the inverter itself, which Underwriters Laboratories tested to meet IEEE 1547 standards, and in consideration of the impact such small net metering systems have on the utility side of the meter. Safety staff considers the absence of a utility-accessible disconnect switch in all other types of installations a safety hazard to utility personnel.

Pacific Power recommends a manual, lockable disconnect switch be required for all net metering facilities, located within three feet of the customer's meter base, and that the utility work with the customer in cases where such a location is impractical. Conversely, some parties recommend an exemption for inverter-based systems larger than staff proposes.

In developing staff's position, staff consulted with the utilities, other interested parties, and the State Fire Marshal and relied upon its extensive experience in the area of safety. In addition, staff consulted with the chair of the IEEE 1547.2 Standard Committee on this subject. Further, staff reviewed disconnect switch exemptions in other states. Staff notes that the proposed rules allow the utility to disconnect electrical service to the customer in the event the net metering facility must be disconnected and an external disconnect switch is unavailable to perform this function.

Staff proposes that the disconnect switch be located within 10 feet of the utility's meter. For ease of installation and to keep down installation costs, however, staff proposes the customer-generator be allowed to install the disconnect switch further away from the meter, with the utility's approval to ensure a sensible location and the permanent posting of directions to the switch location. Staff notes that Idaho Power's net metering tariff in Idaho contains these provisions.¹¹

¹⁰ For example, IEEE 1547-2003, Section 4.1.7, states that an isolation device may be required by the utility. Staff notes that the Commission has the authority to review such requirements for net metering facilities.

¹¹ See Idaho Power Schedule 72 (Sheet Nos. 72-4 and 72-5) approved by the Idaho Public Utilities Commission, at: <http://www.idahopower.com/aboutus/regulatoryinfo/tariffPdf.asp?id=52&.pdf>.

Grandfathering Provision

In its order on this rulemaking, the Commission should update the grandfathering provision in subsections (1) and (2) to reflect the effective date of the net metering rules. The grandfathering provision avoids the application of these subsections to customer-generators that installed net metering facilities prior to the adoption of the net metering rules. The utilities have not required a disconnect switch for all installations, and some facilities were installed prior to 2003, the publication date of the IEEE standards referenced.

Interconnection Requirements and Review Procedures (860-039-0020 through 860-039-0045)

The proposed rules in these sections are largely the same as adopted by the New Jersey Board of Public Utilities. The Safety Division manager and staff carefully reviewed the proposed requirements and procedures and recommend their adoption.

There are three levels of interconnection review based on the size and complexity of the net metering system and its potential interaction with the utility system. The rules would establish application and review procedures for each level of review, with specified timelines and costs. As agreed to by Oregon parties, the proposed rules specify the customer-generator maintains its queue position if its application for interconnection is rejected and resubmitted under a higher review level. The proposed rules specify a 30-business day timeline for maintaining queue position when re-filing an interconnection application at a higher review level, consistent with the Federal Energy Regulatory Commission's small generator interconnection procedures, and as recommended by the Oregon Solar Energy Industry Association (OSEIA).

Standard form agreements would be required, for each level of review, for the interconnection application and for the interconnection agreement. For level 3 interconnections, there also are agreements for an impact study and, if needed, an interconnection facilities study.

The proposed rules provide for timely processing of applications by the utility, as well as payment by the customer-generator for anything more than the simplest review and any needed utility facilities to accommodate the net metering system. The timelines are aggressive but achievable, and staff's proposed provisions in 860-039-0005(2) provide flexibility to mutually agree upon an extension, or for a utility to unilaterally request a waiver of the timelines. The rules also provide direction to the Commission on consideration of such a utility request. In addition, staff notes that customer-generators pay a fee for Level 2 and Level 3 interconnection review, and the utility may use such funds to contract for additional personnel if needed.

The interconnection rules the Commission adopts for net metering facilities in this proceeding may differ from the interconnection rules the Commission adopts in a

forthcoming proceeding for generating systems up to 10 MW. Staff notes that net metering facilities have special status under Oregon law, and Oregon's net metering law is designed to encourage distributed renewable resources and fuel cells that offset customer loads. Thus, interconnection standards for net metering facilities can be different than for other generating facilities. Still, in its order on the general interconnection rulemaking, the Commission could decide to revise the net metering interconnection requirements it adopts in this proceeding, if critical issues arise.

Level 1 Review (860-039-0030)

Level 1 review is for small, inverter-based systems, such as solar electric systems. The facility must be 25 kW or less.¹² The system also must use certified equipment. See 860-039-0020. Staff proposes no charge for Level 1 review¹³ to keep down interconnection costs for the smallest customers and in consideration of the simplicity of the necessary utility review, given the requirements for certified equipment and the safeguards under which Level 1 review is allowed.

Level 2 Review (860-039-0035)

Level 2 review is for systems that use certified equipment and meet the screens and requirements contained in subsection 2 of this section. The utility may charge the specified fees for application review, engineering work and any modifications required to the electric distribution system. See 860-039-0045(2). The utility may require a utility inspection of the installation and IEEE-specified commissioning tests that demonstrate safe operation of the system as installed.

Level 3 Review (860-039-0040)

Level 3 review is for systems that do not qualify for or failed to meet Level 2 requirements. The system does not have to use certified equipment. Level 3 review includes an "impact study" that details the impacts to the utility's electric distribution system of the proposed interconnection if no modifications were made to the utility's system, and identifies any modifications that would be needed to accommodate the interconnection. If the impact study shows that only minor modifications are needed, the utility advises the customer-generator of the expected costs. The proposed rules clarify that the customer receives the results of the impact study within 30 calendar days of an executed impact study agreement, per OSEIA's recommendation.

If the impact study shows substantial modifications are needed, the utility provides an estimate of the costs and offers to conduct an "interconnection facilities study" to identify the types and costs of equipment needed.

¹² A change from the 10 kW limit in the New Jersey rules, as agreed to by Oregon parties in the net metering workshops.

¹³ This provision is consistent with the New Jersey net metering rules. See N.J.A.C. 14:4-9.10.

As in level 2 review, the utility may charge the specified fees for application review, engineering work and any modifications required. The utility also may require a utility inspection of the installation and IEEE-specified commissioning tests that demonstrate safe operation of the system as installed.

Requirements After Interconnection Approval (860-039-0050)

Section 1 prohibits a utility from requiring a customer-generator who meets level 1 or level 2 criteria from performing or paying for additional tests. Section 2 prohibits a utility from imposing additional charges for connecting to its distribution system or for operating a net metering facility unless the fees are specified in the net metering rules.

Section 3 specifies testing and maintenance requirements after interconnection approval. Consistent with ORS 757.300(4)(a), these requirements are based on IEEE standards.¹⁴ See IEEE Standard 1547-2003, Section 5. An annual test is required to demonstrate proper operation of the inverter – that it stops delivering power to the grid in the event of a utility power outage.¹⁵ The customer-generator can perform this task simply by toggling to the “off” position the electrical panel circuit breaker that is connected to the net metering facility, breaking the load the inverter is serving. The customer then reads the digital display on the inverter to verify no power is being generated.

Some parties raised concerns that periodic testing requirements would require small customers to hire a contractor and incur additional costs. Any reasonably able person can perform the test staff describes above. If a customer-generator is uncomfortable performing annual tests, an electrical contractor can perform the tests and record the information. Further, the net metering customer is generating energy and interconnected directly to the utility electric distribution system. As such, the customer has certain responsibilities, including ensuring the generator is in good working order and the safety feature of the inverter is fully operational.

Also as required by IEEE,¹⁶ section 3 requires the customer-generator to perform any manufacturer-recommended testing. In addition, the rules allow a utility to require testing if the customer-generator replaces a major equipment component with a different model than the one originally installed.¹⁷

¹⁴ The proposed rules also are consistent with New Jersey net metering rules. See N.J.A.C. 14:4-9.11.

¹⁵ See IEEE 1547-2003, Section 5.5, Periodic Interconnection Tests.

¹⁶ See Section 5.5.

¹⁷ IEEE 1547-2003, Section 5.4, states in part that applicable tests of Section 5.1 must be repeated when “software or firmware changes” have been made on the interconnection system and “[a]ny hardware component of the interconnection system has been modified in the field, or, replaced or repaired with parts different from the tested configuration.” Section 5.4 further states that applicable production tests, unintentional islanding functionality tests, and non-islanding functionality tests be repeated if protection settings or protection functions are changed.

Section 4 requires the customer-generator to maintain for seven years written records documenting maintenance and testing results.¹⁸ Test logs can easily be established and maintained – for example, a sticker on the inverter where the customer-generator can note testing dates and add a check mark to indicate the inverter tested properly.

Some parties object to the length of time staff proposes customer-generators be required to retain maintenance and testing records. Staff notes that under Oregon law, a claim can be brought up to 10 years after completion of a construction project.¹⁹ Therefore, seven years is within the timeframe a customer-generator may be required to retain records for other purposes. In addition, although the net metering law provides for reciprocal waivers of liability,²⁰ in the event a third party brings suit against a utility related to a net metering system that is interconnected to its system, staff notes that the limits of liability for utilities may extend beyond seven years. For example, PacifiCorp's standard contract for QFs requires insurance coverage provided on a "claims-made" basis be maintained by the QF for a minimum of five years after the *completion* of the contract (contract term up to 20 years) "and for such other length of time necessary to cover liabilities arising out of the activities under this Agreement."²¹

Section 5 allows a utility to inspect a facility to ensure continued compliance with the net metering rules.

Billing (860-039-0055)

ORS 757.300(3) requires the utility to bill the customer-generator only for the net energy consumed during the billing period — the difference between the energy the customer consumes and the energy produced by the net metering system. At the end of the monthly billing period, the utility may credit the customer-generator for the excess energy at PURPA avoided cost rates and charge the minimum monthly charge (fixed basic charge). See ORS 757.300(3)(c). This is the current practice for PGE and Pacific Power under Commission-approved net metering tariffs.²² Thus, credit is provided for the energy only (not for any benefits to the distribution and transmission system), and the excess generation (in kilowatt-hours) is not carried forward to future billing months.

The proposed rules would establish an annual billing period, consistent with ORS 757.300(3)(c) and 757.300(3)(d). Any excess energy generated within a billing month would be applied to subsequent monthly bills as a kilowatt-hour credit until the end of the annual billing period.²³ Thus, credit is applied at *full retail rates* to all charges that use kilowatt-hours as the billing unit. Staff proposes this change in order to accommodate the seasonal variations in output of intermittent resources such as wind, solar and hydro. Further, this change is expected to increase the number and size of

¹⁸ IEEE 1547-2003 Section 15 states, "Periodic test reports or a log for inspection shall be maintained."

¹⁹ See Oregon Construction Claims Task Force FAQs, at: <http://egov.oregon.gov/DCBS/CCTF/FAQ.shtml>.

²⁰ See ORS 757.300(4)(c).

²¹ See Section 13.5, PacifiCorp Advice No. 06-019, approved in Order No. 07-120, April 2, 2007.

²² PGE Schedule 203; Pacific Power Schedule 135.

²³ In other words, the kilowatt-hour credits are applied as if they were generated in subsequent months.

net metering systems. Thus, it will advance the objectives of the Commission to encourage development of renewable and distributed resources.

Residential rate schedules for PGE and Pacific Power use kilowatt-hours as the billing unit for energy, distribution and transmission charges, as do rate schedules for small nonresidential customers (up to 30 kW demand).²⁴ Under an annual billing period, small customers with net metering systems will contribute less toward fixed transmission and distribution costs. As a result, until the next rate case, utility revenues will be reduced. When new rates are set, some of these costs may be shifted to non-participating customers. The proposed rules on excess energy credits, described below, mitigate these impacts in part. Further, transmission and distribution charges for large customers are not based on kilowatt-hours (energy usage), but on kilowatts (instantaneous demand). Thus, the reduction in utility revenues from net metering customers will be limited to small customers and small generating systems.

In addition, the renewable energy systems that will be installed under the proposed rules reduce the need for energy from fossil-fuel plants, mitigating risks associated with fuel price volatility and future regulation of environmental pollutants. Further, most of the net metering facilities that are expected to be installed under the new rules are solar energy systems. Such systems operate almost exclusively during peak hours,²⁵ reducing peak demand for energy, transmission and distribution. Thus, they provide benefits to the utilities and their ratepayers by reducing the need for additional fossil-fuel generating capacity and transmission and distribution facilities.

Excess Energy Credits (860-039-0060)

Staff proposes that excess energy credits – kilowatt-hour credits remaining at the end of the annual billing period – be granted to the utility's low-income energy assistance program. This provision encourages facility sizing that does not exceed the customer's annual energy requirements. In doing so, it helps mitigate the loss of utility revenue for fixed transmission and distribution costs resulting from adoption of an annual billing period as described above.

Some parties recommend that the net metering customer receive credit for excess generation at the end of the annual billing cycle at the PURPA avoided cost rate. Staff recommends the Commission not adopt this position. As described in the previous section, staff's proposed rules already provide generous compensation for generation from net metering facilities by allowing excess energy credits to roll forward to subsequent months over an entire year, thus crediting customer-generators at *retail* rates, rather than avoided cost rates, for excess energy. To the extent the consumer's distribution and transmission charges are based on kilowatt-hour usage, the customer-

²⁴ Small nonresidential customers also pay a demand charge based on capacity (kW). Pacific Power nonresidential customers with a demand up to 200 kW pay distribution (but not transmission) charges based on energy usage (kilowatt-hours), rather than capacity (kW).

²⁵ Peak hours are Monday through Saturday, 6 a.m. to 10 p.m.

generator also would receive credit at the full retail rate for those charges during the annual billing period.

Granting excess energy to the utility at the end of the annual billing cycle is a common practice among states.²⁶ Moreover, Oregon's net metering law "[i]s intended primarily to offset part or all of the customer-generator's requirements for electricity." See ORS 757.300(1)(d)(D). Therefore, the goal is to encourage consumers to install on-site generation for their own use. As such, granting any energy to the utility that is in excess of a consumer's annual energy needs appropriately encourages proper sizing of systems.²⁷

Some parties recommend the utilities roll forward excess energy credits for nonresidential customers for up to three years in order to accommodate cases where a business plans to "grow into" the net metering system. Staff's counsel advises that rolling forward excess credits beyond one year is not permissible under the law. ORS 757.300(3)(d) specifies an annual billing cycle and states how "credit accumulated during the previous year will be granted."

Aggregation of Meters (860-039-065)

Staff proposes a customer-generator be allowed to combine multiple meters on contiguous property for the purpose of billing the customer for the net energy consumed during the billing period – so long as the meters are subject to the same rate schedule. Staff also proposes to restrict such "aggregation" to meters on the same primary feeder. If meters are on different primary feeders, there may be more than a single point of connection to the electric utility, and diluted benefits to the utility system from the net metering facility.

Aggregation of meters would allow a customer to install a single net metering facility to offset energy usage registered on multiple meters at the same site. Absent meter aggregation on such an accounting basis, to accomplish the same purpose the customer would have to physically consolidate the meters or attach a series of smaller net metering facilities to multiple meters – both far more expensive options.²⁸

Pacific Power recommends the Commission not require aggregation. Staff finds this recommendation too restrictive. It would discourage otherwise economic net metering installations, or lead to installations with reduced economies of scale.

²⁶ See IREC, March 2006.

²⁷ See Center for Resource Solutions, Regulator's Handbook on Renewable Energy Programs & Tariffs, March 2006, p. 54, available at: <http://www.resource-solutions.org/policy/TariffHandbook/>.

²⁸ The Energy Trust of Oregon notes that difficulties in combining multiple meters (and rate schedules) into a single net metering project was a factor in operating dairy-based anaerobic digesters well below design capacity, according to the California Energy Commission. See <https://www.energy.ca.gov/pier/iaw/reports/index.html>.

Staff has included a provision that allows a utility to request Commission approval of a fee to cover the administrative costs of meter aggregation, which is not required under the net metering law.

Some parties recommend the utility be required, at the customer's request, to aggregate meters subject to different rate schedules – for example, all the meters on a farm, including irrigation meters and the meter on the house. Staff recommends the Commission not adopt such a provision. First, if the rate schedules are different, the customers the meters serve are different – in the example above, the irrigation meter serves a business customer and the house meter serves a residential customer. Second, such mixing of rate schedules further complicates billing.

Staff's proposed billing provisions clarify that generation credit is first applied to the meter to which the net metering facility is physically attached (the "designated meter"), then to other meters that have the same charges as the designated meter, and finally to meters on the same rate schedule but with different charges – for example, meters served at different delivery voltages. The kilowatt-hours generated by the net metering facility that are in excess of the energy usage recorded by the designated meter would be applied to the other meters in the next billing month. That is consistent with the approach used for annualized netting in the absence of aggregation.

Some parties recommend aggregating meters on different customers' premises. Staff's counsel advises that the net metering law does not allow for this. Specifically, the net metering law requires that the net metering facility be: 1) located on the customer-generator's property and 2) intended primarily to offset the customer-generator's electricity requirements. See ORS 757.300(1)(d). Thus, aggregating meters for multiple customers, or allowing community ownership for the purpose of offsetting energy use, would defeat the purpose of the law – allowing netting only for the customer-generator who has installed a net metering facility on the customer's property.

Public Utility Maps, Records and Reports (860-039-0070)

Staff recommends the Commission require the utilities to maintain basic information about net metering facilities in their service areas and report summary information annually to the Commission. Staff is not aware of any disagreements on these proposed requirements.

Public Utility Not to Limit Net Metering Systems (860-039-0075)

ORS 757.300(6) allows the Commission to limit net metering in PGE and Pacific Power service areas after the cumulative capacity of net metering systems reaches one-half of one percent of the utility's historic single-hour peak load.

In preparation for developing proposed rules, staff collected data on the status of net metering in PGE and Pacific Power service areas. As of year-end 2005, a total of 65

net metering systems had been installed in PGE's service area, totaling 224 kW.²⁹ As of March 2006, 230 net metering systems had been installed in Pacific Power's Oregon service area, totaling 845.6 kW.

The utilities are unlikely any time soon to reach the minimum level of net metering that must be allowed in their service areas. However, current net metering tariffs state the utilities will provide net metering only *up to* this limit (15,234 kW for Pacific Power; 20,365 kW for PGE). This rule would prohibit the utility from restricting net metering unless the Commission orders them to do so.

Insurance (860-039-0080)

ORS 757.300(4)(c) prohibits a utility from requiring a customer-generator whose net metering facility is in compliance with the standards in paragraphs (a) and (b) in subsection 757.300(4) to purchase additional liability insurance. Staff's proposed rule clarifies that the utility is similarly prohibited from requiring the customer-generator to name the utility as an additional insured. This addresses a similar issue raised in Docket UM 1129 for QFs.

Respectfully submitted:

/s/ Lisa Schwartz

Lisa Schwartz

Senior Analyst

lisa.c.schwartz@state.or.us

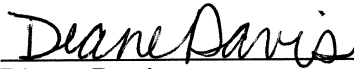
²⁹ Solar energy systems comprise the vast majority of net metering facilities. During the period for which data were provided, average installed capacity for solar energy systems was about 3 kW across all types of customers in PGE's and Pacific Power's service areas. The range for solar energy systems was 1 kW to 21 kW in PGE's service area, and 1 kW to 25 kW (maximum allowed limit) for Pacific Power in Oregon. (Far larger solar energy facilities have been installed under other agreements.) Wind facilities totaled 32 kW of net metering capacity for PGE, and 32 kW for Pacific Power. Pacific Power also had 50 kW of hydro facilities (two 25 kW projects) under net metering arrangements. In addition to changes in eligible facility size for net metering, criteria and levels for tax credits and incentives and project economics will be important factors in reaching the minimum cumulative capacity in statute.

CERTIFICATE OF SERVICE

AR 515

I certify that I have, this day, served the foregoing document upon those listed on the attached list by emailing to those with known email addresses. I further certify that the foregoing document was filed electronically and hard copy with the Oregon PUC Filing Center.

Dated at Salem, Oregon, this 11th day of April, 2007.



Diane Davis

Regulatory Operations

On Behalf of the Staff of the

Oregon Public Utility Commission

JEFF BISSONNETTE
FAIR AND CLEAN ENERGY COALITION

EEmail jbissonnette@igc.com

CAREL DEWINKEL

EEmail carel.dewinkel@state.or.us

KATHY GING

EEmail kathy@kathyging.com

CHRIS JOHNSON
WOODFIRST.COM

EEmail chris@woodfirst.com

JOHN LOWE

EEmail jravene@comcast.net

ERNIE MUNCH

EEmail ermunch@aol.com

COLIN MURCHIE
SUN EDISON LLC
900 ST PAUL ST
BALTIMORE MD 21202

EEmail cmurchie@sunedison.com

DOUG BOLEYN
CASCADE SOLAR CONSULTING
17610 SPRINGHILL PLACE
GLADSTONE OR 97027

EEmail doug@cascadesolar.com

BILL STOLLER
STOLLER WINERY
15151 NE STOLLER RD
DAYTON OR 97114

EEmail bills@stollervineyards.com

JULIETTE & LUCIEN GUNDERMAN
CROWN HILL FARM
18155 SW BAKER CREEK RD
MCMINNVILLE OR 97128

EEmail crownhillfarm@fbconnect.net

ROBERT MIGLIORI
PORTLAND WIND ELECTRIC
24745 NE MT TOP RD
NEWBERG OR 97132

EEmail windy@freewirebroadband.com

ANDREW KOYAANISQATSI
SOLAR ENERGY SOLUTIONS
3730 SE LAFAYETTE CT
PORTLAND OR 97202

EEmail solarenergysolutions@yahoo.com

RACHIT ARORA
PORTLAND GENERAL ELECTRIC
121 SW SALMON ST
PORTLAND OR 97204

EEmail rachit.arora@pgn.com

BRUCE BARNEY
PORTLAND GENERAL ELECTRIC
121 SW SALMON ST
PORTLAND OR 97204

EEmail bruce.barney@pgn.com

KACIA BROCKMAN
ENERGY TRUST
851 SW SIXTH AVE - STE 1200
PORTLAND OR 97204

EEmail kacia@energytrust.org

JENNIFER BUSCH
PORTLAND GENERAL ELECTRIC
121 SW SALMON ST
PORTLAND OR 97204

EEmail jennifer.busch@pgn.com

J RICHARD GEORGE
PORTLAND GENERAL ELECTRIC COMPANY
121 SW SALMON ST 1WTC1301
PORTLAND OR 97204

EEmail richard.george@pgn.com

DOUG KUNS
PORTLAND GENERAL ELECTRIC
121 SW SALMON ST
1WTCO702
PORTLAND OR 97204

EEmail doug.kuns@pgn.com

KATHERINE A MCDOWELL
MCDOWELL & RACKNER PC
520 SW SIXTH AVE - SUITE 830
PORTLAND OR 97204

EEmail katherine@mcd-law.com

BRUCE WERNER
PORTLAND GENERAL ELECTRIC
121 SW SALMON ST
PORTLAND OR 97204

EEmail bruce.werner@pgn.com

JENNIFER MARTIN
STOEL RIVES LLP
900 SW FIFTH AVE STE 2600
PORTLAND OR 97204-1268

EEmail jhmartin@stoel.com

JEFF JACKSON
PAE CONSULTING ENGINEERS INC
808 SW THIRD AVE STE 300
PORTLAND OR 97204-2426

EEmail jeffj@pae-engineers.com

JESSE JENKINS
RENEWABLE NORTHWEST PROJECT
917 SW OAK ST STE 303
PORTLAND OR 97205

EEmail jesse@rnp.org

NATALIE MCINTIRE
RENEWABLE NORTHWEST PROJECT
917 SW OAK ST STE 303
PORTLAND OR 97205

EEmail natalie@rnp.org

JEFF BISSONNETTE
CITIZENS' UTILITY BOARD OF OREGON
610 SW BROADWAY STE 308
PORTLAND OR 97205-3404

EEmail jeff@oregoncub.org

DAVID TOOZE
PORTLAND CITY OF ENERGY OFFICE
721 NW 9TH AVE -- SUITE 350
PORTLAND OR 97209-3447

EEmail dtooze@ci.portland.or.us

STEVE SANDERS
MINIKAHDA HYDROPOWER CO LLC
5829 NE 19TH AVENUE
PORTLAND OR 97211

EEmail stevehydros@aol.com

JEREMIAH BAUMANN
OREGON STATE PUBLIC INTEREST RESEARCH GROUP
1536 SE 11TH AVE
PORTLAND OR 97214

EEmail jeremiah@ospirg.org

JON MILLER
OREGON SOLAR ENERGY INDUSTRIES
1526 SE TAYLOR ST
PORTLAND OR 97214

EEmail oseia@oseia.org

JOHN PATTERSON
MR SUN SOLAR
6125 NE PORTLAND HWY
PORTLAND OR 97218

EEmail hugh@mrsunsolar.com

JOHN MURPHY
PORTLAND HABILITATION CENTER INC
5312 NE 148TH AVE
PORTLAND OR 97230

EEmail jmurphy@phcnw.com

LES BAHLS
PACIFICORP
825 NE MULTNOMAH STE 1600
PORTLAND OR 97232

EEmail les.bahls@pacificorp.com

LAURA BEANE
PACIFICORP
825 NE MULTNOMAH STE 2000
PORTLAND OR 97232

EEmail laura.beane@pacificorp.com

JIM GROSSMAN
PACIFICORP
825 NE MULTNOMAH STE 2000
PORTLAND OR 97232

EEmail jim.grossman@pacificorp.com

ROB STEWART
PACIFICORP
825 NE MULTNOMAH STE 300 LCT
PORTLAND OR 97232

EEmail rob.stewart@pacificorp.com

STEVEN MCGRATH
SUSTAINABLE SOLUTIONS UNLIMITED LLC
PO BOX 22946
PORTLAND OR 97269

EEmail steve@solutions21st.com

SVEN ANDERSON
OREGON DEPARTMENT OF ENERGY
625 MARION ST
SALEM OR 97301

EEmail sven.anderson@state.or.us

DON GODARD
OREGON PUD ASSOCIATION
727 CENTER ST NE - STE 305
SALEM OR 97301

EEmail dgodard@opuda.org

CHRISTOPHER DYMOND
OREGON DEPARTMENT OF ENERGY
625 MARION ST NE
SALEM OR 97301-3737

EEmail christopher.s.dymond@state.or.us

MICHAEL T WEIRICH
DEPARTMENT OF JUSTICE
REGULATED UTILITY & BUSINESS SECTION
1162 COURT ST NE
SALEM OR 97301-4096

EEmail michael.weirich@doj.state.or.us

STEVE PETERSON
PO BOX 4397
SALEM OR 97302

EEmail stevepeterson@westcoastwashersusa.com

DAVID SHAW
ORECA
1750 LIBERTY ST SE
SALEM OR 97302-5159

EEmail dshaw@oreca.org

ROGER KUHLMAN
SALEM ELECTRIC
PO BOX 5588
SALEM OR 97304-0055

EEmail kuhlman@salemelectric.com

TOM O'CONNOR
OREGON MUNICIPAL ELECTRIC UTILITIES ASSOC
PO BOX 928
SALEM OR 97308-0928

EEmail toconnor@teleport.com

ED DURRENBERGER
OREGON PUBLIC UTILITY COMMISSION
PO BOX 2148
SALEM OR 97308-2148

EEmail ed.durrenberger@state.or.us

JR GONZALEZ
PUBLIC UTILITY COMMISSION
PO BOX 2148
SALEM OR 97308-2148

EEmail jose.gonzalez@state.or.us

JERRY MURRAY
PUBLIC UTILITY COMMISSION
PO BOX 2148
SALEM OR 97308-2148

EEmail jerry.murray@state.or.us

LISA C SCHWARTZ
OREGON PUBLIC UTILITY COMMISSION
PO BOX 2148
SALEM OR 97308-2148

EEmail lisa.c.schwartz@state.or.us

LOYD FERY
11022 RAINWATER LANE SE
AUMSVILLE OR 97325

EEmail dlchain@wvi.com

FRANK E VIGNOLA
UNIVERSITY OF OREGON
DEPARTMENT OF PHYSICS
1274 UNIVERSITY OF OREGON
EUGENE OR 97403-1274

EEmail fev@uoregon.edu

DAVID PARKER
ADVANCED ENERGY SYSTEMS
2990 FOREST BLVD
EUGENE OR 97405

EEmail david@aesrenew.com

ANDY KERR
THE LARCH COMPANY LLC
1213 IOWA ST
ASHLAND OR 97520

EEmail andykerr@andykerr.net

ALAN HICKENBOTTOM
ENERGY OUTFITTERS LTD
543 NORTHEAST E ST
GRANTS PASS OR 97526

EEmail alanh@energyoutfitters.com

DOUG PARSONS
SUNENERGY POWER CORPORATION
1133 NW WALL ST STE 305
BEND OR 97701-1968

EEmail dparsons@sunenergypower.com

MO ROUSSO
SUNENERGY POWER CORPORATION
1133 NW WALL ST STE 305
BEND OR 97701-1968

EEmail mrousso@sunenergypower.com

David Beach
david.beach@pgn.com

Labels: 55