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February 11, 2011

Via Electronic Filing and U.S. Mail

Oregon Public Utility Commission
Attention: Filing Center
550 Capitol Street NE, #215
PO Box 2148
Salem OR 97308-2148

Re: UM 1505 – Phase II

Attention Filing Center:

Enclosed for filing in the captioned docket are an original and five copies of:

- **JOINT OPENING COMMENTS OF PORTLAND GENERAL ELECTRIC COMPANY AND PACIFIC POWER**

This is being filed by electronic mail with the Filing Center.

An extra copy of the cover letter is enclosed. Please date stamp the extra copy and return to me in the envelope provided. Thank you in advance for your assistance.

Sincerely,

A handwritten signature in black ink, appearing to read "J. Richard George". The signature is written in a cursive style with a large initial "J" and a long horizontal stroke at the end.

J. Richard George
Assistant General Counsel

JRG:smc
Enclosures
cc: UM 1505 Service List

**BEFORE THE PUBLIC UTILITY COMMISSION
OF THE STATE OF OREGON**

UM 1505 – Phase II

In the Matter of)	JOINT OPENING COMMENTS
PUBLIC UTILITY COMMISSION OF)	OF PORTLAND GENERAL
OREGON)	ELECTRIC COMPANY AND
)	PACIFIC POWER
Solar Photovoltaic Draft Report Comments)	
and Recommendations)	

Portland General Electric Company (“PGE”) and PacifiCorp d/b/a Pacific Power (“Pacific Power”) (together “Joint Commenters”) submit the following comments regarding the issues discussed in the UM 1505 Workshop on January 20th, 2011.

I. BACKGROUND

The Oregon Legislature enacted ORS 757.365 to establish the solar photovoltaic volumetric incentive rate pilot programs for each electric company in Oregon. The purpose of these pilot programs is to demonstrate the use and effectiveness of volumetric incentives rates (VIRs) and payments for electricity delivered by solar photovoltaic (SPV) energy systems.

The pilot programs were implemented less than one year ago. There have been two enrollment periods where capacity was filled in just minutes (rather than months), and the VIR has dropped once by 10 percent. From an implementation perspective, it’s a fast-paced, largely-administrative, and experimental pilot program. The next enrollment period is April 1, 2011, and we expect the limited capacity to fill just as quickly as the two prior periods, unless certain factors are modified by the Commission.

OPUC Staff conducted a workshop in Docket No. UM 1505 to discuss the current issues (except for the VIR) in the pilot programs such as the “first-come, first-served” capacity application process, a random selection process (a lottery drawing), research on non-winning applicants, auctions, confidentiality of bid price for large systems, bidding for small- and medium-sized systems, broadening the goals, additional reporting requirements, and a compressed capacity reservation timeline. Since assessing the effectiveness of the VIR is the primary goal of House Bills 3039 and 3690, we recommend the Commission revisit the rate

adjustment mechanism (RAM) and the VIRs in context with the issues discussed in the workshop and comments provided here. In many ways, these issues are fundamentally interrelated with the VIR. Thus, this investigation should include consideration of the VIR.

In these comments, we respond to those issues discussed in the workshop. We discuss the basis for developing the “first-come, first-served” capacity reservation system and its advantages. In particular, we comment on the advantages and disadvantages of the existing first-come, first-served on-line capacity enrollment system and a lottery selection process. Changing to a lottery method presents potential improvements, but also presents challenges to participants and the Joint Commenters in the capacity reservation process. For perspective, we briefly discuss the robust level of applications for solar systems received in the net metering program over the past four years.

If the Commission decides the best course of action is to implement a lottery-based system for capacity enrollment, the Joint Commenters recommend a clearly established set of rules and recommend that any change go into effect on the October 1, 2011 capacity enrollment period and not sooner. This approach enables all stakeholders to clearly understand and prepare for the changes and gives the Joint Commenters the necessary time to implement the modifications to the program.

II. SOLAR PHOTOVOLTAIC PILOT PROGRAM WORKSHOP ISSUES

“First-come, First-served” Capacity Enrollment

In Commission Order No. 10-200, which established the mechanism for reserving capacity, the Commission determined,

“...that a first-come, first-served reservation system, with a rigorous installation deadline, works best for the small- and medium-scale systems. We also concluded that no limits should be placed on the number of capacity reservations made on a developer or installer through consumers. We will monitor the reservation process and revisit the issue if necessary.” (p. 7)

PGE and Pacific Power developed a virtually identical on-line capacity reservation system through a third-party vendor to meet the rules established by the Commission. The real-time system receives applications and awards capacity reservations on a “first-come, first-

served” basis meeting the requirements of OAR 860-084-0195.¹ When applicants are successful at reserving capacity, they complete their reservation application, pay a deposit, and receive a reservation number. When capacity reaches the limit, additional applicants are not able to reserve capacity. In real-time, the system notifies those on-line applicants when capacity is full. This system was designed to meet the requirements in OAR 860-084-0170² and OAR 860-084-0195. This process has occurred in a few minutes with hundreds of applicants.

The first-come, first-served online capacity reservation system currently in place for small- and medium-sized solar projects is an effective tool for carrying out the goals of the rules and this pilot program. One main advantage of a first-come, first-served system is that the enrollment window remains open if capacity is not immediately filled allowing customers to continue to apply. This approach provides the Commission with valuable information regarding pilot program demand. This also provides the Commission the opportunity to observe the effectiveness of the VIR over time. Attachment 1 identifies advantages of the “first-come, first-served” process and recommendations for modifying this system to address gaming issues discussed at the workshop.

Capacity Reservations by Lottery Selection Approach

Some parties recommend replacing the first-come, first-served capacity application process with a lottery for two reasons: 1) to diminish on-line gaming of the application with technological shortcuts; and 2) to capture more complete information regarding potential demand. Some parties believe that competitive online behavior squeezes out the opportunity for all participants to apply on a level playing field. The idea is that a lottery system will enable all customers who are interested to enter their systems for the random drawing.

In a lottery-based system, it is likely that the percentages of winning will favor the larger installers who submit a larger number of applications. After the random drawing there will still be losers and winners. Hence, there may be questions of fairness regarding the random drawing that are similar to questions raised regarding fairness of the first-come, first-served process.

¹ OAR 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,

² OAR 860-084-0170 Distributing Solar Photovoltaic Pilot Capacity by Electric Company

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

Also, changing the program to a lottery-based system is not necessarily simple and may require significant rule and implementation changes. The Joint Commenters support a fair participant application process; however, a lottery process does present administrative challenges that the first-come, first-served process handles more efficiently. Also, redesigning the capacity application process will result in additional costs to implement the changes.

Before the program is changed to a random selection approach (lottery) it must be thoroughly understood by parties and acknowledged as providing material improvements over the current system (and understood as one that can function for several more allocation windows). The material improvements should: 1) give potential participants assurance the process is equitable; and 2) improve the Commission's ability to assess the impact of the VIR in encouraging development and reducing costs. Attachment 1 provides a list of other considerations relative to a new lottery selection approach.

Research on Non-Winning Applicants

With respect to using the capacity reservation system to collect market information, the Joint Commenters observe that this is an additional task beyond the specific purpose of the reservation system to enroll participants and adds complexity to the process.

The Joint Commenters suggest that the Commission seek information about the level of potential participation and customer interest from the developers and installers in addition to utility supplied data. Developers and installers are active in this docket and have first hand knowledge about the demand for the product. Although oversimplified, the solar photovoltaic program represents a case in the regulated utility realm where the participating utility customers become suppliers/producers to the utility and seek the highest possible price for their product--rather than the lowest price sought by a purchaser/consumer. The Commission is thus challenged to provide the market efficiency adjustments to help reduce costs because there are minimal pressures for prices to drop (within the feed-in tariff).

The Joint Commenters are charged with implementing and managing the program, processing applications, billings and payments, and to do so as efficiently as possible within the requirements of the rules. The Joint Commenters are not marketing entities. As explained below, significant levels of solar installation activity is also occurring outside the scope of the solar photovoltaic program. These data and installer experiences are informative as well in

assessing this program. Data about “pent-up demand” at a particular VIR level may not be informative in an environment of falling solar system costs. Joint Commenters suggest gathering knowledge from the ETO sanctioned contractor base that is actively marketing and selling solar systems through a survey instrument as an alternative approach to better understand “pent-up demand”.

Confidentiality of Bid Prices

In the workshop, the question was raised regarding the value of keeping the bid prices confidential, and in particular the winning bid prices, for the bidding option. Both PGE and Pacific Power currently treat the bid prices as confidential to be consistent with how prices in power purchase agreements and other resource bidding processes are treated by the companies. Both companies have provided the average bid price on a non-confidential basis. If the parties and the Commission believe that for purposes of the pilot, releasing the winning bid price will better facilitate the goals of the pilot program, the Joint Commenters recommend the addition of language to each company’s request for proposals and contracts stating that the bid prices may be publicly available. This way, bidders will know beforehand that their bid prices will not be held in confidence³.

The Joint Commenters continue to recommend that the bidder names and addresses continue to be treated as confidential on the basis that this is information of a personal nature, and exempt from disclosure under the Oregon Public Records Act.

Medium-Sized System Capacity Allocation

The Joint Commenters do not object to reallocating and increasing the capacity amount for medium-sized systems. Under ORS 757.365(6)⁴, the pilot programs must be designed to allocate at least 75 percent of the total capacity to residential qualifying systems (10 kW or less) and small commercial qualifying systems (100 kW or less). In Order No. 10-198, the

³ Pacific Power has asked the winner in the 2010 bid option if he would be willing to allow the company to release his winning bid publicly and he declined. It also should be noted that the mere fact of making public bid prices of solar suppliers may limit the number of participants in the bidding process as it may remove a competitive advantage one installer may have over another. It may also create an atmosphere conducive to price fixing and its antitrust implications.

⁴ ORS 757.365 (6) The commission shall establish pilot programs designed to attain a goal of 75 percent of the energy under each program to be generated by smaller-scale qualifying systems within the allowed generating capacity range. The commission by rule shall define the size of a small-scale qualifying system and may adjust the definition of size for small-scale qualifying systems based upon the costs of the energy generated, the feasibility of attaining the goal and other factors. The commission may also adjust the maximum percentage goal of energy generated by small-scale qualifying systems based upon the same factors.

Commission allocated 80 percent of the total capacity to systems 100 kW or less. Of this 80 percent, 48 percent is allocated to small-sized systems and 32 percent is allocated to medium-sized systems.

Insurance Requirement

The insurance requirement for SPV systems is reasonable and no changes are necessary. The Joint Commenters voluntarily added language to the standard contract removing the requirement for residential and non-commercial farming customers to name the utility as an additional insured. Since this change in the contract language, we no longer encounter customers experiencing difficulties in acquiring insurance.

In the recent workshop, some parties discussed a desire for consistency between the net metering and SPV programs. Insurance is not required for systems enrolled in the net metering program because there is a limitation of liability provision in ORS 757.300(4)(c)⁵. If the Commission determines there should be consistency for insurance between systems being installed in the net metering program and the SPV program, then a legislative change may be required. As indicated in the workshop, the Joint Commenters are not opposed to such a legislative change.

Legislative Report

The Joint Commenters supports the current statute, ORS 757.365(13)⁶, that requires the Commission submit a report to the Legislative Assembly each odd-numbered year beginning in 2011. The report timing is reasonable relative to collecting and accumulating program participation, costs and other data for reporting to the legislature.

⁵ ORS 757.300(4) (c) An electric utility may not require a customer-generator whose net metering facility meets the standards in paragraphs (a) and (b) of this subsection to comply with additional safety or performance standards, perform or pay for additional tests or purchase additional liability insurance. However, an electric utility shall not be liable directly or indirectly for permitting or continuing to allow an attachment of a net metering facility, or for the acts or omissions of the customer-generator that cause loss or injury, including death, to any third party.

⁶ ORS 757.365(13) The commission shall submit a report to the Legislative Assembly by January 1 of each odd-numbered year beginning in 2011. The report must evaluate the effectiveness of paying incentive rates under the pilot programs described in subsection (1) of this section compared to incentive rates described in subsection (9) of this section for promoting the use of solar photovoltaic energy systems and reducing system costs. The report must also evaluate the estimated cost of the program to retail electricity consumers.

Capacity Rationing

The Joint Commenters support distributing the capacity over a four-year period. A longer rationing period will give the Commission the time to learn from the initial design and makes changes as needed. We also agree that a longer period allows program costs to be spread over a longer time period, thus minimizing cost impacts.

Reporting Requirements and Capacity Installed Data

The Joint Commenters are currently collecting information on installed capacity from participants. We recommend a template be established for all reporting requirements, and prefer that one report be filed annually. We currently provide all the data and information required by OAR 860-084-0430(2). Changes to the current Quarterly Raw Data and Summary Report content will require changes to the data collection processes. The Joint Commenters are currently working with Staff to develop a workable template.

III. SOLAR PHOTOVOLTAIC PILOT PROGRAM RATE ADJUSTMENT MECHANISM AND VIR

The central focus of workshop comments has been on two areas: 1) a desire to “correct” perceived issues with the first-come, first serve approach for capacity reservations; and 2) advocating ways to reduce costs to participants (such as waiving meter charges).

The cost-effectiveness of the program and cost impacts on all customers have generally been of secondary concern. The Joint Commenters, however, believe the Commission should make it a priority to look at the totality of the feed-in tariff program relative to the prudent levels of costs for solar technology with its downward cost trends.⁷ Cost impacts on customers are important to consider and will be a component of any report to the legislature.⁸

Thus, while the comments at the workshop focused on program management, the VIRs are also a key consideration that helps balance interests and concerns including costs impacts and program learning opportunities. Useful pilot program information can be captured if the VIR is adjusted so that capacity fills over the term of the enrollment period, rather than immediately.

⁷ In the article, *Tracking the Sun III. The Installed Costs of Photovoltaics in the U.S. from 1998-2009* by the Lawrence Berkeley National Laboratory, “preliminary cost data suggest that a significant decline in average installed costs occurred in 2010.”

⁸ ORS 757.365 (7) 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 electric company’s revenue requirement for the class in any year.

We recommend the Commission compare the forthcoming VIRs with the most recent Energy Trust of Oregon (ETO) installed system cost VIRs and revisit the assumptions underlying the model.

The Joint Commenters suggest that the Commission consider the information about how the VIR is represented and evaluated by potential participants and installers as an indicator of the program's impact. For example, Pacific Power reviewed participant payments and solar system costs provided in the data collection survey for three customers who are participating in the incentive program. Based on the incentive payments and using ETO expected generation data, the estimated return for these three customers is likely to exceed 20 percent and the cost of their system may be paid back in as little as four years.⁹ This calculation takes into account the Federal Tax Credit.

The Joint Commenters also suggest the Commission consider information provided by a solar installation company. This company has posted on its website a projected financial calculation of solar system costs versus incentive payments. With the posted VIR rates, it projects that a 10 kW solar system in Portland will see a return on investment in year eight with the remaining seven years as income. This calculation does not take into account the 30 percent Federal Tax Credit.¹⁰ Attachment No. 2 provides a copy of the solar installation firm's website.

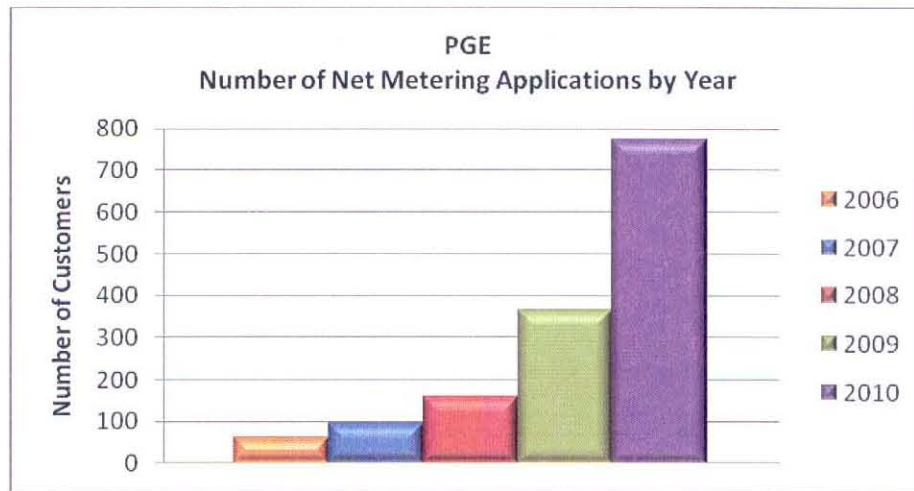
Finally, the Joint Commenters provide the following information on the increase in the number of solar system interconnections of consumers *not* participating in this pilot program and *not* receiving VIR payments. Solar installations, not participating in this pilot program, rapidly expanded in 2010. This suggests that the Commission could compare effective costs or rate of return as additional data points for establishing the VIR.

The chart below shows the number of annual applications received by PGE customers under Schedule 203 – Net Metering Services and Schedules 205 and 206 – Solar Payment Option Pilot Programs. From 2006 through 2010, year-over-year growth has been robust in the net metering program. From 2009 to 2010, the number of applications doubled. In 2010, with the introduction of the feed-in tariff pilot programs and changes to the tax incentives, net metering applications still continued to reach record levels.

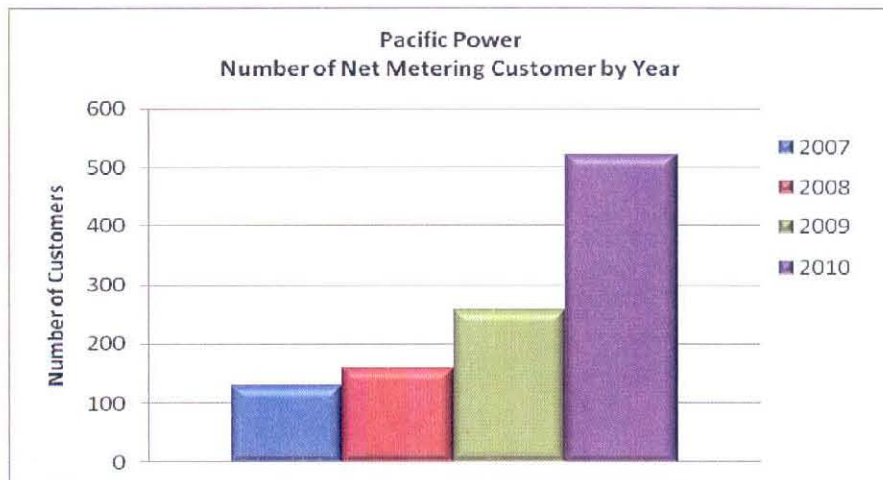
⁹ Customers are from July 1 reservation period. Payments are forecasted based on trending no less than 4 months of the actual payments. One of the systems was third party financed.

¹⁰ RS Energy's website can be found at <http://www.oregonfeedintariff.com/financial-projections.html#one>

The chart below shows the number of annual applications received by PGE customers under Schedule 203 – Net Metering Services and Schedules 205 and 206 – Solar Payment Option Pilot Programs. From 2006 through 2010, year-over-year growth has been robust in the net metering program. From 2009 to 2010, the number of applications doubled. In 2010, with the introduction of the feed-in tariff pilot programs and changes to the tax incentives, net metering applications still continued to reach record levels.



Similarly, the chart below shows the number of annual interconnections¹¹ by Pacific Power under Schedule 135 in Oregon. Ninety-eight percent of the interconnections are for solar systems. Pacific Power has also seen a rapid increase in participation from 2007 to 2010. As the chart indicates, from 2009 to 2010, the numbers of interconnections have doubled.



¹¹ Until 2010, Pacific Power did not track the number of applications received, Pacific Power only tracked the actual number of interconnections. Applications are received each year that do not result in completed interconnections.

setting the VIR at a level that will fill capacity over the term of the enrollment period, in order to capture the maximum amount of learning and gain valuable pilot program insights.

IV. CONCLUSION

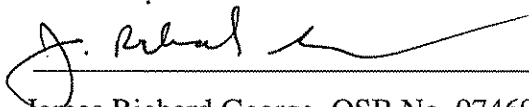
The Joint Commenters believe that the program is functioning well at an administrative level given the rapid development and complex processes needed to both enroll and administer the program. Improvements are certainly possible. However, we do not recommend requiring program changes be done on a rush basis, as this will create confusion in the market and chaos in administering.

The Joint Commenters are willing to consider changes to the enrollment/capacity reservation process if all parties fully understand and support a new approach such as a lottery. The Joint Commenters believe the Commission should further examine the VIR determination with respect to the goals of the program as set out in legislation.

Finally, the Joint Commenters recognize that the solar program is a pilot mandated by the Oregon legislature to encourage solar development in a beneficial manner. As with any pilot, we will learn continually about what is working or not working. Thus, we encourage the Commission and all parties to be patient with the process and identify the important changes to make the program better for all utility customers.

DATED, this 11th day of February, 2011.

Respectfully submitted,



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Capacity Reservation Method Considerations

Current Process – On-line, First-Come, First-Serve

Advantages:

- Reservation window remains open until capacity is reserved by participants. Potential participants receive immediate confirmation of a capacity reservation (subject to qualification checks).
- Provides a clear metric (time necessary to fill the available capacity) at a given VIR price and allows for subsequent VIR adjustments.
- Deposits will continue to discourage frivolous applications.¹
- Joint Commenters can complete the initial survey, including the upcoming enrollment participants, as originally designed.
- No additional administrative costs are incurred to redesign the capacity enrollment system and market a redesigned capacity enrollment process.
- Interest in the SPV pilot program can be observed through Internet hits on the companies' web site and the capacity on-line enrollment form.
- The on-line system requires the utility manage the capacity winners and there is minimal administrative burden of communicating with a large number of non-winners.

Potential modifications to the current on-line form to diminish gaming the application process:

- Allow only customers to enroll online. Installers cannot enroll on the customers' behalf. (Compliance may be difficult to check.)
- If installers complete applications on behalf of the customer, require installers to certify that the customer was not enrolled through a preprogrammed system. This could alleviate the gaming. Participants or installers can certify that they completed the form.
- The input form may be modified so that programmers cannot game the form as easily. This would require the changes to be confidential.

Rule changes may be needed to regulate a customer to certify that they completed their form or that the installer has not enrolled the customer with a preprogrammed system.

¹ "We agree with RNP, Pacific Power, and Idaho Power that rigorous deadlines and capacity reservation deposits will help to prevent frivolous capacity reservations." Commission Order No. 10-200, page 8.

Random Selection (Lottery) Capacity Reservation Method

Advantages:

- Customers believe each applicant has an equivalent chance to receive a capacity reservation.
- The dates and times that the capacity reservation application window is “open” is clearly defined with discrete open and close times. No applications will be received after the window closes.
- Participants do not have to “rush” to submit an application.

Issues or Disadvantages:

- Random application selection process must be developed with assurance of independent selection.
- Processes that screen out duplicate applications or “ballot-stuffing” must be developed.
- Rules must be set to address if developers and installers can submit applications on behalf of customers.
- Rules must be developed for the method to submit an application (e.g., on-line only, hard-copy only or both)
- New timelines for processing, selection and notification are required
- Retraining of vendor/applicants is necessary
- Deposit requirements would need to be modified
- Increased costs for system changes, communications and administration
- Identical amount of capacity winners and losers in current process
- A lottery system may not be any more effective at achieving the goals of the program than the current system.

Implementation Requirements for Lottery

From program administrator’s perspective and in addition to our existing responsibilities, we will be required to:

- Design and implement a new on-line system.
- Communicate with the solar community, customers, stakeholders about upcoming changes.

- Manage communication with non-winners, which could be substantial.
- Line up additional resources to manage the unknown volume of applications, customer calls, and inquiries.
- Modify the surveys and program evaluation process.
- Collect deposits after winners are announced, thereby potentially increasing the number of frivolous applications.

Additional Observations

The number of reservation processes should be limited to two approaches (one for small and medium systems and one for large systems).

Feed-in Tariff pays you for Solar Energy



Home Why Solar? Program Basics About Us Financial Projections Get Started

Financial Projections

Financial Projections and Program Details

- Projected return 8 years
- Yearly Revenue of approximately \$5,400 in Portland/Salem area and \$6,200 in Klamath Falls (for 10 KW system)
- Plus, receive a 30% federal tax credit in the year the system is installed

Portland/Salem area (Earn \$.527 per KWH Produced)

10 KW Complete installed system:

Year	Total Revenue	Cumulative Cash Flow
0	-\$55,500	-\$55,500
1	\$21,832	-\$33,668
2	\$5,144	-\$28,524
3	\$5,107	-\$23,418
4	\$5,069	-\$18,348
5	\$5,032	-\$13,316
6	\$4,995	-\$8,321
7	\$4,959	-\$3,362
8	\$4,923	\$1,561
9	\$4,887	\$6,448
10	\$4,851	\$11,299
11	\$4,815	\$16,114
12	\$4,780	\$20,894
13	\$4,745	\$25,640
14	\$4,710	\$30,350
15	\$4,676	\$35,026

Klamath Falls (Earn \$.486 per KWH Produced)

10 KW Complete installed System:

Year	Total Revenue	Cumulative Cash Flow
0	-\$55,500	-\$55,500
1	\$22,709	-\$32,791
2	\$6,015	-\$26,776
3	\$5,972	-\$20,804

4	\$5,928	-\$14,876
5	\$5,885	-\$8,991
6	\$5,842	-\$3,148
7	\$5,800	\$2,652
8	\$5,758	\$8,409
9	\$5,716	\$14,125
10	\$5,674	\$19,800
11	\$5,633	\$25,433
12	\$5,592	\$31,025
13	\$5,552	\$36,577
14	\$5,511	\$42,088
15	\$5,471	\$47,559

Portland/Salem Area (Earn \$.527 per KWH Produced)

5 KW Complete Installed System:

Year	Total Revenue	Cumulative Cash Flow
0	-\$27,750	-\$27,750
1	\$10,809	-\$16,941
2	\$2,465	-\$14,477
3	\$2,446	-\$12,031
4	\$2,427	-\$9,604
5	\$2,409	-\$7,195
6	\$2,390	-\$4,805
7	\$2,372	-\$2,433
8	\$2,354	-\$79
9	\$2,336	\$2,256
10	\$2,318	\$4,574
11	\$2,300	\$6,874
12	\$2,282	\$9,157
13	\$2,265	\$11,422
14	\$2,248	\$13,669
15	\$2,230	\$15,900

Program Details:

- Program available to Portland General Electric, and Pacific Power
- Program participants sign a 15 year contract with their electric utility for a fixed rate
- The electric company pays program participants the fixed, premium rate for all the power that is produced under the participants use. For example a typical home uses 12,000 KWH yearly, this home would only be able to receive the premium rate for up to 12,000 KWH.
- Feed-In Tariff Rate is made up of two components--The Premium Rate and Electrical Savings. Combined, these two components equal the Feed-In Tariff Rate of either \$.527 per watt for Portland or \$.466 per watt for Klamath Falls.
- Projections assume a 95% total solar resource (shade, orientation and tilt of panels). We will provide you a site specific total solar resource at our site consultation.

- The installed system must be rated to 90% or less of the program participant's annual use.

Financing Available

- Bank Equity financing available up to the full cost of the system.
- Finance Lease available allowing you to receive the benefits of ownership without the high initial cost.
- Please attend a free seminar or schedule a free site consultation to learn more about financing options.

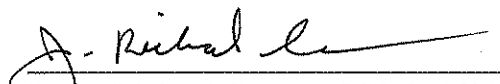
Ready to get started? [Click Here](#)

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CERTIFICATE OF SERVICE

I hereby certify that I have this day caused **Joint Opening Comments of Portland General Electric Company and Pacific Power** to be served by electronic mail to those parties whose email addresses appear on the attached service list and by method specified, postage prepaid and properly addressed, to those parties on the attached service list who have not waived paper service from OPUC Docket No. UM 1505.

DATED at Portland, Oregon, this 11th day of February, 2011.



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