

**BEFORE THE PUBLIC UTILITY COMMISSION
OF OREGON**

AR 538

In the Matter of a Rulemaking Regarding
Solar Photovoltaic Energy Systems.

ORDER

DISPOSITION: NEW RULES ADOPTED

I. INTRODUCTION

The Oregon Legislative Assembly recently passed legislation requiring this Commission to implement two directives that encourage the development and use of solar energy. ORS 757.365 (2009), as amended by House Bill 3690 (2010), mandates the development of pilot programs for each electric company to demonstrate the use and effectiveness of volumetric incentive rates (VIRs) and payments for electricity delivered by solar photovoltaic energy (SPV) systems. ORS 757.370 creates a solar capacity standard under which the electric companies must acquire a share of 20 megawatts (MWs) of nameplate capacity from large SPV systems by the year 2020.

To implement these two mandates, we opened two dockets. In this rulemaking, we adopt rules necessary to implement the pilot programs and to address the solar capacity standard required under ORS 757.370. In a companion proceeding, Docket UM 1452, we decide policy issues related to the development and implementation of the pilot programs required under ORS 757.365.

On November 13, 2009, we filed a Notice of Proposed Rulemaking Hearing and Statement of Need and Fiscal Impact with the Secretary of State. On November 20, 2009, we also provided notice to legislators required by ORS 183.335(1)(d) and to all interested persons on the service lists maintained pursuant to OAR 860-011-0001. Notice of the rulemaking hearing was published in the December 2009 *Oregon Bulletin*.

With the notice provided to interested persons, we included a copy of the proposed rules to implement ORS 757.365 and 757.370. In response to those proposed rules and subsequent revision to them by our Staff, we received written or oral comment from numerous persons at various times during this proceeding or at the January 6, 2010 rulemaking hearing. Comments were submitted by Portland General Electric (PGE), PacifiCorp dba Pacific Power (Pacific Power), Idaho Power Company (Idaho Power), Industrial Customers of Northwest Utilities (ICNU), the Citizens' Utility Board of

Oregon (CUB). Renewable Northwest Project and partners (RNP);¹ Solar Energy Solutions, Inc., Ecumenical Ministries of Oregon/Oregon Interfaith Power & Light (EMO/OPIL), Solar City, Environmental Law Alliance Worldwide (ELAW), Oregonians for Renewable Energy Policy, Sustainable Solutions Unlimited, Oregon AFL-CIO, the Laborers International Union, Representative Tobias Reed, Renewable Energy Policy, SunEdison, EnXco, Oregon National Guard, and Oregon Solar Energy Industry Association (OSEIA). Our Staff responded to many comments made during the course of the proceeding and also filed comments.

II. BACKGROUND

The Oregon Legislature enacted ORS 757.365 and 757.370 to establish solar photovoltaic generating capacity standards and solar photovoltaic incentive rate pilot programs for each electric company in Oregon. The rules we adopt in this proceeding will implement and enforce the capacity standards and pilot programs. The rules will also ensure that when implementing the capacity standards and pilot programs, the electric companies operate safe and reliable electric systems and provide service at just and reasonable rates.

The rules include provisions to determine the solar photovoltaic capacity standard for each electric company, determine each electric company's allocated share of the capacity limit for the pilot programs, specify the eligibility requirements for solar photovoltaic energy systems, determine the interconnection rules for solar photovoltaic energy systems, specify the contract term and method of payment of volumetric incentive rates, and specify the use by electric companies of renewable energy certificates from solar photovoltaic energy systems to comply with Oregon's renewable portfolio standards.

III. THE PROPOSED RULES

A. Introduction

As noted above, we provided notice of the proposed rules and received comments to those rules from numerous persons. In response to certain concerns raised, Staff revised the proposed rules on two occasions during the course of the proceeding—first in its opening comments and again in reply comments that were provided to others.

For this order, we use Staff's version of the proposed rules filed with its reply comments as a starting point. We acknowledge that other rulemaking participants did not have the opportunity to respond to additional revisions that Staff made after the comment period had closed. Nonetheless, we find it beneficial to use Staff's most recent

¹RNP developed its comments in partnership with CUB, the Oregon Solar Energy Industries Association, SolarCity, Tanner Creek Energy, EnXco, SunEdison, REC Solar, Obsidian Renewables, SunPower, Sunlight Solar, Sun Energy Systems, Real Energy Solutions, and the International Brotherhood of Electrical Workers Local 48.

version because the additional revisions further address and eliminate certain concerns raised in comments filed by the other participants. We will, however, make available on our website a red-line copy of the rules identifying the changes between the adopted rules and the rules filed by Staff with its reply comments.

We have reviewed all comments submitted in this matter and generally adopt Staff's most recent version of the proposed rules without comment. We do, however, address certain provisions and comments below, as well as those provisions of the proposed rules that we further modify. The final version of the rules we adopt is attached as Appendix A.

B. Definitions for Solar Photovoltaic Capacity Standard and Pilot Programs (860-084-0010)

OREP requests a revision to OAR 860-084-0010(6), which defines "Eligible Energy." OREP seeks language to allow a consumer to be paid for all energy produced under a net metering arrangement if, prior to March 31, 2015, either FERC or Congress clarifies that a state may set rates for wholesale energy or non-energy attributes under a traditional feed-in-tariff.

We decline OREP's recommendation. We will monitor any changes of law related to the FERC preemption issue and, if necessary, make prospective adjustments during later stages of this pilot.

Pacific Power and Idaho Power propose two revisions to OAR 860-084-0010(10), which defines "Eligible Participant" as:

a retail electricity consumer receiving service at the property where the solar photovoltaic energy system will be installed. A regulated utility is not an eligible participant in pilot programs.

Pacific Power and Idaho Power first note that the definition applies to customers who are eligible but not necessarily participants in the program. For that reason, they state the term used should be "Eligible Customer," with a new definition provided for "Participant" defined as an Eligible Customer who has signed a contract with the electric company and is participating in the pilot program. We agree and adopt the recommendations.

Pacific Power and Idaho Power next propose revisions to accommodate an electric company to participate in the pilot programs. These proposed changes include adding new definitions for "participant," and revisions to the definitions for "eligible participant," "qualifying assignee," and "assignee." Because we concluded in UM 1452 that electric companies are not eligible to participate in the pilot programs, we decline to adopt these proposed definitional changes.

Pacific Power and Idaho Power also seek revisions to OAR 860-084-0010(15) defining “Reservation Expiration Date.” They seek changes to clarify that a consumer whose capacity reservation has expired must reapply for a future capacity offering and will not be given preferential treatment. We agree with the intent of proposed revision but find it better suited for OAR 860-084-0210.

RNP recommends numerous definitional revisions. Staff agrees in part with RNP’s recommendations and modified the definition of “nameplate capacity,” “reservation start date,” “resource value,” and “volumetric incentive rate,” as well as related rules regarding ownership and installation. Staff objects, however, to RNP’s proposed changes to the definitions of “IEEE Standards,” “equipment package,” and “system requirements.” According to Staff, RNP’s proposal to include a provision for successors to the IEEE Standards Board is unlawful, because it would delegate Commission authority to another body. Furthermore, Staff states that RNP’s recommended change to “equipment package” unnecessarily departs from the existing net metering rules, and does not agree that it is inappropriate to exclude any reference to “system requirements” when determining the output of a qualifying system.

We agree with Staff’s recommendation and decline to further revise the definitions as proposed by RNP.

Finally, PGE seeks revision to clarify the definition of “reserved system” set forth in OAR 860-084-0010(20). PGE asks language be added to clarify that a “reserved system” refers to a SPV system that has been granted a capacity reservation “and executed all agreements with the electric company.”

We agree with PGE’s recommendation in principle but find the definition unnecessary and place the clarifying language in OAR 860-084-0130 and 860-084-0200.

We make other changes to the rules definitions to add clarity or to eliminate unnecessary provisions.

C. Solar Photovoltaic Capacity Standard (860-084-0020)

As noted above, ORS 757.370 mandates the adoption a solar photovoltaic generating standard for qualifying systems generating at least 500 kW. On or before January 1, 2020, each electric company is required to achieve and maintain a minimum generating capacity, determined by the Commission pursuant to a formula set out in statute.

In its final comments Staff concluded that it was reasonable to allocate capacity for the solar capacity standard in the same manner that the renewable portfolio standard imposes qualifying electricity standards on electric utilities.

Only Idaho Power questions the proposed allocation. Idaho Power notes that Staff’s proposed 400 kW allocation for the company is less than the 500 kW

nameplate capacity required of qualifying systems. Idaho Power's point is well taken. Idaho Power's allocation is set at 0.5 MW, which is the equivalent of one qualifying project.

Accordingly, we adopt the following allocation among electric companies:

PGE	10.9 MW
Pacific Power	8.7 MW
Idaho Power	0.5 MW

D. Measurement of Capacity (860-084-0040)

In its proposed rules, Staff requires the electric companies to convert nameplate capacity ratings reported by manufacturers to an alternating current rating to account for inverter and other system component losses. RNP does not believe a conversion methodology is needed to determine capacity on the alternating current side of the system inverter and proposes to delete section (2) of Staff's proposed rule.

We decline RNP's recommendation. A conversion methodology is needed because electric companies need to determine solar system capacity in advance of actual operations in order to manage the reservation process.

E. Ownership and Installation (860-084-0130)

Proposed OAR 860-084-0130 governs the ownership and installation of solar photovoltaic systems. Pacific Power and Idaho Power propose to modify Section (3), arguing that a consumer should only be able to transfer a system when the consumer vacates the premises where the system is installed.

PacifiCorp and Idaho Power's proposal is overly restrictive. Retail electricity consumers should be allowed to move the solar system to a new location in the same service territory.

RNP seeks revisions to require an electric company to contract directly with the retail consumer or third-party system owner for VIR payments. RNP states this change will help reduce the cost to systems owned by third parties by clarifying income tax liability, and help enable the electric companies to resolve any operational problems that might impact grid reliability.

We decline RNP's recommendation. RNP has not established the need for SPV system owners to contract with the electric companies. Moreover, Staff's proposed rules addressed concerns as to income tax liability by allowing retail consumers to assign

payments to a qualifying assignee. Qualifying assignees include lenders, owners, and other third parties.²

F. Assignment of Payments (860-084-0140)

Proposed OAR 860-084-0140 requires electric companies to allow consumers to assign payments to a qualifying assignee and allow changes to assignment over the contract term. Pacific Power and Idaho Power propose to modify the rule to state that the assignment of payment can be made only to a single qualifying assignee. They also propose to add a new section providing for payment to assignees within 45 days from the end of the consumer's billing period.

We find the recommendations to be reasonable and adopt them.

G. Distributing Capacity Limit by System Size (860-084-0190)

Proposed 860-084-0190 establishes three size classes of qualifying facilities and identifies allocation targets for each class size. The Oregon Military Department (Oregon Army National Guard) proposes to change section (5) of this rule to accommodate the participation of an existing facility in Idaho Power's service territory. We decline the request. The purpose of the pilot program is to induce investment in new SPV systems, not to reward existing systems.

RNP proposed changes to the rule, most of which were addressed by HB 3690 and by Staff's final revisions to the proposed rules. Staff's final version of the proposed rule, as revised for clarity, is adopted.

H. Mechanisms for Reserving Capacity (860-084-0195)

Proposed OAR 860-084-0195 governs the process used to reserve capacity in the program. Among other things, the rule proposes the use of a random drawing to resolve instances where applications exceed available capacity and limits on the number of capacity reservations that can be made by a developer or installer through eligible consumers

RNP is concerned about the use of random drawing for medium-scale systems given the amount of risk placed on system owners. RNP explains that the development of commercial systems requires significant expenditures prior to the date an application is submitted, and the proposed use of a random drawing would require these developers to literally gamble these pre-construction investment dollars. RNP also contends that Staff's final rule is confusing and asks the Commission to clarify it.

² See OAR 860-084-0010(16) of Staff's proposed rules attached to its February 2, 2010, final comments. In the adopted rules, see section (15).

We agree with RNP that first-come first-served reservation system, with a rigorous installation deadline, works best for the small- and medium-scale systems. We also conclude that no limits should be placed on the number of capacity reservations made by a developer or installer through consumers. We will monitor the reservation process and revisit this issue if necessary. Accordingly, we adopt RNP's recommendation and clarify the rule to read as follows:

860-084-0195

Mechanisms for Reserving Capacity

(1) Capacity reservations for small-scale and medium-scale systems are awarded on a first-come first-served basis, until the annual capacity limit for the system size class is reached,

(a) Application packages for capacity may be submitted to the electric company at any time during the pilot year.

(b) A capacity reservation starts when an application package meeting the requirements of OAR 860-084-0230(2) is received by the electric company.

(2) Unless otherwise directed by Commission order, capacity reservations for large-scale systems are awarded on the basis of competitive bidding.

(a) Electric companies must issue a Request for Proposal for large-scale systems no later than 30 business days prior to the start of each pilot year.

(b) Electric companies must set the bidder response deadline no later than the first business day of each pilot year.

(c) Electric companies must award capacity to winning bidders no later than fifteen business days after the bidder response deadline. Selection of winning bids must be based solely on the bidder's volumetric incentive rate bid.

(d) If capacity remains available after all bids are awarded, then the remaining capacity will roll over to the next pilot year.

(e) A large-scale capacity reservation begins when the bidder receives notification of a successful bid.

(3) Electric companies must require a capacity reservation deposit of \$20 per kilowatt of the proposed system capacity.³

I. Capacity Reservation, Timing, and Volumetric Incentive Rates (860-084-0200)

Section (1) of proposed OAR 860-084-0200 requires a standard contract to identify the market rate index that will be used to establish rates paid to consumers for their excess energy. PGE argues that this provision is unnecessary, as its content is redundant with OAR 860-084-0240.

³ We explain this provision below under our discussion of proposed OAR 860-084-0210.

We agree with PGE and delete the requirement.

J. Capacity Reservation, Timing, and Duration (860-084-0210)

Proposed OAR 860-084-0210 governs the ability of consumers to reserve capacity in the pilot program. RNP argues that incentive reservations should be limited to “viable” systems—that is, all applicants should be required to submit a reasonable deposit, proof of project viability (signed contract and proof of site control), and comply with a rigorous deadline.

RNP also does not agree that fees for capacity reservation should be permissive, based on the electric companies’ request. RNP recommends that a reasonable fee for capacity reservation should be a requirement for all applications. Pacific Power and Idaho Power propose a \$20 per kilowatt capacity reservation deposit.

RNP also opposes the provision allowing a four-month extension to the reservation expiration date for medium-scale and large-scale systems. RNP requests the provision be eliminated. ICNU opposes RNP’s requests and asks that the provision be adopted as part of the final rules.

We agree with RNP, Pacific Power, and Idaho Power that rigorous deadlines and capacity reservation deposits will help to prevent frivolous capacity reservations. We also agree with RNP that the four-month extension of the reservation expiration date should be eliminated. The provision adds unnecessary complication to the rule.

To address these concerns, we modify the proposed rules as follows. First, we add a section (3) to OAR 860-084-0195 to require a capacity reservation deposit of \$20 per kilowatt for all systems. Second, we modify OAR 860-084-0210 to read:

**OAR 860-084-0210
Capacity Reservation, Timing, and Duration**

(1) The capacity reservation for small-scale and medium-scale systems expires if a completed interconnection application is not filed within two months of the reservation start date, or if the system has not been installed within twelve months of the reservation start date.

(2) The capacity reservation for large-scale systems expires six months from the date that an interconnection application is filed or within twelve months from the reservation start date, whichever is longer, if the system has not been installed.

(3) Electric companies must collect data on the time to interconnection agreement and conduct pilot program satisfaction surveys in order to improve capacity reservation and interconnection processes over the pilot program, as required. Data collection and surveys must include:

(a) Interconnection agreements that have not been negotiated between the electricity company and the retail electricity consumer within a six-month window after an application for interconnection has been filed, or

(b) Retail electricity consumers that have reserved capacity under the pilot programs and whose capacity reservations expire before solar photovoltaic energy systems are installed.

(4) Once the capacity reservation expires, the retail electricity consumer must newly apply for a capacity reservation and will not be given preferential treatment.

K. Standard Contracts (860-084-0240)

Proposed OAR 860-084-0240 requires each electric company to file a standard, 15-year contract for Commission approval. Pacific Power and Idaho Power argue that parties should be allowed to enter into a longer contract if they so choose, suggesting an instance where the seller would be paid the avoided cost after the first 15-year term. Pacific Power and Idaho Power note that separate standard contracts will be required for the net metering transactions and the competitive bid transactions.

Pacific Power and Idaho Power state that their billing systems are unable to aggregate payments under the program and other consumer billings on a single bill, and they propose changing subsection (3)(h) to provide that monthly payments under the program will be made to the consumer or third party.

Regarding subsection (k) and the disclosure that participation in the program may have tax consequences, Pacific Power and Idaho Power object to the requirement that they provide an opinion on the tax status of consumer projects and payments.

PGE recommends deleting the market index rate option for the sale of excess energy under the net metering program.

We agree that parties should be able to contract for more than 15 years, with sales after the initial 15-year term at the electric company's avoided cost. We also agree with PGE that the market index rate option should be deleted, as it is inconsistent with net metering.

With regard to the other concerns raised by Pacific Power and Idaho Power, we respond that any electric company not able to bill its participating consumers as specified in the rule may apply for a waiver, pursuant to OAR 860-084-0000(3). Furthermore, we clarify that the rule only requires electric companies to advise parties that there may be tax consequences associated with the transition. The electric companies are not required to provide an opinion as to the actual consequences.

We revise the rule to read as follows:

860-084-0240

Standard Contracts

(1) Each electric company must file, for Commission approval, a separate standard contract for the net metering and competitive bidding volumetric incentive rate programs as part of its volumetric incentive rate tariff filing.

(a) The standard contract will establish an agreement between the electric company and a retail electricity consumer under which the electric company will make volumetric incentive rate payments to participants for energy generated by solar photovoltaic systems installed in the service territory of the electric company for a 15-year period. After the initial 15-year period, the electric company may pay its prevailing avoided cost for energy generated by the solar photovoltaic systems.

(b) Contracts under the solar photovoltaic pilot programs may only be issued to retail electricity consumers of the electric company; these consumers must be eligible to participate in the pilots.

(2) Standard Contracts must include at least the following elements:

(a) Name and address of the retail electricity consumer and the installation address of the eligible system;

(b) Each standard contract must be based on the volumetric incentive rate (bid option) or volumetric incentive rate formula (net metering option) in place at the time of the capacity reservation for the retail electricity consumer;

(c) Each standard contract must require a retail electricity consumer installing capacity under the net metered option to transfer generation in excess of eligible energy to the low income bill assistance program of the electric company. Standard contracts must provide for certification by the retail electricity consumer that they are eligible to make wholesale sales of energy at market-based rates;

(d) Each standard contract must include a date of initiation and a date of contract expiration. If mutually agreed upon by the electric company and consumer, the contract may exceed 15 years;

(e) Each standard contract must include a section to record retail electricity consumer certifications that:

(A) Any investor in the qualifying system has not accepted or will not accept incentives from the Energy Trust of Oregon or Oregon state residential or business tax credits for the qualifying system covered by the contract, and

(B) The system and its individual components are new and have not been previously installed, and meet quality, reliability, and installation criteria approved by the Commission;

(f) Each standard contract must include a provision under which the retail electricity consumer agrees that the electric company can release lists of all participants in the pilot programs to the Oregon Department of Revenue, the Oregon Department of Energy, the Public Utility Commission, and the Energy Trust of Oregon. The standard contract must contain descriptions of the confidentiality requirements that those receiving this information must follow;

(g) Each standard contract must require the retail electricity consumer to agree to complete up to three surveys on the effectiveness of the pilot programs in order to remain eligible for participation in the pilot program. Each standard contract must also include the retail electricity consumer's agreement that the electric company may release information obtained from the surveys to the Commission and the Energy Trust of Oregon;

(h) Monthly payments must be made directly to the retail electricity consumer or to a qualifying assignee;

(i) Each standard contract must allow a retail electricity consumer to assign payments to a single qualifying assignee. Contracts must allow the retail electricity consumer to change the assignee at any time during the contract term;

(j) Each standard contract must allow the transfer of an existing retail electricity consumer's contract under the pilot program to another retail electricity consumer eligible to contract with the electric company under the pilot program, consistent with OAR 860-084-0130(3).

(k) Disclosure that payments under the volumetric incentive rate bid option may be taxable as income under Oregon and Federal Tax law and that an eligible system may be subject to property tax in the State of Oregon;

(l) Name and business address of solar installer or contractor, name and business address of system financier, and description of the photovoltaic equipment package;

(m) For net metered systems, participants must certify that the system is sized such that their qualifying system complies with OAR 860-084-0100(2)(e).

(3) A retail electricity consumer found by the Commission to have made a false certification is no longer eligible for the Volumetric Incentive Rate Pilot Programs and any contract entered under the Volumetric Incentive Rate Pilot Programs is void.

L. Billing and Payment Requirements (860-084-0250)

Proposed OAR 860-084-0250 allows a consumer to request that a qualified assignee be paid 100 percent of the VIR while requiring that a separate bill be provided to the retail electricity consumer. Pacific Power and Idaho Power propose to modify the rule to provide 45 days for payment. They also propose to add language to clarify that consumers must continue to pay the minimum monthly charge and other applicable charges on their monthly bills.

There is no dispute that net metering requires that consumers continue to pay the minimum monthly charge and other applicable charges on their monthly bills. We clarify the rule to make that explicit and to accommodate the electric companies' request for a 45 day payment schedule.

We revise the rule to read as follows:

860-084-0250

Billing and Payment Requirements

(1) Volumetric incentive payments for payable energy must be paid no later than 45 days from the last day of the retail electricity consumer's billing period. Retail electricity consumers may request that:

(a) Payments be paid directly to the consumer; the consumer will continue to receive a standard monthly bill for electricity purchased under the tariff; or

(b) Payments for energy generated be netted against the retail electricity consumer's standard monthly bill and the retail electricity consumer receive or pay the resulting amount; or

(c) The qualified assignee identified on the standard contract be paid 100 percent of the volumetric incentive rate payment and the retail electricity consumer be billed separately for the retail electricity consumer's monthly bill.

(2) The retail electricity consumer is responsible for the minimum monthly charge and other non-volumetric charges on the standard monthly bill.

M. Interconnection Requirements for Solar Photovoltaic Pilot Program (860-084-0260)

Proposed OAR 860-084-0260 establishes interconnection requirements for qualifying systems. RNP recommends deleting some of the proposed terms and limiting system certification options.

We decline to adopt RNP's proposed revisions in order to keep the interconnection requirements for qualifying systems the same as those required for traditional net metering arrangements under ORS 757.300.

N. Interconnection Cost Responsibility (860-084-0280)

Staff modified its earlier proposal that the electric company bear the interconnection costs, based on its understanding that the cost-based VIR derivation includes interconnection costs. Staff modified the proposed rule to be consistent with the existing net metering rules, so that the consumer pays the costs. Other parties support assigning interconnection cost responsibility to consumer.

We agree that consumers should bear their own interconnection costs because those costs are included in the cost-based VIR.

O. Insurance (860-084-0300)

Proposed OAR 860-084-0300, reflecting the net metering rules, establishes that an electric company may not require a contracted system to obtain liability insurance in order to interconnect. Pacific Power and Idaho Power argue that the rules should require that all participants carry a reasonable level of liability insurance to cover any injury to property or person arising from their participation in the pilot program.

We find that the cost of insurance is reasonably incurred by a consumer, and have included insurance costs in the derivation of the cost-based rate for small-scale and medium-scale systems. We revise the rule to read as follows:

860-084-0300

Insurance

A contracted system must obtain liability insurance in order to interconnect with the electric company's distribution system.

P. Installation, Operation, Maintenance, and Testing of Contracted Systems (860-084-0340)

Proposed OAR 860-084-0340 establishes the installation, operation, maintenance, and testing requirements of contracted systems and is based on the net metering rules. Pacific Power and Idaho Power suggest that an easily accessible, lockable disconnect switch should be located on the electric company's side of the meter. The location of the meter should be determined by the electric company to assure that it is placed at an appropriate location. PGE asks that the disconnection switch be placed within 10 feet of the meter.

We agree that the participating consumer should be required to install and maintain a lockable disconnect switch at a site approved by the electric company. Moreover, the cost responsibility for the disconnect switch should be placed on the

consumer because we have included such costs in the derivation of the cost-based rate. We revise the rule to read as follows:

860-084-0340

Installation, Operation, Maintenance, and Testing of Contracted Systems

A contracted system must include and maintain a manual disconnect switch that will disconnect the solar photovoltaic energy system from the electric company's system.

(1) The disconnect switch must be a lockable, load-break switch that plainly indicates whether it is in the open or closed position.

(2) The disconnect switch must be readily accessible to the electric company at all times and be located within 10 feet of the electric company meter. The disconnect switch may be located more than 10 feet from the electric company meter if permanent instructions are posted at the meter indicating the precise location of the disconnect switch. The electric company must approve the location of the disconnect switch prior to the installation of the facility.

(3) The retail electricity consumer must install and maintain the required disconnect switch at the retail electricity consumer's expense.

(4) For customer services of 600 volts or less, an electric company may not require a disconnect switch for an eligible system that is inverter-based with a maximum rating as shown below.

(a) Service type: 240 Volts, Single-phase, 3 Wire—Maximum size 7.2 kilowatts

(b) Service type: 120/208 Volts, 3-Phase, 4 Wire—Maximum size 10.5 kilowatts

(c) Service type: 120/240 Volts, 3-Phase 4 Wire—Maximum size 12.5 kilowatts

(d) Service type: 277/480, 3-Phase, 4 Wire—Maximum size 25.0 kilowatts

(e) For other service types, the eligible system must not impact the retail electric consumers' service conductors by more than 30 amperes.

Q. Cost Recovery and Rate Impacts (860-084-0380)

Proposed OAR 860-084-0380 establishes a process to determine the costs of complying with ORS 757.365 and provides that the Commission may establish a rate impact ceiling so that the rate impact of the pilot program for any customer class does not exceed 0.25 percent of the company's revenue requirement. The rule also requires each

electric company to biannually file estimates of the rate impact for each customer class beginning on July 1, 2010.

PGE supports the proposed rule, but recommends a change to provide for cost recovery based on customer class eligibility for the pilot, regardless of participation. ICNU opposes PGE's proposed modification and argues that such a change would result in cross-subsidization. ICNU believes that the most equitable distribution for rate recovery is directly proportionate to each class's participation in and benefit from the pilot program.

We decline to modify the rule to address cost recovery by class. As stated in docket UM 1452, cost allocation issues for ratemaking purposes will be decided in the appropriate ratemaking proceedings. We also decline to adopt a rate impact cap at this time.

We do, however, modify the rule to delay the reporting of estimated rate impacts by customer class. The electric companies must file the estimates beginning on November 1, 2010, and on that same date in 2012 and 2014.⁴

R. Cost Recovery Mechanism (860-084-0390)

Proposed OAR 860-084-0390 provides that electric companies may request recovery from customers of all prudently incurred costs associated with implementing the pilot program. PGE supports the language of the rule. PGE argues that the Commission also must determine if retail customers receiving electric service from energy service suppliers and/or served under multi-year cost of service rate opt-out arrangements are eligible for the pilot.

PGE proposes a cost recovery mechanism that is similar to its Renewable Resource Automatic Adjustment Clause (RAC) that can track program costs and include all customer groups. PGE assumes that direct access customers are eligible to participate in the pilot program and should be included in the customer classes paying the program costs. Consequently, cost recovery through its existing RAC is not appropriate.

As discussed in docket UM 1452, we find that PGE and Pacific Power should apply procedures consistent with current cost deferral mechanisms. Idaho Power is allowed to recover its costs through a rider mechanism similar to its currently approved Energy Efficiency Rider.

S. Data Availability (860-084-0430)

Proposed OAR 860-084-0430 specifies that electric companies must verify the data collected pursuant to the rules, report the data quarterly to the Commission and other agencies, and make the data, with certain exceptions, graphically available to

⁴ We make a similar change to OAR 860-084-0370.

the public on their websites. According to Pacific Power and Idaho Power, a statewide map would be more meaningful. They propose to amend the rule to require that the electric companies provide such information to the Commission or the Oregon Department of Energy that will enable that agency to display the information regarding the size and locations of reserved and contracted systems.

PGE notes that the provision requiring that each electric company make “graphically available” the general locations and sizes of reserved an contracted systems is not required by the statute and is an additional cost that should be considered further.

We adopt the recommendation of Pacific Power and Idaho Power for the development of a statewide map that shows the locations of the SPV systems. We revise the rule accordingly.

VI. CONCLUSION

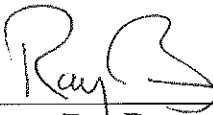
The rules shown in Appendix A are adopted.

ORDER

IT IS ORDERED that:

- 1. Oregon Administrative Rules 860-084-0000 through 860-084-0450 are adopted, as shown in Appendix A.
- 2. The rules become effective upon filing with the Secretary of State.


Made, entered, and effective **MAY 28 2010** .



Ray Baum
 Chairman



John Savage
 Commissioner



Susan K. Ackerman
 Commissioner



A person may petition the Commission for the amendment or repeal of a rule pursuant to ORS 183.390. A person may petition the Court of Appeals to determine the validity of a rule pursuant to ORS 183.400.

DIVISION 084
SOLAR PHOTOVOLTAIC PROGRAMS

860-084-0000**Scope and Applicability of Solar Photovoltaic Programs**

(1) OAR 860-084-0020 through 860-084-0080 (“the Solar Photovoltaic Capacity Standard”) govern implementation of programs requiring electric company installation of solar photovoltaic capacity.

(2) OAR 860-084-0100 through 860-084-0450 (the “Solar Photovoltaic Pilot Programs”) govern implementation of pilot programs to demonstrate the use and effectiveness of volumetric incentive rates and payments for electricity delivered from solar photovoltaic energy systems.

(3) The Commission may waive any of the rules contained in Division 084 for good cause.

Stat Auth: ORS 757.360 - 757.380

Stats. Implemented: ORS 757.360 - 757.380

Hist: NEW

860-084-0010**Definitions for Solar Photovoltaic Capacity Standard and Pilot Programs**

(1) “Contracted system” means an eligible system under contract in the solar photovoltaic pilot program.

(2) “Electric company” has the meaning given that term in ORS 757.600.

(3) “Eligible consumer” means a retail electricity consumer receiving service at the property where the solar photovoltaic energy system will be installed.

(4) “Eligible energy” or “eligible generation” means the kilowatt-hours that may be paid at the volumetric incentive rate. For the net metering option of the pilot program, eligible energy is equal to the usage of the retail electricity consumer in the year that the energy is generated by the eligible system. In a given month, this eligible energy is equal to the actual usage of the retail electricity consumer for that month. For the bidding option of the pilot program, eligible energy equals actual generation, net of system requirements.

(5) “Eligible participant” or “participant” means an eligible consumer who has signed a contract with the electric company and is participating in the pilot program. A regulated utility is not an eligible participant in pilot programs.

(6) “Eligible system” means a qualifying system that meets the requirements of OAR 860-084-0120.

(7) “Equipment package” means a group of components connecting an electric generator with an electric distribution system and includes all interface equipment including switchgear, inverters, or other interface devices. An equipment package may include an integrated generator or electric production source.

(8) “Excess energy” or “excess generation” means the kilowatt-hours generated in excess of actual annual usage under the net metering option of the volumetric incentive rate pilot program. In a given month, excess energy means kilowatt-hours generated in excess of monthly usage.

(9) “Nameplate capacity” means the maximum rated output of a solar photovoltaic system, measured at an irradiance level of 1000 W/m², with reference air mass 1.5 solar spectral irradiance distribution and cell or module junction temperature of 25°C.

(10) "IEEE standards" means the standards published in the 2003 edition of the Institute of Electrical and Electronics Engineers (IEEE) Standard 1547, entitled "Interconnecting Distributed Resources with Electric Power Systems," approved by the IEEE SA Standards Board on June 12, 2003, and in the 2005 edition of the IEEE Standard 1547.1, entitled "IEEE Standard Conformance Test Procedures for Equipment Interconnecting Distributed Resources with Electric Power Systems," approved by the IEEE SA Standards Board on June 9, 2005.

(11) "On-line" means that the photovoltaic system is installed and providing power to the electric company's electrical system or to serve the load of the retail electricity consumer.

(12) "Payable generation" is the eligible generation for each month plus accrued excess generation, up to the actual monthly usage. Excess generation accrues monthly.

(13) "Pilot capacity limit" means the maximum installed capacity that each electric company may contract during the pilot program.

(14) "Pilot year" means each twelve-month period of the solar photovoltaic pilot program beginning on April 1 and ending on March 31.

(15) "Qualifying assignee" or "assignee" means a person to whom a retail electricity consumer may assign volumetric incentive rate payments under the standard contract. An electric company or its affiliate or any other regulated utility is not a qualifying assignee. Qualifying assignees include, but are not limited to:

(a) A lender providing up front financing to a retail electricity consumer,

(b) A company or individual who enters into a financial agreement with a retail electricity consumer to own and operate a solar photovoltaic energy system on behalf of the retail electricity consumer in return for compensation,

(c) A company or individual who contracts with the retail electricity consumer to locate a solar photovoltaic system on property owned by the retail electricity consumer, or

(d) Any party identified by the retail electricity consumer to receive payments that the electric company is obligated to pay to the retail electricity consumer.

(16) "Qualifying third party" or "third party" means a party who is the owner or operator of a photovoltaic system installed under the pilot program but who is not the retail electricity consumer at that location. An electric company is not a qualifying third party under the pilot programs.

(17) "Reservation start date" means the date the retail electricity consumer is notified of securing capacity through a capacity reservation process and of the start and expiration dates for that capacity reservation. The reservation start date initiates the time to interconnection agreement.

(18) "Retail electricity consumer" means a consumer who is a direct customer of the electric company and is the end user of electricity for specific purposes, such as heating, lighting or operating equipment. Retail electricity consumers include consumers on direct access.

(19) "System requirements" means the input electricity required to allow the solar photovoltaic energy system to operate, sometimes referred to as the parasitic load.

(20) "Time to interconnection agreement" means the time between the reservation start date and the date an eligible participant signs an interconnection agreement.

(21) "Volumetric incentive payments" or "payments" means the monthly amount that an electric company pays to an eligible participant or assignee in the solar photovoltaic pilot program for payable energy generated by a contracted system.

(22) "Volumetric incentive rate" means the rate per kilowatt-hour paid by an electric company to a retail electricity consumer or assignee for payable generation.

Stat Auth: ORS 757.360 - 757.380
Stats. Implemented: ORS 757.360 - 757.380
Hist: NEW

Solar Photovoltaic Capacity Standard

860-084-0020

Solar Photovoltaic Capacity Standard

On or before January 1, 2020, each electric company must own, or contract to purchase the capacity and output of qualifying solar photovoltaic energy systems to achieve, or exceed, and maintain the following minimum solar photovoltaic capacity standards:

- (1) Portland General Electric: 10.9 megawatts
- (2) Pacific Power: 8.7 megawatts
- (3) Idaho Power Company: 0.5 megawatts

Stat Auth: ORS 757.360 - 757.380
Stats. Implemented: ORS 757.360 - 757.380
Hist: NEW

860-084-0030

Qualifying Systems under the Solar Photovoltaic Capacity Standard

Individual solar photovoltaic energy systems used to comply with the solar photovoltaic capacity standards specified in OAR 860-084-0020 must have a nameplate generating capacity greater than or equal to 500 kilowatts and less than or equal to 5 megawatts.

Stat Auth: ORS 757.360 - 757.380
Stats. Implemented: ORS 757.360 - 757.380
Hist: NEW

860-084-0040

Measurement of Capacity under the Solar Photovoltaic Capacity Standard

- (1) The capacity of solar photovoltaic energy systems used to satisfy the requirements of OAR 860-084-0020 must be measured on the alternating current side of the system's inverter.
- (2) Each electric company must convert nameplate capacity ratings reported by manufacturers in terms of direct current watts under standard test conditions to an alternating current rating in watts to account for inverter and other system component losses and to account for the effect of normal operating temperature on solar module output. This conversion will be calculated as 85 percent of the manufacturer's nameplate rating.

Stat Auth: ORS 757.360 - 757.380
Stats. Implemented: ORS 757.360 - 757.380
Hist: NEW

860-084-0050**Compliance Report**

(1) On or before February 1, 2020, each electric company must file a report with the Commission demonstrating compliance, or explaining in detail any failure to comply, with the solar photovoltaic capacity standards specified in OAR 860-084-0020.

(2) The report required in section (1) of this rule must include the following information associated with each solar photovoltaic energy system:

- (a) The name of the facility;
- (b) The location of the facility;
- (c) The in-service date of the facility;
- (d) The manufacturer's nameplate capacity rating;
- (e) The electric company's capacity rating on the alternating current side of the system's inverter;
- (f) The execution date of any associated power purchase agreement; and
- (g) The contracted capacity and output delivery period of any associated power purchase agreement.

Stat Auth: ORS 757.360 - 757.380

Stats. Implemented: ORS 757.360 - 757.380

Hist: NEW

860-084-0060**Cost Recovery**

An electric company may request recovery of its prudently incurred costs to comply with the solar photovoltaic capacity standard specified in OAR 860-084-0020 in an automatic adjustment clause proceeding filed at the Commission pursuant to ORS 469A.120.

Stat Auth: ORS 757.360 - 757.380

Stats. Implemented: ORS 757.360 - 757.380

Hist: NEW

860-084-0070**Renewable Energy Certificates and Compliance with the Renewable Portfolio Standards**

(1) Each renewable energy certificate associated with the electricity produced by solar photovoltaic energy systems used to achieve, or exceed, the minimum solar photovoltaic capacity standards specified in OAR 860-084-0020 may be used to comply with the renewable portfolio standards established under ORS 469A.005 to ORS 469A.120.

(2) Each renewable energy certificate associated with the electricity produced by solar photovoltaic energy systems may be used, or counted, twice to comply with the renewable portfolio standards established under ORS 469A.005 to ORS 469A.120, if the solar photovoltaic energy systems:

- (a) First become operational before January 1, 2016,
- (b) Are installed in Oregon, and
- (c) Are within the solar photovoltaic capacity standards specified in OAR 860-084-0020.

(3) Renewable energy certificates used pursuant to sections (1) and (2) of this rule must comply with the standards of OAR 860-083-0050.

Stat Auth: ORS 757.360 - 757.380
Stats. Implemented: ORS 757.360 - 757.380
Hist: NEW

860-084-0080

Implementation Plans

Each electric company must incorporate its plan to achieve, or exceed, and maintain the minimum solar photovoltaic capacity standards specified in OAR 860-084-0020 into its renewable portfolio standard implementation plans filed pursuant to OAR 860-083-0400.

Stat Auth: ORS 757.360 - 757.380
Stats. Implemented: ORS 757.360 - 757.380
Hist: NEW

Solar Photovoltaic Pilot Programs

860-084-0100

Solar Photovoltaic Pilot Programs

(1) Each electric company must establish pilot programs to demonstrate the use and effectiveness of volumetric incentive rates and payments for electricity delivered from qualifying solar photovoltaic energy systems.

(2) Each electric company must offer a net metering option under the pilot program. This option has the following characteristics:

- (a) Qualifying systems installed on the customer side of the service meter;
- (b) Volumetric incentive rates established by Commission order;
- (c) Volumetric incentive rate payments for generation up to the actual annual usage of the retail electricity consumer (eligible generation);
- (d) Generation in excess of net metered annual usage (excess generation) donated to the electric company's low income bill assistance program; and
- (e) Capacity of qualifying systems sized to provide an estimated energy generation equal to 90 percent of the rolling average of the usage at the premises at which the qualifying system will be installed. If this average cannot be determined, the nameplate capacity can be no more than 90 percent of a rolling average of three year's usage by a similarly-situated customer, as determined by the electric company. The methodology used to calculate this energy generation will be consistent with the methodologies used by the Energy Trust of Oregon and the Oregon Department of Energy.

(3) Each electric company must offer a volumetric incentive rate bid option under the pilot program. This option has the following characteristics:

- (a) Volumetric incentive rate paid to each retail electricity consumer is established by a successful bid for capacity in the volumetric incentive rate pilot program; and
- (b) Volumetric incentive rate payments for 100 percent of energy generated, net of system requirements.

(4) Retail electricity consumers eligible for each pilot program option will be defined by Commission order.

Stat Auth: ORS 757.360 - 757.380
Stats. Implemented: ORS 757.360 - 757.380
Hist: NEW

860-084-0120

Systems Eligible for Enrollment in Pilot Programs

(1) Individual solar photovoltaic energy systems eligible for the Solar Photovoltaic Pilot Programs must have a nameplate generating capacity less than or equal to 500 kilowatts and must be:

(a) In compliance with the siting, design, interconnection, installation, and electric output standards and codes required by the laws of Oregon;

(b) Installed with meters or other devices to monitor and measure the quantity of energy generated;

(c) Permanently installed in the State of Oregon by a retail electricity consumer of the electric company;

(d) Installed in the service territory of the electric company;

(e) First operational and on-line after the launch of the pilot programs;

(f) Financed without expenditures under ORS 757.612 (3)(b)(B) or tax credits under ORS 469.160 or ORS 469.185 to 469.225;

(g) Certified by the residential electric consumer as constructed from new components (modules, inverter, batteries, mounting hardware, etc.); and

(h) Compliant with Commission quality and reliability requirements for solar photovoltaic systems and system installation.

(2) Systems that are uninstalled before the end of the contract term are not eligible for subsequent volumetric incentive rates, other feed-in tariffs, or pilot programs during the remainder of the contract term; and these systems cannot be reinstalled for the purposes of entering a new contract under any solar photovoltaic pilot program, volumetric incentive or other feed-in tariff program in the service territory of any electric company in the State of Oregon during the contract term of the system, except that a system may be uninstalled and reinstalled at another location under the same contract under the conditions set forth in OAR 860-084-0280.

(3) Retail electricity consumers submitting applications for a 500 kilowatt project are not eligible to reserve capacity in the solar photovoltaic pilot program if the same project is also competing for a purchased power agreement under the Solar Capacity Standard.

Stat Auth: ORS 757.360 - 757.380
Stats. Implemented: ORS 757.360 - 757.380
Hist: NEW

860-084-0130

Ownership and Installation

(1) An electric company must contract to provide an incentive for solar photovoltaic energy generated from an eligible system owned by a retail electricity consumer who has been granted a capacity reservation in the solar photovoltaic pilot program and has executed all agreements with the electric company.

(2) Eligible systems must be installed on the same property as the property where the retail electricity consumer buys electricity from the electric company.

(a) Retail electricity consumers required to choose the net metering option of the volumetric pilot programs must connect their systems to the customer load side of their meter.

(b) Retail electricity consumers required to choose the volumetric incentive rate bidding option of the pilot program must connect into the distribution feeder that services the consumer at the property.

(3) A retail electricity consumer may transfer its existing contract to another retail electricity consumer eligible to contract with the electric company and residing at the same address where the system is installed.

(4) Eligible systems may be owned, operated, or owned and operated by qualifying third parties, if the eligible system is:

(a) Owned by a qualifying third party as part of a loan agreement, or

(b) Owned and operated by a qualifying third party on behalf of the retail electricity consumer, or

(c) Operated by a third party on behalf of the retail electricity consumer.

(5) The electric company will own the rights to 100 percent of the renewable energy certificates associated with the energy provided by the contracted systems. The electric company may perfect the renewable energy certificates.

Stat Auth: ORS 757.360 - 757.380

Stats. Implemented: ORS 757.360 - 757.380

Hist: NEW

860-084-0140

Assignment of Payments

(1) An electric company must allow a retail electricity consumer to assign payments to a single qualifying assignee under standard contracts approved by the Commission and must allow changes to assignment over the contract term.

(2) An electric company may charge a reasonable fee for the assignment of payments for account setup at the time that the standard contract is assigned. An electric company may charge a reasonable fee for changes to assignment of payments over the contract term.

(3) An electric company must provide payment to the qualifying assignee within 45 days from the last day of the retail electricity consumer's prior billing period.

Stat Auth: ORS 757.360 - 757.380

Stats. Implemented: ORS 757.360 - 757.380

Hist: NEW

860-084-0150

Solar Photovoltaic Pilot Capacity Limit

(1) New capacity reservations will not be accepted after March 31, 2015, or when the cumulative capacity of contracted systems in pilot programs reaches 25 megawatts of nameplate capacity, whichever is earlier.

(2) Power that qualifies against this capacity limit is measured as the sum of power generated on the alternating current side of system inverters across all contracted systems.

Stat Auth: ORS 757.360 - 757.380
Stats. Implemented: ORS 757.360 - 757.380
Hist: NEW

860-084-0160

Measurement of Capacity under the Solar Photovoltaic Pilot Program

(1) For purposes of the Solar Photovoltaic Pilot Program, the capacity of solar photovoltaic energy is measured on the alternating current side of the system's inverter.

(2) Each electric company must convert nameplate capacity ratings reported by manufacturers in terms of direct current watts under standard test conditions to an alternating current rating in watts to account for inverter and other system component losses and to account for the effect of normal operating temperature on solar module output. This conversion will be calculated as 85 percent of the manufacturer's nameplate rating.

Stat Auth: ORS 757.360 - 757.380
Stats. Implemented: ORS 757.360 - 757.380
Hist: NEW

860-084-0170

Distributing Solar Photovoltaic Pilot Capacity by Electric Company

(1) Each electric company will receive a share of the total solar photovoltaic pilot program capacity as established by Commission order.

(2) An electric company may not solicit or accept additional capacity reservations for a solar photovoltaic pilot program once the company reaches 100 percent of its allocated solar photovoltaic pilot capacity limit.

(3) The Commission may consider requests to adjust each electric company's solar photovoltaic pilot capacity limit by changing the allocation of the total solar photovoltaic pilot program capacity from those established at pilot program initiation.

Stat Auth: ORS 757.360 - 757.380
Stats. Implemented: ORS 757.360 - 757.380
Hist: NEW

860-084-0180

Distributing Electric Company Capacity Limit by Allocation Period

(1) Each electric company must allocate a percentage of its total allocated capacity limit as established by Commission order.

(2) The Commission may consider requests to adjust the allocation percentage for any electric company.

Stat Auth: ORS 757.360 - 757.380
Stats. Implemented: ORS 757.360 - 757.380
Hist: NEW

860-084-0190**Distributing Capacity by System Size**

(1) A solar photovoltaic system capacity is the total capacity contracted by a single retail electricity consumer.

(2) Three size classes of qualifying systems are established and defined by a range of nameplate capacity; the Commission may modify these capacity ranges.

(a) A small-scale system has a nameplate capacity of less than or equal to 10 kilowatts;

(b) A medium-scale system has a nameplate capacity greater than 10 kilowatts and less than or equal to 100 kilowatts; and

(c) A large-scale system has a nameplate capacity greater than 100 kilowatts and less than or equal to 500 kilowatts.

(3) Small-scale systems must be targeted to attain a goal of 75 percent of the energy generated under the solar photovoltaic pilot program.

(4) An electric company must allocate certain percentages of its pilot capacity allocation for small-scale, medium-scale, and large-scale capacity systems as directed by Commission order.

(5) An electric company with less than one megawatt of total allocation must allocate 100 percent of its solar photovoltaic capacity limit to retail electricity consumers installing small-scale systems.

Stat Auth: ORS 757.360 - 757.380

Stats. Implemented: ORS 757.360 - 757.380

Hist: NEW

860-084-0195**Mechanisms for Reserving Capacity**

(1) Capacity reservations for small-scale and medium-scale systems are awarded on a first-come first-served basis, until the annual capacity limit for the system size class is reached,

(a) Application packages for capacity may be submitted to the electric company at any time during the pilot year.

(b) A capacity reservation starts when an application package meeting the requirements of OAR 860-084-0230(2) is received by the electric company.

(2) Unless otherwise directed by Commission order, capacity reservations for large-scale systems are awarded on the basis of competitive bidding.

(a) Electric companies must issue a Request for Proposal for large-scale systems no later than 30 business days prior to the start of each pilot year.

(b) Electric companies must set the bidder response deadline no later than the first business day of each pilot year.

(c) Electric companies must award capacity to winning bidders no later than fifteen business days after the bidder response deadline. Selection of winning bids must be based solely on the bidder's volumetric incentive rate bid.

(d) If capacity remains available after all bids are awarded, then the remaining capacity will roll over to the next pilot year.

(e) A large-scale capacity reservation begins when the bidder receives notification of a successful bid.

(3) Electric companies must require a capacity reservation deposit of \$20 per kilowatt of the proposed system capacity.

Stat Auth: ORS 757.360 - 757.380
 Stats. Implemented: ORS 757.360 - 757.380
 Hist: NEW

860-084-0200

Capacity Reservation, Timing, and Volumetric Incentive Rates

(1) A consumer that has made a capacity reservation under the net metered option may receive the volumetric incentive rate in place at the time of the consumer's capacity reservation for 100 percent of the eligible energy generated by the consumer's system. Capacity reservation applications and standard contracts provided to retail electricity consumers at the time of capacity reservation must state the volumetric incentive rate that the retail electricity consumer is eligible to receive, based on the capacity reservation date.

(2) An eligible system owned by a retail electricity consumer who has been granted a capacity reservation in the solar photovoltaic pilot program and has executed all agreements with the electric company under the volumetric bidding option may receive the volumetric incentive rate bid by the retail electricity consumer, to be paid on 100 percent of the energy generated by the contracted system, net of system requirements. Capacity reservation applications and standard contracts provided to these retail electricity consumers must state the successful volumetric incentive rate bid awarded to the retail electricity consumer.

Stat Auth: ORS 757.360 - 757.380
 Stats. Implemented: ORS 757.360 - 757.380
 Hist: NEW

860-084-0210

Capacity Reservation, Timing, and Duration

(1) The capacity reservation for small-scale and medium-scale systems expires if a completed interconnection application is not filed within two months of the reservation start date, or if the system has not been installed within twelve months of the reservation start date.

(2) The capacity reservation for large-scale systems expires six months from the date that an interconnection application is filed or within twelve months from the reservation start date, whichever is longer, if the system has not been installed.

(3) Electric companies must collect data on the time to interconnection agreement and conduct pilot program satisfaction surveys in order to improve capacity reservation and interconnection processes over the pilot program. Data collection and surveys must include:

(a) Interconnection agreements that have not been negotiated between the electricity company and the retail electricity consumer within a six-month window after an application for interconnection has been filed, or

(b) Retail electricity consumers that have reserved capacity under the pilot programs and whose capacity reservations expire before solar photovoltaic energy systems are installed.

(4) Once the capacity reservation expires, the retail electricity consumer must newly apply for a capacity reservation and will not be given preferential treatment.

Stat Auth: ORS 757.360 - 757.380
 Stats. Implemented: ORS 757.360 - 757.380
 Hist: NEW

860-084-0220

Capacity Availability

(1) Each electric company must announce the available capacity for the upcoming capacity reservation period and solicit applications no later than two months before the start of the capacity reservation period. Each electric company must announce when the capacity allocation is fully reserved.

(2) Capacity allocated to small-scale, medium-scale, and large-scale systems that is not reserved in a capacity reservation period must be added to the available capacity for the respective size systems in the next capacity reservation period.

(3) In January 2013, the remaining pilot capacity may be reallocated. This reallocation may redistribute the remaining pilot program capacity so that 75 percent of the energy generated is from small-scale systems at the time the pilot program reaches 25 megawatts of alternating current.

Stat Auth: ORS 757.360 - 757.380
 Stats. Implemented: ORS 757.360 - 757.380
 Hist: NEW

860-084-0230

Application for Capacity Reservation

(1) The electric company must establish, in compliance with Commission order, a capacity application process for both the net metering and volumetric incentive rate bid options. The electric company must provide eligible participants the necessary instructions on how to complete a satisfactory capacity application. Fees collected during the capacity application process must be refunded to the retail electricity consumer if a capacity reservation is not secured.

(2) For the purposes of these rules, an application package includes a capacity reservation application, payment of fees required under OAR 860-084-0280, and an interconnection application that complies with OAR 860-084-0270(4)(a), (c), (d), (f), and (g). Electric companies may not require a retail electricity consumer to provide the information required by OAR 860-084-0270(4)(b) and (4)(e) as part of this initial application package.

(3) Within two months of securing a capacity reservation, a retail electricity consumer must submit a completed application for interconnection that meets all the requirements of OAR 860-084-0270 and that includes an estimate of annual system energy generation using the methodology identified in OAR 860-084-0100(2)(e).

(4) The capacity reservation application must certify that the retail electricity consumer has read and understands the standard contract established under the pilot program. Standard contract forms must be provided to retail electricity consumers as part of the application process.

Stat Auth: ORS 757.360 - 757.380
 Stats. Implemented: ORS 757.360 - 757.380
 Hist: NEW

860-084-0240**Standard Contracts**

(1) Each electric company must file, for Commission approval, a separate standard contract for the net metering and competitive bidding volumetric incentive rate programs as part of its volumetric incentive rate tariff filing.

(a) The standard contract will establish an agreement between the electric company and a retail electricity consumer under which the electric company will make volumetric incentive rate payments to participants for energy generated by solar photovoltaic systems installed in the service territory of the electric company for a 15-year period. After the initial 15-year period, the electric company may pay its prevailing avoided cost for energy generated by the solar photovoltaic systems.

(b) Contracts under the solar photovoltaic pilot programs may only be issued to retail electricity consumers of the electric company; these consumers must be eligible to participate in the pilots.

(2) Standard Contracts must include at least the following elements:

(a) Name and address of the retail electricity consumer and the installation address of the eligible system;

(b) Each standard contract must be based on the volumetric incentive rate (bid option) or volumetric incentive rate formula (net metering option) in place at the time of the capacity reservation for the retail electricity consumer;

(c) Each standard contract must require a retail electricity consumer installing capacity under the net metered option to transfer generation in excess of eligible energy to the low income bill assistance program of the electric company. Standard contracts must provide for certification by the retail electricity consumer that they are eligible to make wholesale sales of energy at market-based rates;

(d) Each standard contract must include a date of initiation and a date of contract expiration. If mutually agreed upon by the electric company and consumer, the contract may exceed 15 years;

(e) Each standard contract must include a section to record retail electricity consumer certifications that:

(A) Any investor in the qualifying system has not accepted or will not accept incentives from the Energy Trust of Oregon or Oregon state residential or business tax credits for the qualifying system covered by the contract, and

(B) The system and its individual components are new and have not been previously installed, and meet quality, reliability, and installation criteria approved by the Commission;

(f) Each standard contract must include a provision under which the retail electricity consumer agrees that the electric company can release lists of all participants in the pilot programs to the Oregon Department of Revenue, the Oregon Department of Energy, the Public Utility Commission, and the Energy Trust of Oregon. The standard contract must contain descriptions of the confidentiality requirements that those receiving this information must follow;

(g) Each standard contract must require the retail electricity consumer to agree to complete up to three surveys on the effectiveness of the pilot programs in order to remain eligible for participation in the pilot program. Each standard contract must also include the retail electricity consumer's agreement that the electric company may release information obtained from the surveys to the Commission and the Energy Trust of Oregon;

(h) Monthly payments must be made directly to the retail electricity consumer or to a qualifying assignee;

(i) Each standard contract must allow a retail electricity consumer to assign payments to a single qualifying assignee. Contracts must allow the retail electricity consumer to change the assignee at any time during the contract term;

(j) Each standard contract must allow the transfer of an existing retail electricity consumer's contract under the pilot program to another retail electricity consumer eligible to contract with the electric company under the pilot program, consistent with OAR 860-084-0130(3).

(k) Disclosure that payments under the volumetric incentive rate bid option may be taxable as income under Oregon and Federal Tax law and that an eligible system may be subject to property tax in the State of Oregon;

(l) Name and business address of solar installer or contractor, name and business address of system financier, and description of the photovoltaic equipment package;.

(m) For net metered systems, participants must certify that the system is sized such that their qualifying system complies with OAR 860-084-0100(2)(e).

(3) A retail electricity consumer found by the Commission to have made a false certification is no longer eligible for the Volumetric Incentive Rate Pilot Programs and any contract entered under the Volumetric Incentive Rate Pilot Programs is void.

Stat Auth: ORS 757.360 - 757.380

Stats. Implemented: ORS 757.360 - 757.380

Hist: NEW

860-084-0250

Billing and Payment Requirements

(1) Volumetric incentive payments for payable energy must be paid no later than 45 days from the last day of the retail electricity consumer's billing period. Retail electricity consumers may request that:

(a) Payments be paid directly to the consumer; the consumer will continue to receive a standard monthly bill for electricity purchased under the tariff; or

(b) Payments for energy generated be netted against the retail electricity consumer's standard monthly bill and the retail electricity consumer receive or pay the resulting amount; or

(c) The qualified assignee identified on the standard contract be paid 100 percent of the volumetric incentive rate payment and the retail electricity consumer be billed separately for the retail electricity consumer's monthly bill.

(2) The retail electricity consumer is responsible for the minimum monthly charge and other non-volumetric charges on the standard monthly bill.

Stat Auth: ORS 757.360 - 757.380

Stats. Implemented: ORS 757.360 - 757.380

Hist: NEW

Interconnection: Application And Agreements

860-084-0260

Interconnection Requirements for Solar Photovoltaic Pilot Program

(1) To be qualified for interconnected operation, a qualifying system must be certified as complying with the following standards as applicable:

(a) IEEE standards; and

(b) UL 1741 Inverters, Converters, and Controllers for Use in Independent Power Systems. (January 2001).

(2) A system is considered as certified to the standards of section (1) of this rule, and the electric company may not require further design review, testing, or additional equipment, if:

(a) The system is a complete equipment package that has been submitted by a manufacturer to a nationally recognized testing and certification laboratory, and has been tested and listed by the laboratory for continuous interactive operation with an electric distribution system in compliance with the applicable codes and standards listed in section (1) of this rule; or

(b) The system is an equipment package which includes a generator or other electric source and the equipment package has been tested and listed as an integrated package in compliance with the applicable codes and standards listed in section (1) of this rule, or

(c) The certified equipment package comprises only the interface components (switchgear, inverters, or other interface devices) and the interconnection applicant has shown that

(A) The solar photovoltaic energy system being utilized is compatible with the equipment package,

(B) Testing and listing of the solar photovoltaic generator being utilized, as performed by the nationally recognized testing and certification laboratory, is consistent with the testing and listing of the interface component equipment package, and

(C) The testing and listing specified for the package is consistent with the applicable codes and standards listed in section (1) of this rule.

(3) A qualifying system may not interconnect to a transmission line.

Stat Auth: ORS 757.360 - 757.380

Stats. Implemented: ORS 757.360 - 757.380

Hist: NEW

860-084-0270

Authorization to Interconnect

(1) A person may not interconnect an eligible system to an electric company's distribution system without authorization from the electric company.

(2) A person proposing to interconnect an eligible system to an electric company's distribution system must submit an application for interconnection to the electric company.

(3) A person with a contracted system who proposes to make any change to the facility, other than a minor equipment modification, must submit an application to the electric company. Changes affecting the nameplate capacity or the output capacity of the system authorized in the agreement governing the contract require that the applicant apply for an additional capacity reservation and for a new interconnection review.

(4) An application for interconnection must be submitted on a standard form, available from the electric company and posted on the electric company's website. The submission of a

completed application initiates interconnection review. The application form must require the following types of information:

- (a) The name of the applicant and the electric company involved;
- (b) The type and specifications of the complete equipment package of the solar photovoltaic energy system, including the solar photovoltaic generator;
- (c) The level of interconnection review sought; e.g. Level 1, Level 2, or Level 3;
- (d) The contractor who will install the solar photovoltaic energy system;
- (e) Equipment certifications;
- (f) The anticipated date the solar photovoltaic energy system will be operational; and
- (g) Other information that the utility deems is necessary to determine compliance with these solar photovoltaic pilot program interconnection rules.

(5) Within three business days after receiving an application for Level 1, Level 2, or Level 3 interconnection review, the electric company must provide written or electronic mail notice to the applicant that it received the application and whether the application meets established criteria.

(a) If the application does not meet established criteria, the written notice must include a list of all of the information needed to complete the application.

(b) If the number of applications received in a week exceeds 20, the electric company may notify customers by electronic mail that the company will respond within ten business days.

(6) Each electric company must designate an employee or office from which an applicant can obtain basic application forms and information through an informal process; this process must be outlined and posted on the electric company's website. On request, the electric company must provide all relevant forms, documents, and technical requirements for submittal of an application that meets established criteria for an interconnection application under these solar photovoltaic pilot program rules, as well as specific information necessary to contact the electric company representative assigned to review the application.

(7) A person may also request information about the feasibility of interconnecting a qualifying system, in advance of filing an application for capacity reservation or interconnection. The information provided by the electric company in response to this request must include relevant existing studies and other materials that may be used to understand the feasibility of interconnecting a solar photovoltaic facility at a particular point on the electric company's distribution system. The electric company 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 electric company may require a person to sign a confidentiality agreement if required to protect confidential or proprietary information. A person requesting information under this section must reimburse the electric company for the reasonable costs of gathering and copying the requested information.

(8) The electric company is not responsible for the cost of determining the rating of equipment on the customer side of the meter.

Stat Auth: ORS 757.360 - 757.380

Stats. Implemented: ORS 757.360 - 757.380

Hist: NEW

860-084-0280**Interconnection Cost Responsibility**

(1) For a Level 1 interconnection review, the electric company may not charge an application, or other fee, unless otherwise directed by the Commission. However, if an application for Level 1 interconnection review is denied because it does not meet the requirements for Level 1 interconnection review and the applicant resubmits the application under another review procedure, the electric company may impose a fee for the resubmitted application.

(2) For a Level 2 interconnection review, the electric company may charge fees of up to \$50.00 plus \$1.00 per kilowatt of the qualifying system's capacity, plus the reasonable cost of any required minor modifications to the electric distribution system or additional review. Costs for such minor modifications or additional review will be based on the electric company's non-binding, good faith estimates and the ultimate actual installed costs. Costs for engineering work done as part of any additional review will not exceed \$100.00 per hour. An electric company may adjust the \$100.00 hourly rate once in January of each year to account for inflation and deflation as measured by the Consumer Price Index.

(3) For a Level 3 interconnection review, the electric company may charge fees of up to \$100.00 plus \$2.00 per kilowatt of the qualifying system's capacity, as well as charges for actual time spent on any required impact or facilities studies. Costs for engineering work done as part of an impact study or interconnection facilities study will not exceed \$100.00 per hour. An electric company may adjust the \$100.00 hourly rate once in January of each year to account for inflation and deflation as measured by the Consumer Price Index. If the electric company must install facilities in order to accommodate the interconnection of the qualifying system, the cost of such facilities will be the responsibility of the applicant.

(4) Interconnected net metered systems must be equipped with two meters: metering equipment that can measure the flow of electricity in both directions (complying with ANSI C12.1 standards and OAR 860-023-0015) to replace the existing customer meter, and a second meter that can measure the total output of the qualifying system. Interconnected stand-alone systems using the bidding process must be equipped with metering equipment that can measure the flow of electricity in both directions (complying with ANSI C12.1 standards and OAR 860-023-0015). The electric company will install the required metering equipment at the electric company's expense for both the net metered and stand-alone system.

(a) The electric company constructs, owns, operates, and maintains all meters and applicable interconnection facilities on the company side of the retail electric consumer's meter, including, the second meter installed to measure the total output of the qualifying system.

(b) The electric company must charge an additional monthly service charge to the retail electricity customer for the additional meter used to measure the total output of the qualifying system, as established by Commission order.

(5) An eligible participant who is reinstalling a contracted system and is eligible to continue in the solar photovoltaic pilot program under an existing standard contract must pay the expense of interconnection facilities, required additions or modifications to the electric distribution system, interconnection review, or system upgrades in the new location as applicable.

Stat Auth: ORS 757.360 - 757.380

Stats. Implemented: ORS 757.360 - 757.380

Hist: NEW

860-084-0300**Insurance**

A contracted system must obtain liability insurance in order to interconnect with the electric company's distribution system.

Stat Auth: ORS 757.360 - 757.380

Stats. Implemented: ORS 757.360 - 757.380

Hist: NEW

860-084-0310**Level 1 System Interconnection Review**

- (1) An eligible system is eligible for Level 1 interconnection review if:
 - (a) The facility is inverter-based; and
 - (b) The facility has a capacity of 25 kilowatts or less.
- (2) The electric company must approve interconnection under the Level 1 interconnection review procedure if:
 - (a) The aggregate generation capacity on the distribution circuit to which the eligible system will interconnect, including the capacity of the eligible system, may not contribute more than 10 percent to the distribution circuit's maximum fault current at the point on the high voltage (primary) level that is nearest the proposed point of common coupling;
 - (b) An eligible system's point of common coupling may not be on a transmission line, a spot network, or an area network;
 - (c) If an eligible system is to be connected to a radial distribution circuit, the aggregate generation capacity connected to the circuit, including that of the eligible system, may not exceed 15 percent of the circuit's total annual peak load, as most recently measured at the substation;
 - (d) If an eligible system is to be connected to a single-phase shared secondary, the aggregate generation capacity connected to the shared secondary, including the eligible system, may not exceed 20 kilovolt-amperes; and
 - (e) If a single-phase eligible system is to be connected to a transformer center tap neutral of a 240 volt service, the addition of the eligible system may not create a current imbalance between the two sides of the 240 volt service of more than 20 percent of nameplate rating of the service transformer.
- (3) Within 10 business days after the electric company notifies a Level 1 applicant that the application is complete, the electric company must notify the applicant that:
 - (a) The eligible system meets all applicable criteria and the interconnection is approved upon installation of any required meter upgrade, completion of any required inspection of the facility, and execution of an interconnection agreement; or
 - (b) The eligible system has failed to meet one or more of the applicable criteria and the interconnection application is denied.
- (4) If an electric company 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) of this rule.
- (5) Within three business days after sending the notice to an applicant that the proposed interconnection meets the Level 1 requirements, an electric company must notify the applicant:

(a) Whether an inspection of the eligible system for compliance with these interconnection rules is required prior to the operation of the system; and

(b) That an interconnection agreement is required for the eligible system. The electric company must also execute and send to the applicant a Level 1 interconnection agreement, unless the applicant has already submitted such an agreement with its application for interconnection.

(6) On receipt of an executed interconnection agreement from the applicant and satisfactory completion of any required inspection, the electric company must approve the interconnection, conditioned on compliance with all applicable building codes.

(7) The retail electric customer must notify the electric company of the anticipated start date for operation of the eligible system at least five business days prior to starting operation, either through the submittal of the interconnection agreement or in a separate notice. If the electric company requires an inspection of the eligible system, the applicant may not begin operating the facility until satisfactory completion of the inspection.

(8) If an application for Level 1 interconnection review is denied because it does not meet one or more of the applicable requirements in this rule, an applicant may resubmit the application under the Level 2 or Level 3 interconnection review procedure, as appropriate.

Stat Auth: ORS 757.360 - 757.380

Stats. Implemented ORS 757.360- 757.380

Hist: NEW

860-084-0320

Level 2 System Interconnection Review

(1) An electric company must apply the following Level 2 interconnection review procedure for an application to interconnect an eligible system that meets the following criteria:

(a) The facility has a capacity of 500 kilowatts or less; and

(b) The facility does not qualify for or failed to meet applicable Level 1 interconnection review procedures.

(2) The electric company must approve interconnection under the Level 2 interconnection review procedure if:

(a) The aggregate generation capacity on the distribution circuit to which the eligible system will interconnect, including the capacity of the eligible system, will not cause any distribution protective equipment (including, but not limited to, substation breakers, fuse cutouts, and line reclosers), or customer equipment on the electric distribution system, to exceed 90 percent of the short circuit interrupting capability of the equipment. In addition, an eligible system may not be connected to a circuit that already exceeds 90 percent of the short circuit interrupting capability, prior to interconnection of the facility;

(b) If there are posted transient stability limits to generating units located in the general electrical vicinity of the proposed point of common coupling, including, but not limited to within three or four transmission voltage level busses, the aggregate generation capacity, including the eligible system, connected to the distribution low voltage side of the substation transformer feeding the distribution circuit containing the point of common coupling may not exceed 10 megawatts;

(c) The aggregate generation capacity connected to the distribution circuit, including the eligible system, may not contribute more than 10 percent to the distribution circuit's maximum

fault current at the point on the high voltage (primary) level nearest the proposed point of common coupling;

(d) If an eligible system is to be connected to a radial distribution circuit, the aggregate generation capacity connected to the electric distribution system by non-electric company sources, including the eligible system, may not exceed 15 percent of the total circuit annual peak load. For the purposes of this subsection, annual peak load will be based on measurements taken over the 12 months previous to the submittal of the application, measured for the circuit at the substation nearest to the eligible system;

(e) If an eligible system is to be connected to three-phase, three wire primary electric company distribution lines, a three-phase or single-phase generator must be connected phase-to-phase;

(f) If an eligible system is to be connected to three-phase, four wire primary electric company distribution lines, a three-phase or single-phase generator must be connected line-to-neutral and must be effectively grounded;

(g) If an eligible system is to be connected to a single-phase shared secondary, the aggregate generation capacity on the shared secondary, including the eligible system, may not exceed 20 kilovolt-amperes;

(h) If an eligible system is single-phase and is to be connected to a transformer center tap neutral of a 240 volt service, the addition of the eligible system may not create a current imbalance between the two sides of the 240 volt service that is greater than 20 percent of the nameplate rating of the service transformer;

(i) An eligible system's point of common coupling may not be on a transmission line; and

(j) If an eligible system's proposed point of common coupling is on a spot or area network, the interconnection must meet the following additional requirements:

(A) For an eligible system that will be connected to a spot network circuit, the aggregate generation capacity connected to that spot network from the eligible system, and any generating facilities, may not exceed five percent of the spot network's maximum load;

(B) For an eligible system that utilizes inverter-based protective functions, which will be connected to an area network, the eligible system, combined with any other generating facilities on the load side of network protective devices, may not exceed 10 percent of the minimum annual load on the network, or 500 kilowatts, whichever is less. The percent of minimum load must be calculated based on the minimum load occurring during an off-peak daylight period; and

(C) For an eligible system that will be connected to a spot or an area network that does not utilize inverter-based protective functions, or for an inverter-based eligible system that does not meet the requirements of paragraphs (A) or (B) of this subsection, the eligible system must utilize low forward power relays or other protection devices that ensure no export of power from the eligible system, including inadvertent export (under fault conditions) that could adversely affect protective devices on the network.

(3) Within 15 business days after notifying a Level 2 applicant that the application is complete, the electric company must perform an initial review of the proposed interconnection to determine whether the interconnection meets the applicable criteria. During this initial review, the electric company may, at its own expense, conduct any studies or tests it deems necessary to evaluate the proposed interconnection and provide notice to the applicant of one of the following determinations:

(a) The eligible system meets the applicable requirements and that interconnection will be approved following any required inspection of the facility and fully executed interconnection

agreement. Within three business days after this notice, the electric company must provide the applicant with an executable interconnection agreement;

(b) The eligible system failed to meet one or more of the applicable requirements, but the electric company determined that the eligible system may be interconnected consistent with safety, reliability, and power quality. In this case, the electric company must notify the applicant that the interconnection will be approved following any required inspection of the facility and fully executed interconnection agreement. Within five business days after this notice, the electric company must provide the applicant with an executable interconnection agreement; or

(c) The eligible system failed to meet one or more of the applicable requirements, and that additional review would not enable the electric company to determine that the eligible system could be interconnected consistent with safety, reliability, and power quality. In such a case, the electric company must notify the applicant that the interconnection application has been denied and must provide an explanation of the reason(s) for the denial, including a list of additional information, or modifications to the eligible system, or both, which would be required in order to obtain an approval under Level 2 interconnection procedures.

(4) An applicant that receives an interconnection agreement under subsection (3)(a) or (3)(b) of this rule must:

(a) Execute the agreement and return it to the electric company at least 10 business days prior to starting operation of the eligible system (unless the electric company does not so require); and

(b) Indicate to the electric company the anticipated start date for operation of the eligible system.

(5) The electric company may require an electric company inspection of an eligible system for compliance with these solar photovoltaic rules prior to operation, and may require and arrange for witness of commissioning tests as set forth in IEEE standards. The electric company must schedule any inspections or tests under this section promptly and within a reasonable time after submittal of the application. The applicant may not begin operating the eligible system until after the inspection and testing is completed.

(6) Approval of interconnected operation of any Level 2 eligible system must be conditioned on all of the following occurring:

(a) Approval of the interconnection by the electrical code official with jurisdiction over the interconnection;

(b) Successful completion of any electric company inspection or witnessing of commissioning tests, or both, requested by the electric company; and

(c) Passing of the planned start date provided by the applicant.

(7) If an application for Level 2 interconnection review is denied because it does not meet one or more of the requirements of this rule, the applicant may resubmit the application under the Level 3 interconnection review procedure.

Stat Auth: ORS 757.360 - 757.380

Stats. Implemented: ORS 757.360 - 757.380

Hist: NEW

860-084-0330

Level 3 System Interconnection Review

(1) The electric company must apply the Level 3 review procedure for an application to interconnect an eligible system that meets the following criteria:

- (a) The facility has a capacity of 500 kilowatts or less; and
- (b) The facility does not qualify or failed to meet Level 2 interconnection review procedures.

(2) Following receipt of a Level 3 application and within three business days of a request from the applicant, the electric company must provide pertinent information to the applicant, such as the available fault current at the proposed interconnection location, the existing peak loading on the lines in the general vicinity of the eligible system, and the configuration of the distribution lines at the proposed point of common coupling.

(3) Within seven business days after receiving a complete application for Level 3 interconnection review, the electric company must conduct an impact study which will include a non-binding, good faith cost estimate. The impact study must be conducted in accordance with good utility practice and must:

- (a) Detail the impacts to the electric distribution system that would result if the eligible system were interconnected without modifications to either the eligible system or to the electric distribution system;

- (b) Identify any modifications to the electric company's electric distribution system that would be necessary to accommodate the proposed interconnection; and

- (c) Focus on power flows and utility protective devices, including control requirements; and

- (d) Include the following elements, as applicable:

- (A) A load flow study;

- (B) A short-circuit study;

- (C) A circuit protection and coordination study;

- (D) The impact on the operation of the electric distribution system;

- (E) A stability study, along with the conditions that would justify including this element in the impact study;

- (F) A voltage collapse study, along with the conditions that would justify including this element in the impact study.

(4) The electric company must complete the impact study and must notify the applicant within 30 calendar days of one of the following results:

- (a) Only minor modifications to the electric company's electric distribution system are necessary to accommodate interconnection. In such a case, the electric company will send the applicant an interconnection agreement that details the scope of the necessary modifications and a non-binding, good faith estimate of its cost; or

- (b) Substantial modifications to the electric company's electric distribution system are necessary to accommodate the proposed interconnection. In such a case, the electric company must provide a non-binding, good faith estimate of the cost of the modifications, which must be accurate to within plus or minus 25 percent. In addition, the electric company must offer to conduct, at the applicant's expense, an interconnection facilities study that must identify the types and cost of equipment needed to safely interconnect the applicant's eligible system.

(5) If the proposed interconnection may affect electric transmission or delivery systems other than those controlled by the electric company, operators of those other systems may require additional studies to determine the potential impact of the interconnection on those systems. If such additional studies are required, the electric company must coordinate the studies but is not responsible for their timing.

(6) If an applicant requests a facilities study under subsection (4)(b), the electric company must provide an interconnection facilities study agreement. The interconnection facilities study agreement must describe the work to be undertaken in the interconnection facilities study and

must include a non-binding, good faith estimate of the cost to the applicant for completion of the study. Upon the execution by the applicant of the interconnection facilities study agreement, the electric company will conduct an interconnection facilities study to identify the facilities necessary to safely interconnect the eligible system with the electric company's electric distribution system, and to propose a non-binding, good faith estimate of the cost of those facilities and the time required to build and install those facilities.

(7) Upon completion of an interconnection facilities study, the electric company must provide the applicant with the results of the study and an executable interconnection agreement. The agreement must list the conditions and facilities necessary for the eligible system to safely interconnect with the electric company's electric distribution system, and must include a non-binding, good faith estimate of the cost of those facilities and the estimated time required to build and install those facilities.

(8) If the applicant wishes to interconnect, it must execute the interconnection agreement and return it to the electric company at least 10 business days prior to starting operation of the eligible system (unless the electric company does not so require), pay a deposit of not more than 50 percent of the estimated cost of the facilities identified in the interconnection facilities study, complete installation of the eligible system, and agree to pay the public utility the actual installed cost of the facilities needed to interconnect as identified in the interconnection facilities study.

(9) Within 15 business days after notice from the applicant that the eligible system has been installed, the electric company must inspect the eligible system and must arrange to witness any commissioning tests required under IEEE standards. The electric company and the applicant must select a date by mutual agreement for the electric company to witness commissioning tests.

(10) If the eligible system satisfactorily passes required commissioning tests, if any, the electric company must notify the applicant in writing, within three business days after the tests, of one of the following:

(a) The interconnection is approved and the eligible system may begin operation; or

(b) The interconnection facilities study identified necessary construction that has not been completed, the date upon which the construction must be completed, and the date when the eligible system may begin operation.

(11) If the commissioning tests are not satisfactory, the applicant must repair or replace the unsatisfactory equipment to reschedule a commissioning test.

Stat Auth: ORS 757.360 - 757.380

Stats. Implemented: ORS 757.360 - 757.380

Hist: NEW

860-084-0340

Installation, Operation, Maintenance, and Testing of Contracted Systems

A contracted system must include and maintain a manual disconnect switch that will disconnect the solar photovoltaic energy system from the electric company's system.

(1) The disconnect switch must be a lockable, load-break switch that plainly indicates whether it is in the open or closed position.

(2) The disconnect switch must be readily accessible to the electric company at all times and be located within 10 feet of the electric company meter. The disconnect switch may be located more than 10 feet from the electric company meter if permanent instructions are posted at the

meter indicating the precise location of the disconnect switch. The electric company must approve the location of the disconnect switch prior to the installation of the facility.

(3) The retail electricity consumer must install and maintain the required disconnect switch at the retail electricity consumer's expense.

(4) For customer services of 600 volts or less, an electric company may not require a disconnect switch for an eligible system that is inverter-based with a maximum rating as shown below.

(a) Service type: 240 Volts, Single-phase, 3 Wire—Maximum size 7.2 kilowatts

(b) Service type: 120/208 Volts, 3-Phase, 4 Wire—Maximum size 10.5 kilowatts

(c) Service type: 120/240 Volts, 3-Phase 4 Wire—Maximum size 12.5 kilowatts

(d) Service type: 277/480, 3-Phase, 4 Wire—Maximum size 25.0 kilowatts

(e) For other service types, the eligible system must not impact the retail electric consumers' service conductors by more than 30 amperes.

Stat Auth: ORS 757.360 - 757.380

Stats. Implemented: ORS 757.360 - 757.380

Hist: NEW

860-084-0350

Requirements after Approval of a Solar Photovoltaic Interconnection

(1) Once a contracted system has been approved under these solar photovoltaic interconnection rules, the electric company may not require a retail electricity consumer to test or perform maintenance on its facility except for:

(a) An annual test in which the contracted system is disconnected from the electric company's equipment to ensure that the inverter stops delivering power to the grid;

(b) Any manufacturer-recommended testing or maintenance;

(c) Any post-installation testing necessary to ensure compliance with IEEE standards or to ensure safety; and

(d) Testing required if the retail electricity customer replaces a major equipment component that is different from the originally installed model.

(2) When a contracted system undergoes maintenance or testing in accordance with the requirements of these solar photovoltaic interconnection rules, the retail electricity consumer must retain written records for seven years documenting the maintenance and the results of testing.

(3) An electric company has the right to inspect a contracted system after interconnection approval is granted, at reasonable hours and with reasonable prior notice to the retail electricity consumer. If the electric company discovers that the contracted system is not in compliance with the requirements of these solar photovoltaic interconnection rules, the electric company may require the retail electricity consumer to disconnect the contracted system until compliance is achieved.

(4) The retail electricity customers' electric service may be disconnected by the public utility entirely if the contracted system must be physically disconnected for any reason.

Stat Auth: ORS 757.360 - 757.380

Stats. Implemented: ORS 757.360 - 757.380

Hist: NEW

Rates and Cost Recovery

860-084-0360

Volumetric Incentive Rates and Payments – Net Metering Option

(1) Each electric company must pay the retail electricity consumer on a monthly basis for eligible generation up to the consumer's actual usage in the month. Any excess generation in the month transfers to the next month's eligible generation. At the end of a generation year, any remaining excess generation is donated to the low income bill assistance.

(2) The default generation year is April 1 to March 31. At the time of entering into the standard contract for the net metering option, a retail electricity consumer may choose an alternative generation year.

(3) The monthly incentive payment equals the product of the volumetric incentive rate specified in the standard contract minus the retail rate in effect at the time of payment eligible generation for the month.

Stat Auth: ORS 757.360 - 757.380

Stats. Implemented: ORS 757.360 - 757.380

Hist: NEW

860-084-0365

Volumetric Incentive Rate Bidding Option

(1) A retail electricity consumer participating under the volumetric incentive rate bidding option of the pilot program receives a payment that equals the product of the eligible kilowatt-hours of electricity delivered to the electric company and the volumetric incentive rate per kilowatt-hour established through the consumer's successful bid in the volumetric incentive rate bidding process that secured a capacity reservation.

(2) Each company will conduct a volumetric incentive rate bidding process with capacity awarded in the second month of each pilot year, or as otherwise directed by the Commission, through a Request for Proposal process approved by the Commission.

Stat Auth: ORS 757.360 - 757.380

Stats. Implemented: ORS 757.360 - 757.380

Hist: NEW

860-084-0370

Resource Value

(1) On November 1 of 2010, 2012, and 2014, each electric company must file, for review in a Commission proceeding, its estimate of the 15-year levelized resource value for the company, along with supporting work papers.

(2) For the purpose of determining payments to retail electricity consumers at the end of the 15-year contract term, each electric utility must file, beginning January 1, 2025, and every January 1 thereafter, its estimates of the annual resource value for the company for each of the next five years.

(3) A resource value may be established for small-scale, medium-scale, and large-scale systems and may be differentiated by remote location or location central to the system load, as directed by the Commission.

Stat Auth: ORS 757.360 - 757.380
Stats. Implemented: ORS 757.360 - 757.380
Hist: NEW

860-084-0380

Cost Recovery and Rate Impacts

(1) An electric company may recover in rates all costs prudently incurred to offer the pilot program established under these rules, including, but not limited to, costs not otherwise reflected in rates for electricity usage related to:

- (a) Payments for the output of contracted systems, and
- (b) Data collection and analysis for assessment of the company's pilot program.

(2) On November 1 of 2010, 2012, and 2014, and as otherwise directed by the Commission, each electric company must file for review, in a Commission proceeding, its estimates of the rate impact of pilot program participation, for each customer class, along with supporting work papers.

(3) The Commission may establish total generator nameplate capacity limits for an electric company so that the rate impact of the pilot program for any customer class does not exceed 0.25 percent of the company's revenue requirement for the class in any year.

Stat Auth: ORS 757.360 - 757.380
Stats. Implemented: ORS 757.360 - 757.380
Hist: NEW

860-084-0390

Cost Recovery Mechanism

An electric company may request recovery of prudently incurred costs associated with compliance with the solar photovoltaic pilot program requirements. Mechanisms for recovery of cost associated with compliance will be established by Commission order.

Stat Auth: ORS 757.360 - 757.380
Stats. Implemented: ORS 757.360 - 757.380
Hist: NEW

Data Collection and Reporting

860-084-0400

Data Collection

Except as provided in OAR 860-084-0440, each electric company must collect from the retail electricity consumer participating in the pilot program data on the installed solar photovoltaic energy system. The collected data elements must include, but are not limited to:

- (1) Nameplate Capacity;
- (2) Total Installed Cost;
- (3) Photovoltaic module cost;

- (4) Non-photovoltaic module cost (including inverters, other hardware, labor, overhead, and regulatory compliance costs);
- (5) Total financing cost;
- (6) Financing terms (including fees paid, loan term, and interest rate secured);
- (7) System location, including street address and GPS location;
- (8) Technology type (building-integrated versus rack-mounted, crystalline silicon versus thin-film, solar tracking versus rack-mounted, etc.);
- (9) Federal tax credit;
- (10) In-service date;
- (11) Expected annual energy output;
- (12) Date of certification of compliance; and
- (13) Class of service of retail electricity consumer.

Stat Auth: ORS 757.360 - 757.380

Stats. Implemented: ORS 757.360 - 757.380

Hist: NEW

860-084-0420

Compliance with Pilot Program Requirements

(1) The participant agrees to the confidential release of information from participant surveys and pilot program applications to the organizations given in section (2) of this rule.

(2) Each electric company must send a list of all reserved and contracted systems that have completed this certification to the Energy Trust of Oregon, the Oregon Department of Revenue, or the Oregon Department of Energy, upon request by each organization. Data in this listing includes, but is not limited to:

- (a) Name and address of retail electricity consumer;
- (b) Name and address of individual receiving volumetric incentive rate payments;
- (c) Installation location of system;
- (d) Nameplate capacity of installed system;
- (e) Name, business name and business address of contractor installing system;
- (f) Financer of system;
- (g) In-service date; and
- (h) Date of certification of Compliance.

Stat Auth: ORS 757.360 - 757.380

Stats. Implemented: ORS 757.360 - 757.380

Hist: NEW

860-084-0430

Data Availability

(1) Each electric company must verify that the data collected pursuant to OAR 860-084-0400 and OAR 860-084-0420 has been recorded in an appropriate electronic database prior to making volumetric incentive rate payments to participating retail electricity consumers.

(2) Each electric company must provide the data collected pursuant to OAR 860-084-0400 and OAR 860-084-0420, in a format established by the Commission, upon request. Reports that include this raw data and a summary of this data for the pilot program to date, must be provided

to the Oregon Department of Energy, the Energy Trust of Oregon, the Oregon Department of Revenue, and to the Commission, quarterly, on the 15th day of the first month of each calendar quarter.

(3) Each electric company must provide the Commission or the Oregon Department of Energy location information that will enable one of these state agencies to make graphically visible, on a publically accessible website, the general locations and sizes of reserved and contracted systems of all electric companies within the state of Oregon. This information must not include consumer names or installation addresses or total capacity deployed to date.

Stat Auth: ORS 757.360 - 757.380

Stats. Implemented: ORS 757.360 - 757.380

Hist: NEW

860-084-0440

Pilot Program Overhead

(1) Electric companies must develop and submit for Commission-approval, evaluations of solar photovoltaic pilot programs including, but not limited to:

(a) Proposals for the design and execution of surveys to measure participant satisfaction with and recommendations for improving the pilot program processes;

(b) Proposals for the design and execution of surveys to understand participant decision processes in choosing between the volumetric incentive rate program and the existing net metering program;

(c) Comments on Commission recommendations for regulatory policy changes that may lead to the increased use of solar photovoltaic energy systems, making solar photovoltaic systems more affordable, reducing the cost of incentives to utility customers, and promoting the development of the solar industry in Oregon; and

(d) Additions to the list of required data to be collected under OAR 860-084-0400.

(2) Each electric company may enter into a contract with the Energy Trust of Oregon to provide data collection and summary services required by OAR 860-084-0400 through OAR 860-084-0440. An electric company may also contract with the Energy Trust of Oregon to administer pilot programs, including capacity reservation services, survey execution or program evaluation. The Commission may direct the electric companies to contract with the Energy Trust of Oregon, if the Commission judges that the costs to administer individual pilot programs are unreasonable.

Stat Auth: ORS 757.360 - 757.380

Stats. Implemented: ORS 757.360 - 757.380

Hist: NEW

860-084-0450

Reports to the Legislature

The Commission must open a docket on or before November 1 of 2010, 2012, and 2014 to receive public comment and recommendations on the draft reports prepared by Commission staff regarding the pilot programs.

Stat Auth: ORS 757.360 - 757.380
Stats. Implemented: ORS 757.360 - 757.380
Hist: NEW