

**UE 294 / PGE / 100  
Ross – Brown**

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

**UE XXX**

**Renewable Adjustment Clause**

**PORTLAND GENERAL ELECTRIC COMPANY**

**Direct Testimony and Exhibits of**

*Joey Ross  
Rebecca Brown*

**April 1, 2015**

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## I. Introduction

1 **Q. Please state your names and positions with Portland General Electric (“PGE”).**

2 A. My name is Joey Ross. I am the Manager of Innovative Solutions for PGE.

3 My name is Rebecca Brown. I am a senior analyst in Rates and Regulatory Affairs for  
4 PGE.

5 Our qualifications appear in Section IV of this testimony.

6 **Q. What is the purpose of your testimony?**

7 A. The purpose of our testimony is to request recovery of the incremental revenue requirement  
8 for Portland Public Schools Solar Project (PPS Solar), a qualifying renewable resource  
9 project, through PGE’s Schedule 122, pursuant to Oregon Revised Statutes (ORS) 757.210  
10 and 469A.120(4). The Renewable Adjustment Clause (RAC) allows for the deferral and  
11 collection of the revenue requirement associated with the project. Additionally we include  
12 the expected capital gain, as a credit to customers, from the associated sale-leaseback  
13 transaction. We believe that since the expected gain on the sale of the facility is directly  
14 related to this project, it should be amortized along with the deferred revenue requirement.  
15 This treatment is consistent with our previous 2012 RAC filing for Baldock Solar Project.

16 **Q. How is your testimony organized?**

17 A. After this introductory section, we provide a description of the PPS Solar Project and  
18 present the 2015 and 2016 incremental revenue requirement. We then provide a summary  
19 and concluding remarks regarding PGE’s proposal. The final section contains our  
20 qualifications.

21 **Q. Please summarize PGE’s request for this filing.**

1 A. PGE requests that as of January 1, 2016, Schedule 122 consist of the following components  
2 regarding the PPS Solar project:

3 • Amortization of the deferred 2015 revenue requirement, which includes  
4 operations and maintenance costs (O&M) and dispatch benefits in net  
5 variable power costs (NVPC).

6 • Recovery of the 2016 forecasted revenue requirement, which includes O&M  
7 costs but does not include dispatch benefits because these will be forecasted  
8 in PGE's NVPC as developed in Docket No. UE 294, PGE's 2016 general  
9 rate case.

10 • Amortization of the capital gain in 2016.

11 **Q. What Rate of Return (ROR) is PGE using for this filing?**

12 A. For 2015, PGE is using the currently authorized ROR of approximately 7.56%, which is  
13 comprised of a Return on Equity (ROE) of 9.68% and Cost of Debt of 5.443% (Commission  
14 Order No. 14-422). For 2016, PGE is using its requested ROR of 7.667% which is  
15 comprised of an ROE of 9.9% and a Cost of Debt of 5.433%. The 2016 requested ROR is  
16 based on PGE's pending general rate case, UE 294, with a 2016 test year.

## II. Portland Public Schools Solar Project

### A. Project Description

1 **Q. Please describe the project.**

2 A. The Portland Public School's Solar Project (PPS Solar) is the most recent project in PGE's  
3 renewable resource portfolio. PPS Solar will consist of rooftop photovoltaic crystalline  
4 modules installed on six Portland public school buildings located in Multnomah County and  
5 are expected to have an aggregate installed capacity of 1.2 MW. The project is expected to  
6 produce enough power to offset approximately half of the participating schools' electric  
7 usage.

8 **Q. What will the ownership structure be for the PPS Solar Project?**

9 A. PGE has entered into agreements with Bank of America Leasing & Capital, LLC (BALC) to  
10 finance the project through a sale-leaseback structure. After completing installation, the  
11 project will be immediately sold by PGE to BALC and then BALC will lease it back to  
12 PGE, with PGE receiving the energy output. The sale-leaseback agreement with BALC will  
13 give PGE a buy-out option after year six.

14 **Q. How will the PPS Solar Project be funded?**

15 A. PPS Solar is expected to be funded, based on installed capacity, with approximately  
16 \$1 million in incentives from Energy Trust of Oregon, and approximately \$2 million in  
17 funds from the Clean Wind Development Fund (CWF). The CWF is funded by PGE's  
18 renewable customers who contribute to support the development of new renewable projects.  
19 The amounts to be funded will be finalized closer to the completion of the project.

20 **Q. How is PGE treating the Renewable Energy Credits (RECS) associated with the output**  
21 **from PPS Solar?**

1 A. For the first five years, 100% of the RECs will go to Portland Public Schools. In Years 6  
2 through 20, 44% of the RECs will be deposited in a Western Renewable Energy Generation  
3 Information System (“WREGIS”) account directed by the ETO for use toward PGE’s  
4 renewable energy obligation pursuant to ORS 469A.052. The remaining 56% of the RECs  
5 will be allocated to and retired on behalf of PGE’s CWF customers. The CWF customers  
6 will receive 100% of the RECs after year 20.

7 **Q. Has PGE filed for approval of the sale of PPS Solar?**

8 A. Yes. Concurrent with this filing, PGE filed, with the OPUC, for approval of the sale of PPS  
9 Solar. PGE also filed a deferral application seeking to defer the 2015 revenue requirement  
10 related to PPS Solar and the expected gain on the sale of the project.

11 **Q. When is the sale of PPS Solar expected to take place?**

12 A. We expect the six facilities to be installed and completed in early September, 2015. PGE is  
13 requesting authorization for the sale of the project which is expected to occur in early  
14 September, 2015 and in no event, later than October 30, 2015. PGE expects a gain on the  
15 sale.

16 **Q. What is the deferral filing related to PPS Solar?**

17 A. PGE is seeking approval to defer the project’s estimated 2015 revenue requirement and the  
18 credit of the gain on the sale of the project.

19 **Q. What benefits does PPS Solar provide to PGE’s customers?**

20 A. PGE customers will benefit from the addition of approximately 1.2 MW of renewable  
21 generation. A portion of the RECs generated by the facility will be used to meet PGE’s  
22 renewable portfolio standard (RPS) obligation pursuant to ORS 469A.052. As allowed for  
23 by OAR 860-084-0070(3), each REC associated with the electricity produced by PPS Solar

1 may be counted twice to comply with the renewable portfolio standards. In addition, PGE's  
2 CWF customers will have RECs retired on their behalf, as described above.

**B. Ownership Structure**

3 **Q. What ownership structure was used for this project?**

4 A. PGE partnered with Bank of America Leasing to use a sale-leaseback structure. After  
5 completing construction and installation of the solar panels, PGE will sell the project to  
6 BALC, who will then immediately lease it back to PGE. The lease agreement between PGE  
7 and BALC will have a term of seven years.

8 **Q. Has PGE used this ownership structure for other projects?**

9 A. Yes. PGE's Baldock Solar Project has a similar ownership structure. The Commission  
10 approved Baldock in Order No. 12-359.

11 **Q. Why is PGE using this ownership structure again?**

12 A. PGE is unable to fully utilize the tax benefits accompanying the project in the near-term.  
13 Therefore, involving entities that can use the tax incentives is essential to the economics of  
14 the project. Under the sale-leaseback structure, BALC, as the owner of the project property,  
15 will be eligible to claim federal tax credits, and other tax benefits, such as accelerated  
16 depreciation, with respect to the project property. The amount of those tax credits and other  
17 tax benefits are taken into account in determining the amount of the rental payments that  
18 PGE will pay to BALC under the lease.

19 **Q. When is the sale-leaseback transaction expected to close?**

20 A. On March 3, 2015, PGE and BALC agreed to the terms of the sale-leaseback transaction.  
21 We expect to close in early September, 2015, shortly after the solar facilities have  
22 commenced commercial operation.

**C. Revenue Requirement**

1 **Q. What is PGE's forecast for the revenue requirement impact of PPS Solar?**

2 A. PGE currently forecasts the 2015 revenue requirement for PPS Solar to be approximately  
3 \$0.18 million, net of dispatch benefits of approximately \$8,278 of avoided power costs. The  
4 2016 revenue requirement for PPS Solar is currently expect to be approximately \$0.5  
5 million with dispatch benefits of approximately \$34,800. As stated in PGE's application for  
6 the sale of PPS Solar, the accounting gain on the transaction will be deferred and used to  
7 offset the amounts otherwise collected from customers in 2016. While post-closing  
8 expenses may affect the amount of the gain, PGE has included the current estimate in this  
9 filing. As a result, PGE currently expects a credit to customers of approximately \$2.2  
10 million in 2016. PGE Exhibit 101 summarizes the development of the incremental revenue  
11 requirement.

12 **Q. How do you calculate the net dispatch benefits?**

13 A. We use the forward curves and output from PGE's power cost forecasting model, MONET.  
14 This is roughly the project's expected output multiplied by the average electric price from  
15 the final power cost forward curve used in Docket No. UE 286. This method for valuing the  
16 output during the deferral period is specified in Schedule 122.

17 **Q. Does PGE plan to provide updates to the estimates provided in this filing?**

18 A. Yes. PGE will provide updates to estimated costs throughout the proceeding as actual costs  
19 become available and are recorded in PGE's accounting system. Then-current actual costs  
20 and revised forecasted costs will be included in the PGE's December 1 compliance filing,  
21 consistent with Schedule 122.



### III. Summary and Conclusion

1 **Q. Please summarize PGE's proposal regarding the PPS Solar project.**

2 A. PGE requests recovery of the incremental revenue requirement for the PPS Solar project, a  
3 qualifying renewable resource project, through PGE's Schedule 122, which will consists of  
4 the following components:

5 • Amortization of the deferred 2015 revenue requirement, which includes  
6 O&M costs and dispatch benefits in NVPC. PGE is requesting the deferral  
7 of the 2015 revenue requirement (partial year – September through  
8 December) in a separate proceeding.

9 • Recovery of the 2016 forecasted revenue requirement, which includes O&M  
10 costs but does not include dispatch benefits because these will be forecasted  
11 in PGE's NVPC as developed in Docket No. UE 294, PGE's 2016 general  
12 rate case.

13 • Amortization of the capital gain in 2015. PGE is requesting authorization to  
14 sell PPS Solar to BALC, which will result in a gain. PGE will then credit  
15 the gain to customers through the UM docket established by the deferral  
16 noted above.

17 **Q. If the deferral covers the 2015 revenue requirement and the credit to customers, how  
18 does PGE propose to recover the 2016 revenue requirement related to PPS Solar?**

19 A. There are two alternatives for PGE to recover the 2016 revenue requirement. First, PGE  
20 could collect the 2016 revenue requirement through Schedule 122, until such time as PPS  
21 Solar is included in base rates. Second, because PGE currently has a pending rate case,  
22 UE 294, the Commission could allow the 2016 revenue requirement to be included in base

1 rates prior to the conclusion of the UE 294 proceeding. That would alleviate annual updates  
2 for PPS Solar through Schedule 122 until PGE files its next rate case.

#### IV. Qualifications

1 **Q. Mr. Ross, please describe your qualifications.**

2 A. I received a Bachelor of Science and Master's degrees in economics from George Mason  
3 University and a Master of Business Administration from Arizona State University. I have  
4 over 15 years of energy industry experience that includes work for Amerada Hess and Pepco  
5 Energy, providing energy management services for residential, commercial, and industrial  
6 customers; Northwest Natural managing its IRP; GTN Pipeline providing pricing and  
7 market analytics; and Barclay Capital providing energy risk management. I have been with  
8 PGE for a little over three years and in my current role for one year.

9 **Q. Ms. Brown, please describe your qualifications.**

10 A. I received a Bachelor of Science degree in Accounting from the University of Nevada-Reno  
11 and a Master of Business Administration with an emphasis in Finance from the University  
12 of Wyoming. I am also a Certified Public Accountant. I have worked at three state  
13 commissions (Wyoming, Texas and Oregon) totaling 12 years of regulatory experience. I  
14 also worked at PacifiCorp for nearly three years in Corporate Accounting. I have been with  
15 PGE for eight years and in the Rates and Regulatory Affairs department for five of those  
16 years.

17 **Q. Does this conclude your testimony?**

18 A. Yes

**List of Exhibits**

<b><u>PGE Exhibit</u></b>	<b><u>Description</u></b>
101	PPS Solar Project Revenue Requirement

**PGE Exhibit 101 - Estimated Revenue Requirement and Deferred Gain**

**Estimated Revenue Requirement:**

2015 Estimate [deferral]*	\$ 196,839
2016 Estimate	\$ 612,204
<b>Total Estimated Revenue Requirement</b>	<b><u>\$ 809,043</u></b>

**Estimated Gain/Loss [deferral]\*** **\$ (2,875,000)**

**Total 2016 Effect** **\$ (2,065,957)**

\* Deferred amounts are subject to accrued interest.

**PPS Solar Revenue Requirement Estimates  
 Summary and Assumptions**

Estimated 2015 Revenue Requirement	196,839
Estimated 2016 Revenue Requirement	612,204
Estimated Gain	<u>(2,875,000)</u>
<b>Estimated Revenue Requirement (Credit)</b>	<b><u><u>(2,065,957)</u></u></b>

Project Costs (January)	\$ 4,574,824
Less: ETO and CWF Funding	<u>\$ 2,875,000</u>
<b>Equals: Estimated Project Basis</b>	<b><u>\$ 1,699,824</u></b>

Sale Price	\$ 4,574,824
<b>Estimated Gain / (Loss)</b>	<b><u><u>\$ 2,875,000</u></u></b>

	<u>annual</u>	<u>monthly</u>
Monthly Lease Expense	\$ 477,983	\$ 39,832
O&M Rate (\$/kWh)	\$ 0.0092	
Fixed O&M	\$ 18,000	\$ 1,500
Insurance	\$ 3,591	\$ 299
2015 Prop Tax	\$ 66,335	\$ 5,528
2016 Prop Tax	\$ 62,844	\$ 5,237
Integration Costs/MW	\$ 3,024	
Gross-Up for Transmission	4.74%	
Rooftop Lease	\$ 12,000	
PGE Long-Term Inflation Rate	1.93%	
Permanent Tax Gain	\$ 5,857	

Estimated 2015 Deferred Revenue Requirement PPS Solar Project	2015				2015	2015
	September	October	November	December	PPS Solar Revenues for RROE	2015 PPS Solar Revenues for RROE
1 Sales to Customers	\$ 47,640	\$ 48,963	\$ 50,023	\$ 50,214	\$ 196,839	\$ 196,839
2 Other Revenues	\$ -	\$ 1	\$ 2	\$ 3	\$ 6	\$ 6
3 Total Operating Revenues	\$ 47,640	\$ 48,964	\$ 50,025	\$ 50,217	\$ 196,845	\$ 196,845
4 Net Variable Power Cost	\$ (4,680)	\$ (3,120)	\$ (1,660)	\$ (1,360)	\$ (10,820)	\$ (10,820)
5 O&M / A&G	\$ 44,034	\$ 43,746	\$ 43,305	\$ 43,187	\$ 174,272	\$ 174,272
6 Uncollectibles Expense	\$ 224	\$ 230	\$ 235	\$ 236	\$ 925	\$ 925
7 OPUC Fees	\$ 179	\$ 184	\$ 188	\$ 188	\$ 738	\$ 738
9 Depreciation & Amortization	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
10 Property Taxes	\$ 5,528	\$ 5,528	\$ 5,528	\$ 5,528	\$ 22,112	\$ 22,112
11 Franchise Fees	\$ 1,191	\$ 1,225	\$ 1,251	\$ 1,256	\$ 4,923	\$ 4,923
12 Utility Income Tax	\$ 1,031	\$ 1,035	\$ 1,039	\$ 1,042	\$ 4,147	\$ 4,147
13 Total Operating Expenses & Taxes	\$ 47,507	\$ 48,828	\$ 49,885	\$ 50,077	\$ 196,296	\$ 196,296
14 Utility Operating Income	\$ 133	\$ 137	\$ 139	\$ 140	\$ 549	\$ 549
15 Rate of Return	7.56%	7.56%	7.56%	7.56%	7.56%	7.56%
16 Misc. Deferred Debits	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
17 Misc. Deferred Credits	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
18 Avg. Accum. Def Taxes	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
19 Working Cash	\$ 1,758	\$ 1,807	\$ 1,846	\$ 1,853	\$ 7,263	\$ 7,263
20 Avg. Rate Base	\$ 1,758	\$ 1,807	\$ 1,846	\$ 1,853	\$ 7,263	\$ 7,263
21 Regulated Net Income	\$ 85	\$ 87	\$ 89	\$ 90	\$ 352	\$ 352
22 Return on Equity	14.66%	14.66%	14.66%	14.66%	9.68%	9.68%
<b>Utility Income Taxes</b>						
23 Book Rev	\$ 47,640	\$ 48,964	\$ 50,025	\$ 50,217	\$ 196,845	\$ 196,845
24 Book Exp	\$ 46,476	\$ 47,792	\$ 48,846	\$ 49,035	\$ 192,150	\$ 192,150
25 Interest Expense	\$ 48	\$ 49	\$ 50	\$ 50	\$ 197	\$ 197
26 Perm Book-Tax Gain	\$ (1,464)	\$ (1,464)	\$ (1,464)	\$ (1,464)	\$ (5,857)	\$ (5,857)
27 Deferred Ms	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
28 Taxable Income	\$ 2,580	\$ 2,587	\$ 2,593	\$ 2,596	\$ 10,355	\$ 10,355
29 State Tax	\$ 196	\$ 197	\$ 197	\$ 198	\$ 788	\$ 788
30 State Tax Credits	\$ -	\$ 1	\$ 2	\$ 3	\$ 6	\$ 6
31 Net State Taxes	\$ 196	\$ 198	\$ 199	\$ 201	\$ 794	\$ 794
32 Federal Taxable Income	\$ 2,384	\$ 2,389	\$ 2,393	\$ 2,395	\$ 9,561	\$ 9,561
33 Federal Tax	\$ 834	\$ 836	\$ 838	\$ 838	\$ 3,346	\$ 3,346
34 Federal Tax Credits	\$ -	\$ 1	\$ 2	\$ 3	\$ 6	\$ 6
35 Deferred Taxes	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
36 Total Income Tax	\$ 1,031	\$ 1,035	\$ 1,039	\$ 1,042	\$ 4,147	\$ 4,147
37 Working Cash Factor	3.700%	3.700%	3.700%	3.700%	3.700%	3.700%
38 Weighted Cost of Debt	2.717%	2.717%	2.717%	2.717%	2.717%	2.717%
39 Weighted Cost of Debt (Monthly)	0.226%	0.226%	0.226%	0.226%	0.226%	0.226%
40 State Tax Rate	7.614%	7.614%	7.614%	7.614%	7.614%	7.614%
41 Federal Tax Rate	35.000%	35.000%	35.000%	35.000%	35.000%	35.000%
42 Composite Tax Rate	39.949%	39.949%	39.949%	39.949%	39.949%	39.949%
43 Effective Cost of Debt	5.443%	5.443%	5.443%	5.443%	5.443%	5.443%
44 Equity Share of Cap Structure	50.000%	50.000%	50.000%	50.000%	50.000%	50.000%
45 Debt Share of Cap Structure	50.000%	50.000%	50.000%	50.000%	50.000%	50.000%
46 ROE Target	9.680%	9.680%	9.680%	9.680%	9.680%	9.680%
47 WACC	7.557%	7.557%	7.557%	7.557%	7.557%	7.557%
48 WACC (Monthly)	0.630%	0.630%	0.630%	0.630%	0.630%	0.630%
49 Gross-up Factor	1.658	1.658	1.658	1.658	1.658	1.658
50 Grossed-up Cost of Capital	10.741%	10.741%	10.741%	10.741%	10.741%	10.741%
51 Grossed-up Cost of Capital (Monthly)	0.854%	0.854%	0.854%	0.854%	0.854%	0.854%
52 Bad Debt Rate	0.470%	0.470%	0.470%	0.470%	0.470%	0.470%
53 OPUC Fee Rate	0.3750%	0.3750%	0.3750%	0.3750%	0.3750%	0.3750%
54 Franchise Fee Rate	2.501%	2.501%	2.501%	2.501%	2.501%	2.501%
<b>Income Tax Check</b>						
55 Revenue	\$ 47,640	\$ 48,964	\$ 50,025	\$ 50,217	\$ 196,845	\$ 196,845
56 Int. Expense	\$ 48	\$ 49	\$ 50	\$ 50	\$ 197	\$ 197
57 Op. Expense	\$ 46,476	\$ 47,792	\$ 48,846	\$ 49,035	\$ 192,150	\$ 192,150
58 Book Taxable	\$ 1,116	\$ 1,122	\$ 1,128	\$ 1,132	\$ 4,498	\$ 4,498
59 Tot. Sch. M	\$ (1,464)	\$ (1,464)	\$ (1,464)	\$ (1,464)	\$ (5,857)	\$ (5,857)
60 Tax Taxable	\$ 2,580	\$ 2,587	\$ 2,593	\$ 2,596	\$ 10,355	\$ 10,355
61 Net State Tax	\$ 196	\$ 198	\$ 199	\$ 201	\$ 794	\$ 794
62 Net Federal Tax	\$ 834	\$ 837	\$ 840	\$ 841	\$ 3,352	\$ 3,352
63 Deferred Tax	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
64 Total Tax	\$ 1,031	\$ 1,035	\$ 1,039	\$ 1,042	\$ 4,147	\$ 4,147

**Estimated 2015 Deferred Revenue Requirement  
 PPS Solar Project**

	<b>2015 September</b>	<b>2015 October</b>	<b>2015 November</b>	<b>2015 December</b>	<b>2015 PPS Solar Revenues for RROE</b>	<b>2015 PPS Solar Revenues for RROE</b>
	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE

**UOI Check**

65 Avg. Rate Base					\$ 7,263	\$ 7,263
66 RROE					7.557%	7.557%
67 UOI					\$ 549	\$ 549
					TRUE	TRUE



Estimated 2013 Revenue Requirement PPS Solar Project	2013												2013	2013
	January	February	March	April	May	June	July	August	September	October	November	December	PPS Solar Revenues for RROE	PPS Solar Revenues for RROE
1 Sales to Customers	\$ 50,470	\$ 50,568	\$ 50,997	\$ 51,171	\$ 51,532	\$ 51,498	\$ 51,699	\$ 51,468	\$ 51,181	\$ 50,884	\$ 50,428	\$ 50,307	\$ 612,204	\$ 612,204
2 Other Revenues	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3 Total Operating Revenues	\$ 50,470	\$ 50,568	\$ 50,997	\$ 51,171	\$ 51,532	\$ 51,498	\$ 51,699	\$ 51,468	\$ 51,181	\$ 50,884	\$ 50,428	\$ 50,307	\$ 612,204	\$ 612,204
4 Net Variable Power Cost	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5 O&M / A&G	\$ 43,342	\$ 43,436	\$ 43,850	\$ 44,016	\$ 44,364	\$ 44,331	\$ 44,525	\$ 44,303	\$ 44,026	\$ 43,740	\$ 43,302	\$ 43,185	\$ 526,420	\$ 526,420
6 Uncollectibles Expense	\$ 217	\$ 217	\$ 219	\$ 220	\$ 222	\$ 221	\$ 222	\$ 221	\$ 220	\$ 219	\$ 217	\$ 216	\$ 2,632	\$ 2,632
7 OPUC Fees	\$ 189	\$ 190	\$ 191	\$ 192	\$ 193	\$ 193	\$ 194	\$ 193	\$ 192	\$ 191	\$ 189	\$ 189	\$ 2,296	\$ 2,296
9 Depreciation & Amortization	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
10 Property Taxes	\$ 5,237	\$ 5,237	\$ 5,237	\$ 5,237	\$ 5,237	\$ 5,237	\$ 5,237	\$ 5,237	\$ 5,237	\$ 5,237	\$ 5,237	\$ 5,237	\$ 62,844	\$ 62,844
11 Franchise Fees	\$ 1,285	\$ 1,288	\$ 1,299	\$ 1,303	\$ 1,313	\$ 1,312	\$ 1,317	\$ 1,311	\$ 1,304	\$ 1,296	\$ 1,284	\$ 1,281	\$ 15,593	\$ 15,593
12 Utility Income Tax	\$ 59	\$ 60	\$ 60	\$ 60	\$ 61	\$ 61	\$ 61	\$ 61	\$ 60	\$ 60	\$ 59	\$ 59	\$ 721	\$ 721
13 Total Operating Expenses & Taxes	\$ 50,330	\$ 50,428	\$ 50,856	\$ 51,029	\$ 51,389	\$ 51,355	\$ 51,556	\$ 51,325	\$ 51,039	\$ 50,743	\$ 50,288	\$ 50,167	\$ 610,506	\$ 610,506
14 Utility Operating Income	\$ 140	\$ 140	\$ 141	\$ 142	\$ 143	\$ 143	\$ 143	\$ 143	\$ 142	\$ 141	\$ 140	\$ 140	\$ 1,698	\$ 1,698
15 Rate of Return		7.667%	7.667%	7.667%	7.667%	7.667%	7.667%	7.667%	7.667%	7.667%	7.667%	7.667%	7.667%	7.667%
16 Misc. Deferred Debits	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
17 Misc. Deferred Credits	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
18 Avg. Accum. Def Taxes	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
19 Working Cash	\$ 1,826	\$ 1,830	\$ 1,845	\$ 1,851	\$ 1,864	\$ 1,863	\$ 1,870	\$ 1,862	\$ 1,852	\$ 1,841	\$ 1,824	\$ 1,820	\$ 22,149	\$ 22,149
20 Avg. Rate Base	\$ 1,826	\$ 1,830	\$ 1,845	\$ 1,851	\$ 1,864	\$ 1,863	\$ 1,870	\$ 1,862	\$ 1,852	\$ 1,841	\$ 1,824	\$ 1,820	\$ 22,149	\$ 22,149
21 Regulated Net Income	\$ 90	\$ 91	\$ 91	\$ 92	\$ 92	\$ 92	\$ 93	\$ 92	\$ 92	\$ 91	\$ 90	\$ 90	\$ 1,096	\$ 1,096
22 Return on Equity		14.88%	14.88%	14.88%	14.88%	14.88%	14.88%	14.88%	14.88%	14.88%	14.88%	14.88%	9.90%	9.90%
<b>Utility Income Taxes</b>														
23 Book Rev	\$ 50,470	\$ 50,568	\$ 50,997	\$ 51,171	\$ 51,532	\$ 51,498	\$ 51,699	\$ 51,468	\$ 51,181	\$ 50,884	\$ 50,428	\$ 50,307	\$ 612,204	\$ 612,204
24 Book Exp	\$ 50,271	\$ 50,368	\$ 50,796	\$ 50,969	\$ 51,329	\$ 51,294	\$ 51,495	\$ 51,265	\$ 50,979	\$ 50,683	\$ 50,229	\$ 50,108	\$ 609,784	\$ 609,784
25 Interest Expense	\$ 50	\$ 50	\$ 50	\$ 50	\$ 51	\$ 51	\$ 51	\$ 51	\$ 50	\$ 50	\$ 49	\$ 49	\$ 602	\$ 602
26 Perm Book-Tax Gain	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
27 Deferred Ms	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
28 Taxable Income	\$ 150	\$ 150	\$ 151	\$ 152	\$ 153	\$ 153	\$ 154	\$ 153	\$ 152	\$ 151	\$ 150	\$ 149	\$ 1,818	\$ 1,818
29 State Tax	\$ 11	\$ 11	\$ 11	\$ 11	\$ 11	\$ 11	\$ 11	\$ 11	\$ 11	\$ 11	\$ 11	\$ 11	\$ 131	\$ 131
30 State Tax Credits	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
31 Net State Taxes	\$ 11	\$ 11	\$ 11	\$ 11	\$ 11	\$ 11	\$ 11	\$ 11	\$ 11	\$ 11	\$ 11	\$ 11	\$ 131	\$ 131
32 Federal Taxable Income	\$ 139	\$ 139	\$ 141	\$ 141	\$ 142	\$ 142	\$ 142	\$ 142	\$ 141	\$ 140	\$ 139	\$ 139	\$ 1,687	\$ 1,687
33 Federal Tax	\$ 49	\$ 49	\$ 49	\$ 49	\$ 50	\$ 50	\$ 50	\$ 50	\$ 49	\$ 49	\$ 49	\$ 49	\$ 590	\$ 590
34 Federal Tax Credits	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
35 Deferred Taxes	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
36 Total Income Tax	\$ 59	\$ 60	\$ 60	\$ 60	\$ 61	\$ 61	\$ 61	\$ 61	\$ 60	\$ 60	\$ 59	\$ 59	\$ 721	\$ 721

Estimated 2013 Revenue Requirement PPS Solar Project	2013												2013	2013
	January	February	March	April	May	June	July	August	September	October	November	December	PPS Solar Revenues for RROE	PPS Solar Revenues for RROE
37 Working Cash Factor	3.628%	3.628%	3.628%	3.628%	3.628%	3.628%	3.628%	3.628%	3.628%	3.628%	3.628%	3.628%	3.628%	3.628%
38 Weighted Cost of Debt	2.717%	2.717%	2.717%	2.717%	2.717%	2.717%	2.717%	2.717%	2.717%	2.717%	2.717%	2.717%	2.717%	2.717%
39 Weighted Cost of Debt (Monthly)	0.226%	0.226%	0.226%	0.226%	0.226%	0.226%	0.226%	0.226%	0.226%	0.226%	0.226%	0.226%	0.226%	0.226%
40 State Tax Rate	7.212%	7.212%	7.212%	7.212%	7.212%	7.212%	7.212%	7.212%	7.212%	7.212%	7.212%	7.212%	7.212%	7.212%
41 Federal Tax Rate	35.000%	35.000%	35.000%	35.000%	35.000%	35.000%	35.000%	35.000%	35.000%	35.000%	35.000%	35.000%	35.000%	35.000%
42 Composite Tax Rate	39.688%	39.688%	39.688%	39.688%	39.688%	39.688%	39.688%	39.688%	39.688%	39.688%	39.688%	39.688%	39.688%	39.688%
43 Effective Cost of Debt	5.433%	5.433%	5.433%	5.433%	5.433%	5.433%	5.433%	5.433%	5.433%	5.433%	5.433%	5.433%	5.433%	5.433%
44 Equity Share of Cap Structure	50.000%	50.000%	50.000%	50.000%	50.000%	50.000%	50.000%	50.000%	50.000%	50.000%	50.000%	50.000%	50.000%	50.000%
45 Debt Share of Cap Structure	50.000%	50.000%	50.000%	50.000%	50.000%	50.000%	50.000%	50.000%	50.000%	50.000%	50.000%	50.000%	50.000%	50.000%
46 ROE Target	9.900%	9.900%	9.900%	9.900%	9.900%	9.900%	9.900%	9.900%	9.900%	9.900%	9.900%	9.900%	9.900%	9.900%
47 WACC	7.667%	7.667%	7.667%	7.667%	7.667%	7.667%	7.667%	7.667%	7.667%	7.667%	7.667%	7.667%	7.667%	7.667%
48 WACC (Monthly)	0.639%	0.639%	0.639%	0.639%	0.639%	0.639%	0.639%	0.639%	0.639%	0.639%	0.639%	0.639%	0.639%	0.639%
49 Gross-up Factor	1.658	1.658	1.658	1.658	1.658	1.658	1.658	1.658	1.658	1.658	1.658	1.658	1.658	1.658
50 Grossed-up Cost of Capital	10.924%	10.924%	10.924%	10.924%	10.924%	10.924%	10.924%	10.924%	10.924%	10.924%	10.924%	10.924%	10.924%	10.924%
51 Grossed-up Cost of Capital (Monthly)	0.868%	0.868%	0.868%	0.868%	0.868%	0.868%	0.868%	0.868%	0.868%	0.868%	0.868%	0.868%	0.868%	0.868%
52 Bad Debt Rate	0.430%	0.430%	0.430%	0.430%	0.430%	0.430%	0.430%	0.430%	0.430%	0.430%	0.430%	0.430%	0.430%	0.430%
53 OPUC Fee Rate	0.3750%	0.3750%	0.3750%	0.3750%	0.3750%	0.3750%	0.3750%	0.3750%	0.3750%	0.3750%	0.3750%	0.3750%	0.3750%	0.3750%
54 Franchise Fee Rate	2.547%	2.547%	2.547%	2.547%	2.547%	2.547%	2.547%	2.547%	2.547%	2.547%	2.547%	2.547%	2.547%	2.547%
<b>Income Tax Check</b>														
55 Revenue	\$ 50,470	\$ 50,568	\$ 50,997	\$ 51,171	\$ 51,532	\$ 51,498	\$ 51,699	\$ 51,468	\$ 51,181	\$ 50,884	\$ 50,428	\$ 50,307	\$ 612,204	\$ 612,204
56 Int. Expense	\$ 50	\$ 50	\$ 50	\$ 50	\$ 51	\$ 51	\$ 51	\$ 51	\$ 50	\$ 50	\$ 50	\$ 49	\$ 602	\$ 602
57 Op. Expense	\$ 50,271	\$ 50,368	\$ 50,796	\$ 50,969	\$ 51,329	\$ 51,294	\$ 51,495	\$ 51,265	\$ 50,979	\$ 50,683	\$ 50,229	\$ 50,108	\$ 609,784	\$ 609,784
58 Book Taxable	\$ 150	\$ 150	\$ 151	\$ 152	\$ 153	\$ 153	\$ 154	\$ 153	\$ 152	\$ 151	\$ 150	\$ 149	\$ 1,818	\$ 1,818
59 Tot. Sch. M	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
60 Tax Taxable	\$ 150	\$ 150	\$ 151	\$ 152	\$ 153	\$ 153	\$ 154	\$ 153	\$ 152	\$ 151	\$ 150	\$ 149	\$ 1,818	\$ 1,818
61 Net State Tax	\$ 11	\$ 11	\$ 11	\$ 11	\$ 11	\$ 11	\$ 11	\$ 11	\$ 11	\$ 11	\$ 11	\$ 11	\$ 131	\$ 131
62 Net Federal Tax	\$ 49	\$ 49	\$ 49	\$ 49	\$ 50	\$ 50	\$ 50	\$ 50	\$ 49	\$ 49	\$ 49	\$ 49	\$ 590	\$ 590
63 Deferred Tax	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
64 Total Tax	\$ 59	\$ 60	\$ 60	\$ 60	\$ 61	\$ 61	\$ 61	\$ 61	\$ 60	\$ 60	\$ 59	\$ 59	\$ 721	\$ 721
	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE
<b>UOI Check</b>														
65 Avg. Rate Base													\$ 22,149	\$ 22,149
66 RROE													7.667%	7.667%
67 UOI													\$ 1,698	\$ 1,698
													TRUE	TRUE

	2015				
	Sep	Oct	Nov	Dec	Total
Lease Payment	39,832	39,832	39,832	39,832	159,328
Var O&M	1,151	863	421	303	2,739
Fixed O&M	1,500	1,500	1,500	1,500	6,000
Land Lease	1,000	1,000	1,000	1,000	4,000
Insurance	299	299	299	299	1,197
Integration	252	252	252	252	1,008
<b>Total</b>	<b>\$ 44,034</b>	<b>\$ 43,746</b>	<b>\$ 43,305</b>	<b>\$ 43,187</b>	<b>\$ 174,272</b>

	2016												Total
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Lease Payment	39,832	39,832	39,832	39,832	39,832	39,832	39,832	39,832	39,832	39,832	39,832	39,832	477,983
Var O&M	459	553	966	1,133	1,481	1,448	1,642	1,419	1,143	857	418	301	11,822
Fixed O&M	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	18,000
Land Lease	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	12,000
Insurance	299	299	299	299	299	299	299	299	299	299	299	299	3,591
Integration	252	252	252	252	252	252	252	252	252	252	252	252	3,024
<b>Total</b>	<b>\$ 43,342</b>	<b>\$ 43,436</b>	<b>\$ 43,850</b>	<b>\$ 44,016</b>	<b>\$ 44,364</b>	<b>\$ 44,331</b>	<b>\$ 44,525</b>	<b>\$ 44,303</b>	<b>\$ 44,026</b>	<b>\$ 43,740</b>	<b>\$ 43,302</b>	<b>\$ 43,185</b>	<b>\$ 526,420</b>

	9	10	11	12	
kWh generation / month	125,119	93,617	45,805	32,988	\$ 297,729
NVPC	\$ (4,680)	\$ (3,120)	\$ (1,660)	\$ (1,360)	\$ (10,820)

	1	2	3	4	5	6	7	8	9	10	11	12	
kWh generation / month	49,660	60,104	105,037	123,176	161,006	157,402	178,455	154,278	124,243	93,160	45,484	32,757	1,284,963
NVPC are included in 2016 GRC April 1 Update													-

**Hourly  
Energy Net  
of Line losses**

<u>month</u>	hour	day	(MW)	shape	2015 kWh	2016 kwh
January Total					50,211	49,860
Feburary Total					60,528	60,104
March Total					105,777	105,037
April Total					124,045	123,176
May Total					162,141	161,006
June Total					158,512	157,402
July Total					179,713	178,455
August Total					155,365	154,278
September Total					125,119	124,243
October Total					93,817	93,160
November Total					45,805	45,484
December Total					32,988	32,757
Grand Total					1,294,021	1,284,963
Grand Total					1,294,021	1,284,963