

Secretary of State
NOTICE OF PROPOSED RULEMAKING HEARING*

A Statement of Need and Fiscal Impact accompanies this form.

Public Utility Commission	860
Agency and Division	Administrative Rules Chapter Number
Diane Davis	(503) 378-4372
Rules Coordinator	Telephone
PO Box 2148, Salem, OR 97308	
Address	

RULE CAPTION

In the Matter of a Rulemaking to Adopt Rules Related to Solar Photovoltaic Energy Systems

Not more than 15 words that reasonably identifies the subject matter of the agency's intended action.

January 6, 2010	9:30 a.m.	Public Utility Commission Main Hearing Room – 1 st Floor 550 Capitol Street NE Salem, Oregon 97301	Patrick Power
Hearing Date	Time	Location	Hearings Officer

Auxiliary aids for persons with disabilities are available upon advance request.

RULEMAKING ACTION

Secure approval of new rule numbers (Adopted or Renumbered rules) with the Administrative Rules Unit prior to filing.

ADOPT: Rules in 860-084

AMEND:

REPEAL:

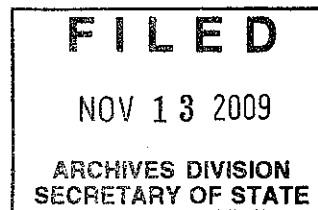
RENUMBER:

AMEND & RENUMBER:

Stat. Auth. : ORS 183, 756, and 757

Other Auth.:

Stats. Implemented: 2009 OR Laws Ch. 748



RULE SUMMARY

The 2009 Oregon Legislature enacted House Bill 3039, primarily, to establish, for each electric company in Oregon, solar photovoltaic generating capacity standards and solar photovoltaic incentive rate pilot programs. The proposed rules will implement and enforce the solar photovoltaic generating capacity standards and volumetric incentive rate pilot programs. The proposed rules will also ensure that when implementing the capacity standards and incentive rate pilot programs, the electric companies operate safe and reliable electric systems and provide service at just and reasonable rates. Proposed rules will include, but are not limited to, rules that determine the solar photovoltaic capacity standard for each electric company, determine each electric company's allocated share of the capacity limit for solar photovoltaic incentive rate 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 electric company use of renewable energy certificates from solar photovoltaic energy systems to comply with Oregon's renewable portfolio standards.

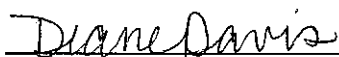
The Commission encourages participants to file written comments as early as practicable in the proceeding so that other participants have the opportunity to consider and respond to the comments before the deadline. Please reference Docket No. AR 538 on comments and file them by email to the Commission's Filing Center at PUC.FilingCenter@state.or.us and also send a signed hard copy to the Filing Center at PO Box 2148, Salem, Oregon 97301. For more information about the Commission's Filing Center, please see <http://apps.puc.state.or.us/edockets/center.htm>.

Participants wishing to monitor the hearing by telephone (listen only) must contact Diane Davis at diane.davis@state.or.us or (503) 378-4372 by close of business December 31, 2010, to request a dial-in number. To present oral comment at the hearing, participants must attend in person.

The Agency requests public comment on whether other options should be considered for achieving the rule's substantive goals while reducing the negative economic impact of the rule on business.

January 22, 2010, Close of Business

Last Day for Public Comment (Last day to submit written comments to the Rules Coordinator)



Diane Davis

November 13, 2009

Signature

Printed name

Date

*Hearing Notices published in the Oregon Bulletin must be submitted by 5:00 pm on the 15th day of the preceding month unless this deadline falls on a weekend or legal holiday, upon which the deadline is 5:00 pm the preceding workday. ARC 920-2005

Secretary of State

STATEMENT OF NEED AND FISCAL IMPACT

A Notice of Proposed Rulemaking Hearing or a Notice of Proposed Rulemaking accompanies this form.

Public Utility Commission

860

Agency and Division

Administrative Rules Chapter Number

In the Matter of a Rulemaking to Adopt Rules Related to Solar Photovoltaic Energy Systems.

Rule Caption (Not more than 15 words that reasonably identifies the subject matter of the agency's intended action.)

In the Matter of:

A Rulemaking to Adopt Rules Related to Solar Photovoltaic Energy Systems

Statutory Authority:

ORS 183, 756, and 757

Other Authority:**Stats. Implemented:**

2009 Or Laws Ch. 748

Need for the Rule(s):

The 2009 Legislature enacted House Bill 3039, primarily, to establish for each electric company in Oregon: (1) solar photovoltaic generating capacity standards; and (2) solar photovoltaic volumetric incentive rate pilot programs. The proposed rules will implement and enforce the solar photovoltaic capacity standards and volumetric incentive rate pilot programs.

In implementing the capacity standards and incentive rate pilot programs, the Commission must also adopt rules to ensure that the electric companies operate safe and reliable electric systems and provide service at just and reasonable rates.

Needed rules include, but are not limited to, rules that determine the solar photovoltaic capacity standard for each electric company, determine each electric company's allocated share of the capacity limit for solar photovoltaic incentive rate 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 electric company use of renewable energy certificates from solar photovoltaic energy systems to comply with Oregon's renewable portfolio standards.

Documents Relied Upon, and where they are available:

1. House Bill 3039 (Enrolled):
<http://www.leg.state.or.us/09reg/measpdf/hb3000.dir/hb3039.en.pdf>
2. Tables of Senate and House Bills Enacted (Oregon Laws 2009):
<http://www.leg.state.or.us/09reg/pubs/enact.pdf>
3. Informal Comments from Solar Photovoltaic Rule Development Participants:
http://www.puc.state.or.us/PUC/admin_rules/workshops/AR_538_Informal_Phase.shtml

Fiscal and Economic Impact and Statement of Cost of Compliance:**1. Impact on state agencies, units of local government and the public (ORS 183.335(2)(b)(E)):**State Agencies

The Public Utility Commission of Oregon will enforce the proposed rules. The economic impact to the Commission of adopting the proposed rules is expected to be *de minimus*. Activities described below are all part of normal Commission operations and can be handled at existing staff levels.

The rules will apply to Portland General Electric, Pacific Power, and Idaho Power Company. Following the conclusion of the rulemaking, each of these electric companies will make a tariff filing to implement solar photovoltaic volumetric incentive rate pilot programs. Commission staff will review the filings and report whether they are fully compliant or need further work. The Commission may be asked from time to time to review a request for a waiver of any of the rules, or to respond to a complaint related to compliance with the rules.

Commission staff is directed to set up systems to advise and assist the owners and operators of qualifying systems in identifying and using grants, incentive moneys, federal funding and other sources of noninvestment financial support for the construction and operation of qualifying systems.

In 2010, 2012, and 2014, Commission staff will prepare draft reports to the legislature regarding the implementation and effectiveness of the solar photovoltaic volumetric incentive rate pilot programs under proposed rules in Division 084. On a case-by-case basis, Commission staff may be asked to review a request to adjust an electric company's volumetric incentive rates or make other changes to their pilot programs or to change the allocation of the solar photovoltaic pilot program capacity limit to the electric companies under the proposed rules in Division 084.

Commission staff responding to activities described above include: (1) utility analysts in the Energy Division (compliance filings, waiver requests, review of requests related to adjust solar photovoltaic pilot programs); and (2) administrative staff and attorneys in the Hearings Division.

Units of Local Government

The rules do not directly impact local governments, except that local governments may elect to install solar photovoltaic energy systems and participate in an electric company's volumetric incentive rate pilot program. Those that elect to participate in an electric company's volumetric incentive rate program will be required to comply with the proposed rules and procedures and will be encouraged to avail themselves of Commission and electric company assistance to successfully participate in pilot programs.

It is expected that most participants in the solar photovoltaic volumetric incentive rate programs will contract for the design and installation of the energy systems, rather than do such work in-house. All utilities require that applicants submit technical information about the proposed facility to ensure that the safety and reliability of the electrical system will not be degraded, and to determine what, if any, distribution system improvements may be required and estimate the costs associated with these improvements. Local governments that lack in-house expertise to submit the required information, or to conduct the required maintenance and testing during the facility's life, generally hire professionals for such services. The potential magnitude of these costs cannot be quantified at this time.

The Public

PGE, Pacific Power, and Idaho Power Company, together serve nearly 1.4 million residential, commercial, and industrial electricity customers in Oregon (based on the most recent data available). The Commission is allowed to cap the rate impact of the solar photovoltaic incentive rate pilot programs at 0.25 percent of the customer class revenue requirement of each electric company. The rules encourage installation of smaller systems likely to be installed by residential and small commercial customers; 75 percent of the energy generated in the pilot program will be from smaller systems.

2. Cost of compliance effect on small business (ORS 183.336):**a. Estimate the number of small businesses and types of business and industries with small businesses subject to the rule:**

The rules apply to PGE, Pacific Power, and Idaho Power Company, which together serve some 190,000 commercial and industrial customers in the state (based on the most recent data available). The Commission is allowed to cap the rate impact of the solar photovoltaic incentive rate pilot programs at 0.25 percent of the customer class revenue requirement of each electric company. The proposed rules will allow businesses of all sizes to install solar photovoltaic energy systems and participate in an electric company's volumetric incentive rate pilot program. The business energy tax credit currently available to business customers is set to sunset in 2012; the pilot program provides an incentive option for small businesses through 2015.

b. Projected reporting, recordkeeping and other administrative activities required for compliance, including costs of professional services:

Businesses that elect to participate in an electric company solar photovoltaic incentive rate pilot program will be required to comply with generator interconnection standards and procedures that ensure the safety and reliability of the utility system, as well as operate, maintain and test the solar photovoltaic energy facility throughout its service life. The potential magnitude of these costs cannot be quantified at this time. The Division 084 proposed rules prohibit an electric company from charging an application fee for review of a Level 1 interconnection. The proposed rules allow an electric company to charge an application fee for Level 2 or Level 3 interconnections (to encourage serious applications), but if the interconnection request is denied the fee is to be refunded. The proposed rules specify that reasonable costs associated with the meter, interconnection equipment, and modifications and upgrades to the electric distribution system will be covered by the electric company.

c. Equipment, supplies, labor and increased administration required for compliance:

It is expected that most participants in the solar photovoltaic volumetric incentive rate pilot programs will contract for the design and installation of the energy systems, rather than do such work in-house. Small businesses that lack in-house expertise will hire professionals to provide such services. The potential magnitude of these costs cannot be quantified at this time.

How were small businesses involved in the development of this rule?

Representatives from industry and affected small businesses participated in administrative rule development workshops sponsored by Commission staff and provided comments and feedback on the proposed rules.

Administrative Rule Advisory Committee consulted?

No.

If not, why?

Industry and business representatives were invited to participate in administrative rule development workshops sponsored by Commission staff and to provide comments and feedback on the draft proposed rules. Commission staff will continue to engage these groups during the rulemaking and during the investigative docket that parallels the rulemaking.

Diane Davis
Signature

Diane Davis

Printed name

November 13, 2009

Date

Administrative Rules Unit, Archives Division, Secretary of State, 800 Summer Street NE, Salem, Oregon 97310. ARC 925-2007

**OREGON ADMINISTRATIVE RULES
CHAPTER 860, DIVISION 084 – PUBLIC UTILITY COMMISSION**

**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) For good cause shown, a person may request the Commission waive any of the rules contained in Division 084.

Stat Auth: 2009 OR Laws Ch. 748

Stats. Implemented: 2009 OR Laws Ch. 748

Hist: NEW

860-084-0010

Definitions for Solar Photovoltaic Capacity Standard and Pilot Programs

(1) “Annual resource value” means the resource value of the energy delivered in the year that it is generated.

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

(3) “Date of Enrollment” means the date when a solar photovoltaic system is on-line (begins providing energy to the electric company’s electrical system).

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

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

(6) “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.

(7) “Nameplate capacity” means the maximum rated output of a solar photovoltaic system under specific conditions designated by the manufacturer.

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

(9) “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.

(10) “Pilot year” means each twelve-month period of the solar photovoltaic pilot program beginning on April 1. Year one of the pilot program is April 1, 2010 to March 31, 2011; year two of the pilot is April 1, 2011 to March 31, 2012, etc.

(11) “Qualifying third party” or “third party” means third party authorized, by the retail electricity consumer, to be assigned payments by the electric company under the standard contract. An electric company or its affiliate is not a qualifying third party. Qualifying third parties 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.

(12) “Reservation expiration date” means the date that a capacity reservation expires. A retail electricity consumer must newly apply for a capacity reservation, once the reservation expires.

(13) “Reservation start date” means

(a) For smaller size systems, the date the electric company receives both a capacity reservation application and an application for interconnection, or

(b) For medium and large systems, the date the consumer is allocated capacity through an annual capacity reservation process.

The reservation start date starts the clock for the time to interconnection agreement.

(14) “Reserved system” means an eligible system that has been granted a capacity reservation in the solar photovoltaic pilot program.

(15) “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.

(16) “Resource value” means the portion of the volumetric incentive rate that represents the fully loaded avoided cost of the energy provided to the electric company. This value comprises the avoided cost of comparable generation (including avoided fuel volatility, minus the costs of firming and shaping the electricity generated from solar photovoltaic energy systems), the avoided cost of transmission and distribution in delivering energy from other generation sources, and a value equivalent to the renewable energy value of the solar photovoltaic energy.

(17) “System requirements” means the input electricity required to allow the solar photovoltaic energy system to operate, sometimes referred to as the parasitic load. System requirements do not include energy used on site by the customer for other purposes.

(18) “Volumetric incentive payments” or “payments” means the monthly amount that an electric company pays to an eligible participant in the solar photovoltaic pilot program.

(19) “Volumetric incentive rate” means the rate per kilowatt-hour paid by an electric company to a retail electricity consumer providing energy from a contracted system. This rate comprises the underlying resource value and the solar photovoltaic pilot subsidy.

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

(21) “Solar pilot capacity limit” means the maximum installed capacity that each electric company may contract during the pilot program.

Stat Auth: 2009 OR Laws Ch. 748

Stats. Implemented: 2009 OR Laws Ch. 748

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, the following minimum solar photovoltaic capacity standards:

- (1) Portland General Electric: 11.8 megawatts
- (2) Pacific Power: 7.9 megawatts
- (3) Idaho Power Company: 0.3 megawatts

Stat Auth: 2009 OR Laws Ch. 748

Stats. Implemented: 2009 OR Laws Ch. 748

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:

- (1) Meet the electric company’s customer load service obligation;
- (2) Directly connect to an electric company’s electrical system within Oregon, or indirectly connect to a third party electrical system within Oregon;
- (3) Have meters or other devices in place to monitor and measure the quantity of energy generated;
- (4) Meet the siting, design, interconnection, installation, and electric output standards and codes required by the laws of Oregon; and

(5) Have a nameplate generating capacity greater than or equal to 500 kilowatts and less than or equal to 5 megawatts.

Stat Auth: 2009 OR Laws Ch. 748

Stats. Implemented: 2009 OR Laws Ch. 748

Hist: NEW

860-084-0040

Measurement of Capacity under Solar Capacity Standard

(1) Except as provided in section (3) of this rule, 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 follow Commission established guidelines when converting 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.

(3) For solar photovoltaic energy systems that do not use an inverter, the capacity must be measured in terms of the nameplate capacity rating reported by the manufacturer in direct current watts, under standard test conditions.

Stat Auth: 2009 OR Laws Ch. 748

Stats. Implemented: 2009 OR Laws Ch. 748

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 its failure to comply, with the solar photovoltaic capacity standards specified in OAR 860-084-0020.

(2) The report 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 signing date of any associated power purchase agreement;
- (g) The contracted capacity and output delivery period of any associated power purchase agreement

Stat Auth: 2009 OR Laws Ch. 748
Stats. Implemented: 2009 OR Laws Ch. 748
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: 2009 OR Laws Ch. 748
Stats. Implemented: 2009 OR Laws Ch. 748
Hist: NEW

860-084-0070

Renewable Energy Certificates and Compliance with the Renewable Portfolio Standards

(1) Except as provided in section (2) of this rule, 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 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: 2009 OR Laws Ch. 748
Stats. Implemented: 2009 OR Laws Ch. 748
Hist: NEW

860-084-0080

Implementation Plans

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

Stat Auth: 2009 OR Laws Ch. 748
Stats. Implemented: 2009 OR Laws Ch. 748
Hist: NEW

Solar Photovoltaic Pilot Programs

860-084-0100

Solar Photovoltaic Pilot Programs

(1) Prior to April 1, 2010, each electric company must establish a pilot program to demonstrate the use and effectiveness of volumetric incentive rates and payments for electricity delivered from qualifying solar photovoltaic energy systems.

(2) Capacity reservations in the solar photovoltaic pilot programs will be accepted from April 1, 2010, through March 31, 2015, or until a total installed solar photovoltaic pilot program capacity limit of 25 megawatts is reached, whichever comes first, and subject to any limitations on participation approved by the Commission, including customer class rate impacts.

Stat Auth: 2009 OR Laws Ch. 748

Stats. Implemented: 2009 OR Laws Ch. 748

Hist: NEW

860-084-0110

Qualifying Systems for the Solar Photovoltaic Pilot Programs

Individual solar photovoltaic energy systems qualifying for the Solar Photovoltaic Pilot Programs in OAR 860-084-0100 must:

- (1) Meet the electric company's customer load service obligation;
- (2) Directly connect to an electric company's electrical system within Oregon, or indirectly connect to a third party electrical system within Oregon;
- (3) Have meters or other devices in place to monitor and measure the quantity of energy generated;
- (4) Meet the design, interconnection, installation, and electric output standards and codes required by OAR 860-084-0260;
- (5) Meet the siting requirements defined in OAR 860-084-0120 and OAR 860-084-0130(3);
- (6) Meet Commission established requirements for quality and reliability; and
- (7) Have a nameplate generating capacity less than or equal to 500 kilowatts.

Stat Auth: 2009 OR Laws Ch. 748

Stats. Implemented: 2009 OR Laws Ch. 748

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 in OAR 860-084-0100 must be:

- (a) A qualifying system, as established in OAR 860-084-0110;

- (b) Permanently installed in the State of Oregon by a retail electricity consumer of the electric company;
- (c) Installed in the service territory of the electric company;
- (d) Installed after April 1, 2010;
- (e) Financed without expenditures under ORS 757.612 (3)(b)(B) or tax credits under ORS 469.160 or ORS 469.185 to 469.225; and
- (f) Certified by the residential electric consumer as constructed from new components (modules, inverter, batteries, mounting hardware, etc.).

(2) Systems that are located outside of the service territory of the electric company are not eligible for enrollment in the electric company's pilot programs.

(3) Contracted 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, except that a contracted system may be uninstalled and reinstalled at another location under the same contract under the conditions set forth in OAR 860-084-0280.

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

Stat Auth: 2009 OR Laws Ch. 748

Stats. Implemented: 2009 OR Laws Ch. 748

Hist: NEW

860-084-0130

Ownership and Installation

(1) An electric company must contract for solar photovoltaic energy generated from eligible systems installed by retail electricity consumers of 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, with the eligible system directly connected into the distribution feeder that services the consumer at the property or indirectly connected through the system of an electric company's retail customer or the electric system of a third party that is not an electric company's retail electricity consumer but whose system is located within this state.

(3) A retail electricity consumer must be allowed to transfer their existing contract to another retail electricity consumer eligible to contract with the electric company under the pilot program.

(4) Eligible systems may be owned, operated, or owned and operated by qualifying third parties, as given below:

- (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) Owned and operated by qualifying third parties, or

(d) Operated by third parties on behalf of the retail electricity consumer.

(5) Ownership of Renewable Energy Certificates:

(a) The electric company receiving energy from solar photovoltaic energy systems meeting the requirements of OAR 860-084-0120, must receive 100 percent of the renewable energy certificates created through the generation of energy contracted to the electric company by these systems.

(b) Retail electricity consumers may retain renewable energy certificates created through the generation of energy used to supply system requirements.

Stat Auth: 2009 OR Laws Ch. 748

Stats. Implemented: 2009 OR Laws Ch. 748

Hist: NEW

860-084-0140

Assignment of Payments

(1) Electric companies must enable retail electricity consumers to assign payments to a qualifying third party under standard contracts that comply with Commission guidelines.

(2) Electric companies may charge a reasonable fee for the assignment of payments, at the time that the standard contract is assigned. Electric companies may charge for changes to assignment of payments over the contract term.

Stat Auth: 2009 OR Laws Ch. 748

Stats. Implemented: 2009 OR Laws Ch. 748

Hist: NEW

860-084-0150

Solar Photovoltaic Pilot Capacity Limit

(1) Pilot programs close to new capacity reservations on 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: 2009 OR Laws Ch. 748

Stats. Implemented: 2009 OR Laws Ch. 748

Hist: NEW

860-084-0160

Measurement of Capacity under the Solar Photovoltaic Pilot Program

(1) Except as provided in section (3) of this rule, the capacity of solar photovoltaic energy systems used to satisfy the requirements of OAR 860-084-0150 must be measured on the alternating current side of the system's inverter.

(2) The Commission will establish guidelines for electric companies to follow when converting 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.

Stat Auth: 2009 OR Laws Ch. 748

Stats. Implemented: 2009 OR Laws Ch. 748

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, given in OAR 860-084-0100(2), as established by Commission Order.

(2) An electric company's solar photovoltaic pilot program ends when the company reaches 100 percent of its 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: 2009 OR Laws Ch. 748

Stats. Implemented: 2009 OR Laws Ch. 748

Hist: NEW

860-084-0180

Distributing Electric Company Capacity Limit by Pilot Year

(1) Each electric company must allocate a percentage of its total pilot capacity limit, as established in OAR 860-084-0170 for reservation in each of the pilot years; this annual allocation percentage will be established by Commission Order.

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

Stat Auth: 2009 OR Laws Ch. 748

Stats. Implemented: 2009 OR Laws Ch. 748

Hist: NEW

860-084-0190

Distributing Capacity Limit by System Size

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

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

(a) Smaller systems have a nameplate capacity of 10 kilowatts or less;

(b) Medium systems have nameplate capacities larger than 10 kilowatts and up to 100 kilowatts; and

(c) Large systems have a nameplate capacity greater than 100 kilowatts and up to 500 kilowatts.

(3) Smaller systems must be targeted to generate up to 75 percent of the energy delivered to the electric companies under the solar PV pilot program, unless otherwise directed by the Commission.

(4) Distributing Capacity to Smaller Systems: Each year, beginning April 1, 2010, an electric company must allocate a percentage of its annual pilot capacity allocation, established as in OAR 860-084-0180, for reservation to retail electricity consumers installing smaller systems; this percentage will be established by Commission Order. The Commission may change this percentage over the pilot program.

a) Retail electricity consumers may reserve pilot program capacity at any time during the pilot year until the annual capacity limit is fully deployed.

b) 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 smaller systems.

(5) Distributing Capacity to Medium and Large Systems: Each year, beginning April 1, 2010, an electric company must offer a percentage of its annual pilot capacity allocation, established as in OAR 860-084-0180, for reservation by retail electricity consumers installing medium or large size systems; the percentage allocated to medium capacity systems and the percentage allocated to large capacity systems will be established by Commission Order. The Commission may change these percentages over the pilot program.

a) Each electric company must receive applications for medium and large systems during the month of April of each year.

b) If capacity remains available in either size class, after reservations are made for all consumers whose applications meet established criteria, the electric company must continue to solicit applications and make capacity reservations, on a first-come, first-served basis over the pilot year, until all capacity is reserved.

c) If applications received during the month of April over-subscribe available capacity, capacity must be awarded to retail electricity consumers whose applications meet established criteria, by random drawing, until the annual capacity is fully allocated. Drawings must be carried out according to processes that comply with Commission guidelines.

(6) A retail electricity consumer may reserve capacity in the pilot program for up to five eligible systems.

Stat Auth: 2009 OR Laws Ch. 748

Stats. Implemented: 2009 OR Laws Ch. 748

Hist: NEW

860-084-0200

Capacity Reservation, Timing and Volumetric Incentive Rates

Reserved systems are eligible for the volumetric incentive rate in place at the time of their capacity reservation. Capacity reservation applications or standard contracts provided to retail electricity consumers at the time of capacity reservation must communicate the volumetric incentive rate that the retail electricity consumer is eligible to receive, based on their capacity reservation date.

Stat Auth: 2009 OR Laws Ch. 748
Stats. Implemented: 2009 OR Laws Ch. 748
Hist: NEW

860-084-0210

Capacity Reservation, Timing and Duration

(1) The capacity reservation for a reserved system expires as follows:

(a) For smaller systems, a reservation expires twelve months from the reservation start date.

(b) For medium and large systems, a reservation expires six months from the date that an interconnection agreement is signed or twelve months from the reservation start date, whichever is longer. A four month extension may be granted if the majority of system components have been purchased and installation is underway, with work contracted for completion in the four-month window.

(2) Electric companies must collect data on time to interconnection agreement and carry out pilot program satisfaction surveys so as to be able to improve capacity reservation and interconnection processes over the pilot program, as required. Data collection and surveys must particularly explain and recommend or implement changes to processes that result in:

(a) Interconnection agreements that have not been successfully 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, whose capacity reservations expire before solar photovoltaic energy systems are installed.

(3) Electric companies may request that the Commission impose fees for capacity reservation applications, based on analysis of this data.

Stat Auth: 2009 OR Laws Ch. 748
Stats. Implemented: 2009 OR Laws Ch. 748
Hist: NEW

860-084-0220

Capacity Availability

(1) Each electric company must announce the available capacity for the upcoming pilot year, no later than February 1 of each year. Each company must announce when the capacity allocation for the year is fully reserved.

(2) Capacity reserved for smaller systems that is not reserved in a pilot year must be added to the available capacity for smaller systems in the next pilot year; capacity reserved for medium and large systems must be added to the available capacity for medium and large systems in the next pilot year, unless otherwise directed by the Commission.

(3) In January 2013, or at a time otherwise determined by Commission Order, the remaining pilot capacity may be reallocated. Unless otherwise directed by the Commission, this reallocation may redistribute the remaining pilot program capacity so that 75percent of the energy generated is generated from smaller systems at the time the pilot program reaches 25 megawatts of alternating current.

Stat Auth: 2009 OR Laws Ch. 748
Stats. Implemented: 2009 OR Laws Ch. 748
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 smaller, medium and large capacity systems. The electric company must provide instruction to enable retail electricity consumers to generate capacity applications that meet the established criteria referenced in OAR 860-084-0280.

(2) Retail electricity consumers must simultaneously file an application for capacity reservation, an application for interconnection, and any required application fees.

(3) The capacity reservation application must require that retail electricity consumers certify that they have read and understand 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: 2009 OR Laws Ch. 748
Stats. Implemented: 2009 OR Laws Ch. 748
Hist: NEW

860-084-0240

Standard Contracts

(1) Each electric company must file, for Commission approval, a standard, 15-year contract.

(a) This contract establishes a purchase agreement; the electric company contracts with participating retail electricity consumers to purchase 100 percent of the kilowatt-hours generated, net of system requirements, from eligible solar photovoltaic systems installed in the service territory of the purchasing electric company, at the applicable volumetric incentive rates approved by the Commission.

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

(2) The standard contract must allow for three options at normal termination of the 15 year contract:

(a) Retail electricity consumers may continue generation, under the existing contract, in return for payments that are based on the annual resource value, or

(b) Retail electricity consumers may uninstall their contracted system, or

(c) Retail electricity consumers may discontinue generation under the pilot program and apply to continue generation under volumetric incentive rate or net metering programs then in place.

(3) 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) Volumetric incentive rate. The standard contract must be based on the volumetric incentive rate in place at the time of the capacity reservation for the retail electricity consumer.

(c) Contract term and termination option. Each standard contract must include a date of initiation and a date of contract expiration. The default termination option must be continuation of the contract in return for payments that are based on the resource value of power generated, unless otherwise selected by the customer.

(d) Certification of compliance. Each standard contract must include a section to record retail electricity consumer certifications that:

(A) No investor in the qualifying system has accepted or will 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 is a new system.

(e) Agreement to release information about participation. Each retail electricity consumer must sign a release that allows the electric company to 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.

(f) Agreement to participate. Each standard contract must require a retail electricity consumer agreement that continued eligibility for the volumetric incentive rate pilot program requires the pilot participant to complete up to three surveys on the effectiveness of the pilot programs. The retail electricity consumer must also sign a release allowing the electric company to release this information to the Public Utility Commission and the Energy Trust of Oregon.

(g) Preferred payment option. Each standard contract must specify whether the retail electricity consumer elects to be paid monthly through direct payment or elects that the payment and billing be aggregated on a single bill. The default payment method must be aggregation on a single bill.

(h) Assignment of payment. Each standard contract must allow a retail electricity consumer to assign payments to a qualifying third party.

(i) Transfer of contract. 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 receive payments from the electric company under the pilot program.

(j) Disclosure that payments are taxable as income, under Oregon and Federal Tax law, and that an eligible system is not subject to property tax in the State of Oregon.

Stat Auth: 2009 OR Laws Ch. 748

Stats. Implemented: 2009 OR Laws Ch. 748

Hist: NEW

860-084-0250

Billing and Payment Requirements

Payments for energy generated from the qualifying system must be paid monthly. Retail electricity consumers may request that:

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

(2) The electric company aggregate generation payments from up to two pilot program contracts with the standard monthly bill for electricity purchased under the consumer's existing tariff; or

(3) The electric company assign payments to a third party. An electric company may impose a fee, for account setup, for this alternative.

Stat Auth: 2009 OR Laws Ch. 748

Stats. Implemented: 2009 OR Laws Ch. 748

Hist: NEW

INTERCONNECTION: APPLICATION AND AGREEMENTS

860-084-0260

Interconnection Requirements for Solar Photovoltaic Pilot Program

(1) As established in OAR 860-084-0110(d), a qualifying system must be certified as complying with the requirements of section (2) of this rule.

(2) To be qualified for interconnected operation, a 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).

(3) A system is considered as certified to the standards of section (2) 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 (2) 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 (2) 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 (2) of this rule.

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

Stat Auth: 2009 OR Laws Ch. 748

Stats. Implemented: 2009 OR Laws Ch. 748

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 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 launches the process of 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 day 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: 2009 OR Laws Ch. 748

Stats. Implemented: 2009 OR Laws Ch. 748

Hist: NEW

860-084-0280

Interconnection Cost Responsibility

(1) For a Level 1 interconnection review, the electric company may not charge any fees, unless otherwise directed by the Commission.

(2) For a Level 2 or Level 3 interconnection review, the electric company may charge an application fee, as established by Commission order. If an interconnection request is denied by the electric company, this fee must be refunded to the applicant.

(3) Except as provided in OAR 860-084-0290, all interconnection costs associated with the meter, interconnection facilities, modifications to the electric distribution system, interconnection review, or system upgrades are at the electric company's expense.

(a) Interconnected systems must be equipped with metering equipment that can measure the flow of electricity in both directions and comply with ANSI C12.1 standards and OAR 860-023-0015. The customer may determine the location of the meter.

(b) The electric company constructs, owns, operates, and maintains the meter and applicable interconnection facilities on the company side of the meter.

(c) The retail electricity consumer chooses the location of the meter and is responsible for the costs of connection between the eligible system and the meter.

(4) A retail electricity consumer 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 the meter, interconnection equipment, modifications to the electric distribution system, interconnection review, or system upgrades in the new location as applicable.

Stat Auth: 2009 OR Laws Ch. 748

Stats. Implemented: 2009 OR Laws Ch. 748

Hist: NEW

860-084-0290

Reasonable Costs

(1) The electric company may deny an interconnection application that exceeds a reasonable cost standard, as given in section (2) of this rule.

(2) Each electric company must file, as part of periodic updates to the Commission, a list of interconnection requests that are denied. This list must include name and billing address of retail electricity consumer and intended installation address and interconnection location.

(3) The Commission will, by Order, establish a "reasonable cost" standard to limit the costs associated with the costs of interconnection review, installation, additional interconnection facilities,

minor modifications, and system upgrades that are borne by the electric company in the installation of a solar photovoltaic energy system under this pilot program. Before applying the reasonable cost standard, the electric company must determine that the identified electrical system changes or upgrades would not be performed by the electric company in the normal operation and maintenance of its system or in compliance with other Commission Order.

(4) The Commission will, by Order, establish the processes that an applicant may follow to complete installation of the system denied. These processes may include, but will not be limited to, processes whereby the applicant may choose to pay the difference between estimated and reasonable costs.

Stat Auth: 2009 OR Laws Ch. 748

Stats. Implemented: 2009 OR Laws Ch. 748

Hist: NEW

860-084-0300

Insurance

An electric company may not require a contracted system to obtain liability insurance in order to interconnect with the electric company's distribution system.

Stat Auth: 2009 OR Laws Ch. 748

Stats. Implemented: 2009 OR Laws Ch. 748

Hist: NEW

860-084-0310

Level 1 System Interconnection Review

(1) An eligible system meeting the following criteria is eligible for Level 1 interconnection review:

- (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-amps.

(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 below.

(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: 2009 OR Laws Ch. 748

Stats. Implemented: 2009 OR Laws Ch. 748

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-amps.

(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.

(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: 2009 OR Laws Ch. 748

Stats. Implemented: 2009 OR Laws Ch. 748

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 includes a good faith cost estimate for determination of whether the electric company costs comply with the Reasonable Cost standard, as defined in OAR 860-084-0290. 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 must approve the application and send the applicant an interconnection agreement; or

(b) The eligible system may be safely interconnected, substantial modifications to the electric company's electric distribution system are necessary to accommodate the proposed interconnection, and the costs associated with the substantial modifications meet the criteria as defined in OAR 860-084-0290. In such a case, the electric company must approve the application and send the applicant an interconnection agreement; or

(c) The eligible system may be safely interconnected, substantial modification to the company's electric system are necessary to accommodate the proposed interconnection, and the interconnection costs exceed the reasonable cost standard defined in OAR 860-084-0290. In such a case, the applicant may request a binding estimate of the cost of those facilities that is above the reasonable cost standard and of the estimated time required to build and install those facilities. The applicant may choose to pay the cost of the facilities above the reasonable cost standard and request the approval of the interconnection application.

(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 execution by the applicant of the interconnection facilities study agreement, the electric company must 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 if the costs associated with this interconnection exceed the reasonable cost standard defined in OAR 860-084-0290, 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.

(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.

(9) If the applicant wishes to interconnect under the terms of a reasonable costs exception, the applicant must 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 electric company the actual installed cost of the facilities needed to interconnect as identified in the interconnection facilities study.

(10) 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.

(11) 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.

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

Stat Auth: 2009 OR Laws Ch. 748

Stats. Implemented: 2009 OR Laws Ch. 748

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.

(3) The electric company must install the required disconnect switch at the electric company'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: 2009 OR Laws Ch. 748

Stats. Implemented: 2009 OR Laws Ch. 748

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 electric 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 electric 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 electric 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 retail electric consumer's facility after interconnection approval is granted, at reasonable hours and with reasonable prior notice to the retail electric 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 electric consumer to disconnect the contracted system until compliance is achieved.

Stat Auth: 2009 OR Laws Ch. 748

Stats. Implemented: 2009 OR Laws Ch. 748

Hist: NEW

Rates and Cost Recovery

860-084-0360

Volumetric Incentive Rates

(1) A retail electricity consumer participating in a pilot program receives payments for the electricity delivered to the electric company from the consumer's contracted system as follows:

- (a) For 15 years from the date of the consumer's date of enrollment, the payment equals the product of the kilowatt-hours of electricity delivered to the electric company and the applicable volumetric incentive rate per kilowatt-hour, with the applicable rate per kilowatt-hour determined from rates or through a rate formula in a rate schedule in effect at the date of capacity reservation.

(b) The payment thereafter equals the product of the kilowatt-hours of electricity delivered to the electric company and a volumetric incentive rate equal to the annual resource value per kilowatt-hour.

(2) Rates for payment under this rule are established by Commission Order. Electric companies must file compliance tariffs incorporating the rates established by the Commission.

(3) The Commission will establish initial volumetric incentive rates to enable participation in the pilot programs to begin April 1, 2010.

(4) The Commission will periodically consider adjusting rates to meet targeted levels of participation as follows:

(a) Commission staff must consult with interested parties and make a recommendation at a public meeting regarding the need to adjust volumetric incentive rates or make other changes in the pilot programs.

(b) Commission staff must make its recommendations in time to allow rate adjustments or program changes to occur on July 1, 2010, and every six months thereafter, and as otherwise directed by the Commission, for the term of the pilot programs.

Stat Auth: 2009 OR Laws Ch. 748

Stats. Implemented: 2009 OR Laws Ch. 748

Hist: NEW

860-084-0370

Resource Value

(1) On July 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.

Stat Auth: 2009 OR Laws Ch. 748

Stats. Implemented: 2009 OR Laws Ch. 748

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,

(b) Interconnection studies and related system modifications and upgrades, and

(c) Data collection and analysis for assessment of the company's pilot program.

(2) On July 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 for each customer class of participation in its pilot program, 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: 2009 OR Laws Ch. 748

Stats. Implemented: 2009 OR Laws Ch. 748

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: 2009 OR Laws Ch. 748

Stats. Implemented: 2009 OR Laws Ch. 748

Hist: NEW

Data Collection and Reporting

860-084-0400

Data Collection

Except as provided in OAR 860-084-0410, 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 other hardware, labor, overhead, and regulatory compliance costs);
- (5) Total financing cost;
- (6) Financing terms (including interest rate)
- (7) System 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
- (13) Class of service of retail electricity consumer

Stat Auth: 2009 OR Laws Ch. 748

Stats. Implemented: 2009 Or Laws. Ch. 748

Hist: NEW

860-084-0410

Compliance with Pilot Program Requirements

(1) Electric companies must require pilot program participants, as a condition of participation in the pilot program, to certify, at the time of enrollment and at contract signing, that no investor in the qualifying system has accepted or will accept incentives from the Energy Trust of Oregon or Oregon State residential or business tax credits for the system contracted in the solar photovoltaic pilot program.

(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 included 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 eligible or contracted system;
- (d) In-service date; and
- (e) Date of certification of Compliance.

Stat Auth: 2009 OR Laws Ch. 748

Stats. Implemented: 2009 OR Laws Ch. 748

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 make graphically visible, on a publically accessible website, the general locations and sizes of reserved and contracted systems. This information must not include consumer names or installation addresses or total capacity deployed to date.

Stat Auth: 2009 OR Laws Ch. 748
Stats. Implemented: 2009 OR Laws Ch. 748
Hist: NEW

860-084-0440

Pilot Program Overhead

(1) Electric companies must contribute to Commission-led evaluations of solar photovoltaic pilot programs through efforts 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 solicit participant decision processes in choosing between the volumetric incentive rate program and the net-metering program, combined with tax credits and Energy Trust incentives, and

(c) Comment on Commission recommendations for regulatory policy changes that can 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.

(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 and OAR 860-084-0410. 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: 2009 OR Laws Ch. 748
Stats. Implemented: 2009 OR Laws Ch. 748
Hist: NEW

860-084-0450

Reports to the Legislature

The Commission must open a docket on or before November 1 of each even-numbered calendar year to receive public comment and recommendations on the draft reports prepared by Commission staff regarding the pilot programs.

Stat Auth: 2009 OR Laws Ch. 748
Stats. Implemented: 2009 OR Laws Ch. 748
Hist: NEW