Portland General Electric Company
121 SW Salmon Street • Portland, Oregon 97204
PortlandGeneral.com

September 2, 2014

Email/U.S. mail
puc.filingcenter@state.or.us

Oregon Public Utilities Commission
Attention: Filing Center
3930 Fairview Industrial Drive SE
Salem, OR 97302-1166

RE: **UE 283 PGE 2015 General Rate Case**

Attention: Filing Center

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

Sur-rebuttal Testimony of Portland General Electric Company:

- **PGE/2200**
- **PGE/2300**
- **PGE/2400**

Also enclosed are an original and three copies of:

- **Work Papers on CD (non-confidential portions)**

These documents are being served upon the UE 283 service list.

This document 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. If you have any questions or require further information, please call Rob Macfarlane at (503) 464-8954. Please direct all formal correspondence and requests to the following email address: pge.opuc.filings@pgn.com.

Sincerely,

Jay Jenkins for
Patrick G. Hager
Manager, Regulatory Affairs

y:\ratecase\opuc\dockets\ue-283 (2015 grc)\testimony\pge\reply testimony\admin\cvrltr_7.16.14.docx

CERTIFICATE OF SERVICE

I hereby certify that I have this day caused **UE 283 PORTLAND GENERAL ELECTRIC COMPANY SURREBUTTAL TESTIMONY,** by electronic mail to those parties whose email addresses appear on the attached service list for OPUC Docket No. UE 283.

DATED at Portland, Oregon, this 2nd day of September 2, 2014.

Sheryl Porter

Sheryl Porter
Assistant, Regulatory Affairs
Portland General Electric Company
121 SW Salmon St., 1WTC0702
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OPUC DOCKET # UE 283

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UE 283 / PGE / 2200
Tinker

BEFORE THE PUBLIC UTILITY COMMISSION

OF THE STATE OF OREGON

Policy

PORTLAND GENERAL ELECTRIC COMPANY

Surrebuttal Testimony of

Jay Tinker

September 2, 2014

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I. Introduction

Q. Please state your name and position with Portland General Electric (PGE).

A. My name is Jay Tinker. I am the Director of Rates and Regulatory Affairs at PGE. My qualifications appear in PGE Exhibit 1600.

Q. What is the purpose of your surrebuttal testimony?

A. The purpose of my testimony is to address the remaining policy issue discussed by other parties in their rebuttal testimony. I also introduce other concluding PGE testimony in Docket No. UE 283.

Q. How is your testimony organized?

A. In this section, I provide an update of this rate case. In the next section, I address the Citizens' Utility Board of Oregon's (CUB) position that energy efficiency is a marginal resource and should be included in the marginal cost of service study.

Q. What is the current status of the UE 283 proceeding?

A. PGE and other parties held settlement discussions on May 20 and 27; on July 7, 8, 11, and 28; and on August 19. During those meetings the parties settled all but one issue. We also held settlement discussions in Docket No. UE 286, which addresses the bifurcated power costs for the 2015 test year and settled all power cost issues as well.

Q. What is the revised net increase proposed for this case?

A. As demonstrated in PGE Exhibit 2300, the revised increase in this case, including changes to base business and trackers for Port Westward 2 and the Tucannon River Wind Project, total approximately $45.8 million. As stated in our initial filing, however, PGE is also proposing to apply customer credits totaling approximately $29.0 million on January 1, 2015. Consequently, the requested net increase based on all components is currently proposed to be approximately $16.8 million. This represents a very moderate increase for two new generating plants that are the primary drivers of this case.

Q. How do these amounts compare to PGE's initial filing?

A. PGE's initial UE 283 filing on February 13, 2014, requested a net increase of approximately $81.5 million for all the components listed above.

Q. What other Surrebuttal Testimony is PGE submitting?

A. PGE submits surrebuttal testimony in the following areas:

- 2300 – Revenue Requirement. This testimony summarizes PGE's revised revenue requirement based on all updates and stipulations
- 2400 – Port Westward 2. This testimony supplements the record regarding the development, selection, and execution of the Port Westward 2 flexible capacity resource.

II. Energy Efficiency in Marginal Costs

Q. Please summarize the parties' rebuttal testimony.

A. Staff, while sympathetic to CUB, does not support CUB's approach of including energy efficiency as a marginal cost resource, suggesting that this may violate Senate Bill 838 and the solution may rest with the legislature. The Industrial Customers of Northwest Utilities (ICNU), sensitive to the double digit impact on large industrial customers from CUB's approach, asserts that the approach violates the law and works contrary to the Public Utility Commission of Oregon's (PUC) policy to encourage energy efficiency. ICNU's proposed solution is to lift the Energy Trust of Oregon's (ETO) 18% cap; in essence, lifting the limitation on Senate Bill 1149 funds used for large customer energy efficiency measures to allow the ETO to acquire cost-effective, energy efficiency measures without regard to the customer class producing them. The Northwest Energy Coalition raises concerns that the cap will be reached in 2014 and states its preferred solution is legislative. In their rebuttal testimony, CUB defends its proposals and alleges that PGE is acting too passively and imprudently by not proposing a solution.

Q. How does PGE respond to the allegation that PGE has been imprudent because it does not propose a solution?

A. PGE is acting prudently by working within existing laws and processes. While utilities were responsible to administer energy efficiency programs prior to 2002, Senate Bill 1149 removed the utilities from energy efficiency work, and delegated to the Commission the authority over energy efficiency spending. The solution to the problem posed by the cap does not rest with PGE alone, but with the Commission, the ETO and the parties to the informal agreement establishing the cap, particularly ICNU and CUB. PGE is available to support a consensus solution.

Q. PGE states it is acting within the existing laws and processes for obtaining energy efficiency. What do you mean?

A. The existing structure for energy efficiency is that PGE collects monies from customers pursuant to Senate Bills 1149 (SB 1149, public purpose charge) and 838 (SB 838, additional energy efficiency funding) and sends the bulk of the funds to the ETO for energy efficiency acquisition. With regard to SB 838 funding, PGE works with the ETO to identify all achievable energy efficiency and includes this target in its Integrated Resource Plan; the ETO designs its programs to acquire all the cost-effective energy efficiency it can, consistent with SB 838's limitations that customers over one average megawatt do not receive a direct benefit.

Q. Regarding the SB 1149 public purpose charge, does the law specifically restrict the customer groups from which energy efficiency is obtained?

A. No. Of the three percent public purpose charge collected from utility customers, 56.7% is distributed to energy efficiency. The funds are distributed by the ETO to benefit customers. The ETO aims to obtain the most cost-effective energy efficiency, targeting opportunities with residential, commercial, and industrial customers. Dynamic factors, including technology and the economy, drive the sectors from which energy efficiency opportunities exist. For example, in the ETO's early years much of the ETO's savings came from compact fluorescent lights (CFLs) and much of that among residential customers. The energy efficiency savings were abundant and low cost. In its 2015-2019 Draft Strategic Plan prepared for its Board of Directors, dated June 13, 2014, the ETO reports that after many years of energy efficiency, mainstays such as residential insulation, central heat pumps, energy-efficient showerheads and non-LED efficient lighting are nearing a point of market saturation. There are greatly diminished cost-effective residential savings opportunities like CFLs but there are numerous high-tech energy efficiency programs, particularly around new construction and data centers. In the future, the opportunities may again rest with residential customers. To some extent, there will always be groups funding disproportionately to the direct benefit they receive, but over time that may balance out.

Q. If there is no restriction on how SB 1149 funds are spent, why did the stakeholders informally agree to limit the ETO spending of SB 1149 energy efficiency funds after SB 838 was enacted?

A. CUB expressed a concern that the SB 838 prohibition against large industrial customers directly benefitting from the funding could be eroded if, after passage of SB 838, the ETO increased the total SB 1149 funding to industrial customers. After passage of SB 838, the ETO, Staff, CUB, ICNU, and the utilities informally agreed to set the cap based on an historical level of SB 1149 funding for large industrial energy efficiency in each utility's service area.

Q. What is the history of the additional SB 838 energy efficiency funding and the "no direct benefit" provision?

A. The additional SB 838 energy efficiency funding resulted from PGE's lobbying for it in the legislature in 2007. PGE intended for the additional funding to reach all cost-effective energy efficiency potential identified in PGE's IRP. In particular, opportunities were identified among small and medium sized businesses, schools, and moderate-income residential customers. We also stated that our IRP resource analysis[1] showed no incremental opportunities for industrial customers above the ETO forecast and thus, industrial customers would neither receive the benefit from, nor contribute to, the cost of the additional funding.

Q. What does PGE mean by "direct benefit" with regard to energy efficiency?

A. When PGE discussed energy efficiency benefit in the legislature, we were referring to the specific load reductions derived from energy efficiency measures funded by the ETO. In this instance, the customer receives the benefit of the reduction in usage but they also pay a large share of the cost of the energy efficiency measure(s) installed. We did not intend to include, as a direct benefit, the overall customer benefit from lower system costs produced when energy efficiency replaces the acquisition of new supply-side resources. That would be an indirect benefit, which all customers will realize.

Q. Does PGE agree with CUB's assertion that the direct benefit prohibition in SB 838 extends to reduced costs from system benefits?

A. No.

Q. Since PGE does not support CUB's reallocation of marginal energy costs, what does PGE recommend with regard to achieving all cost effective energy efficiency and the 18% cap?

A. Given the PUC's direct authority over the manner in which public purpose funds are collected and spent, and its oversight authority of the ETO to ensure that the Trust produces a high level of energy efficiency savings, PGE recommends that the Commission either resolve the cap issue in this case or alternatively, open an investigation or a policy docket, if it requires further information. If a policy docket is chosen, the following questions or issues are suggested:

- What are the barriers to the ETO of obtaining all cost-effective energy efficiency?
- What other options exist to gain all cost effective energy efficiency, including from large industrial customers?
- Should the ETO approach be flexible to take advantage of energy efficiency savings brought about by changes in technology and the economy?
- Should there continue to be a cap, and if so, what criteria should be used to set it?

Q. Does this conclude your testimony?

A. Yes.

BEFORE THE PUBLIC UTILITY COMMISSION

OF THE STATE OF OREGON

Revenue Requirement

PORTLAND GENERAL ELECTRIC COMPANY

Surrebuttal Testimony of

Alex Tooman
Rob Macfarlane

September 2, 2014

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I. Revenue Requirement

Q. Please state your names and positions with Portland General Electric ("PGE").

A. My name is Alex Tooman. I am a project manager for PGE. I am responsible, along with Mr. Macfarlane, for the development of PGE's revenue requirement forecast. In addition, my areas of responsibility include results of operations reporting, power cost adjustment mechanism filings and other regulatory analyses.

My name is Robert Macfarlane. I am also a project manager for PGE. My areas of responsibility include revenue requirement and other regulatory analyses.

Our qualifications were previously provided in PGE Exhibit 300.

Q. What is the purpose of your testimony?

A. Our testimony presents PGE's revised revenue requirements consistent with:

1. PGE Exhibit 1700, Revenue Requirement.
2. Subsequent settlements with parties reached on July 28 and August 19 in this case. These settlements resolved the prudence of PGE's two new generating plants: Port Westward 2 (PW2) and Tucannon River Wind Farm (Tucannon), the remaining net variable power cost in UE 286, the purchase of an additional 10% share of Boardman, return on equity (ROE), and ICNU's production tax credit issue.

Q. What is PGE's revised revenue requirement increase in this case?

A. PGE's revised revenue requirement change in this case is $45.8 million comprised of: a decrease of $41.3 million for the base business, an increase of $48.2 million for PW2, and an increase of $39.0 million for Tucannon. PGE Exhibit 2301 provides the revised revenue requirement increase for the base business, PW2, and Tucannon. The revised revenue requirement increases compare to PGE's initial request[1] of $12.5 million for the base business, $51.4 million for PW2, and $46.7 million for Tucannon. Table 1 below summarizes the revised revenue requirement increase for the base business in this case:

Table 1
($ millions)

	Base
Original Filing	$12.5
June Load Forecast Update	($4.3)
PRC Share of Boardman Non-NVPC	$5.5
UM 1679 Depreciation Update	($11.7)
UE 283 Partial Stipulations	($36.6)
UE 286 NVPC Update	($4.1)
UE 286 NVPC Settlement	($2.5)
Total	($41.3)

Q. Are the revenue requirement figures subject to additional updates?

A. Yes. The revenue requirement will likely change due load forecast and power cost updates and long-term Direct Access elections.

Q. Please summarize the updated projected Cost of Service rate impacts.

A. Table 2 below summarizes both the base rate impacts consistent with the revenue requirement described above and the impacts with supplemental schedules included for the major rate schedules. The base rate impacts include the two new generation resources that, for rate impact purposes, are presumed to be on-line January 1, 2015. Included in the supplemental schedules are changes in Schedule 102 Regional Power Act Exchange Credit and Schedule 143 Spent Fuel Adjustment as well as estimated changes in Schedule 105 Regulatory Adjustments, Schedule 144 Capital Projects Adjustment, and Schedule 145 Boardman Power Plant Decommissioning Adjustment. Estimated impacts of the

[1] See PGE Exhibit 300

supplemental schedules other than Schedules 102 and 143 are subject to updates. Table 2 below summarizes these estimated rate impacts.

Table 2

Estimated Cost of Service Rate Impacts

Schedule	Base Rates	With Supplementals
Schedule 7 Residential	3.0%	1.1%
Schedule 32 Small Nonresidential	1.8%	0.4%
Schedule 83 31-200 kW	2.8%	0.9%
Schedule 85 201-4,000 kW	2.9%	0.9%
Schedule 89 Over 4,000 kW	3.4%	1.3%
Schedule 90 100 MWa	3.4%	1.2%
COS Overall	2.9%	1.0%
COS & DA Overall	2.7%	0.7%

Q. Does this conclude your testimony?

A. Yes.

List of Exhibits

PGE Exhibit	Description
2301	PGE Revised 2015 Revenue Requirement

PGE Exhibit 2301
Portland General Electric Company
2015 Revenue Requirement Summary
Dollars in $000s

	Rev Req	Percent
Total Increase:	45,818	2.65%

	Base Business 2015	PW2	Tucannon	Total Results
	(1)	(2)	(3)	(4)
1 Sales to Consumers	1,693,037	48,169	38,959	1,780,165
2 Sales for Resale	-	-	-	-
3 Other Revenues	25,798	-	-	25,798
4 Total Operating Revenues	1,718,835	48,169	38,959	1,805,962
5 Net Variable Power Costs	587,312	(1,266)	(22,427)	563,619
6 Production O&M (excludes Trojan)	141,125	1,479	7,470	150,074
7 Trojan O&M	68	-	-	68
8 Transmission O&M	15,028	-	-	15,028
9 Distribution O&M	94,623	-	-	94,623
10 Customer & MBC O&M	69,139	-	-	69,139
11 Uncollectibles Expense	7,957	226	183	8,367
12 OPUC Fees	5,291	151	122	5,563
13 A&G, Ins/Bene., & Gen. Plant	140,073	347	435	140,854
14 Total Operating & Maintenance	1,060,616	937	(14,217)	1,047,336
15 Depreciation	234,608	9,491	23,209	267,308
16 Amortization	32,872	-	-	32,872
17 Property Tax	51,016	1,663	6,943	59,623
18 Payroll Tax	14,033	30	7	14,070
19 Other Taxes	1,835	-	-	1,835
20 Franchise Fees	42,346	1,205	974	44,525
21 Utility Income Tax	57,649	10,707	(16,199)	52,157
22 Total Operating Expenses & Taxes	1,494,974	24,032	717	1,519,724
23 **Utility Operating Income**	223,860	24,137	38,241	286,239
24 **Rate Base**				
25 Avg. Gross Plant	7,276,617	323,227	524,617	8,124,460
26 Avg. Accum. Deprec. / Amort	(3,806,332)	(5,800)	(11,604)	(3,823,736)
27 Avg. Accum. Def Tax	(612,284)	890	(7,300)	(618,694)
28 Avg. Accum. Def ITC	-	-	-	-
29 **Net Utility Plant**	2,858,001	318,316	505,713	3,682,030
30 Misc. Deferred Debits	29,352	-	-	29,352
31 Operating Materials & Fuel	75,103	-	-	75,103
32 Misc. Deferred Credits	(57,240)	-	-	(57,240)
33 Working Cash	55,314	889	27	56,230
34 **Rate Base**	2,960,530	319,205	505,739	3,785,475
35 **Rate of Return**	7.562%			7.562%
36 **Implied Return on Equity**	9.680%			9.680%

PGE Exhibit 2301
Portland General Electric Company
2015 Revenue Requirement Summary
Dollars in $000s

	Rev Req	Percent
Total Increase:	45,818	2.65%

	Base Business 2015	PW2	Tucannon	Total Results
	(1)	(2)	(3)	(4)
37 Effective Cost of Debt	5.443%	5.443%	5.443%	5.443%
38 Effective Cost of Preferred	0.000%	0.000%	0.000%	0.000%
39 Debt Share of Cap Structure	50.000%	50.000%	50.000%	50.000%
40 Preferred Share of Cap Structure	0.000%	0.000%	0.000%	0.000%
41 Weighted Cost of Debt	2.722%	2.722%	2.722%	2.722%
42 Weighted Cost of Preferred	0.000%	0.000%	0.000%	0.000%
43 Equity Share of Cap Structure	50.000%	50.000%	50.000%	50.000%
44 State Tax Rate	7.614%	7.614%	7.614%	7.614%
45 Federal Tax Rate	35.000%	35.000%	35.000%	35.000%
46 Composite Tax Rate	39.949%	39.949%	39.949%	39.949%
47 Bad Debt Rate	0.470%	0.470%	0.470%	0.470%
48 Franchise Fee Rate	2.501%	2.501%	2.501%	2.501%
49 Working Cash Factor	3.700%	3.700%	3.700%	3.700%
50 Gross-Up Factor	1.665	1.665	1.665	1.665
51 ROE Target	9.680%	9.680%	9.680%	9.680%
52 Grossed-Up COC	10.781%	10.781%	10.781%	10.781%
53 OPUC Fee Rate	0.3125%	0.3125%	0.313%	0.313%
Utility Income Taxes				
54 Book Revenues	1,718,835	48,169	38,959	1,805,962
55 Book Expenses	1,437,325	13,325	16,917	1,467,567
56 Interest Deduction	80,571	8,687	13,764	103,022
57 Production Deduction	-	-	-	-
58 Permanent Ms	(20,679)	(645)	(627)	(21,951)
59 Deferred Ms	(58,125)	6,196	71,740	19,811
60 Taxable Income	279,744	20,605	(62,835)	237,514
61 Current State Tax	21,299	1,569	(4,784)	18,084
62 State Tax Credits	(3,009)	-	-	(3,009)
63 Net State Taxes	18,290	1,569	(4,784)	15,075
64 Federal Taxable Income	261,454	19,036	(58,051)	222,440
65 Current Federal Tax	91,509	6,663	(20,318)	77,854
66 Federal Tax Credits	(28,929)	-	(19,757)	(48,686)
67 ITC Amort	-	-	-	-
68 Deferred Taxes	(23,221)	2,475	28,659	7,914
69 Total Income Tax Expense	57,649	10,707	(16,199)	52,157
70 Regulated Net Income	143,290			183,217
71 Check Regulated NI				183,217

PGE Exhibit 2301
Portland General Electric Company
2015 Revenue Requirement - Base Business
Dollars in $000s

	At Current Rates	June Load Forecast Delta	GRC Change for RROE	Proposed 2015	PRC Non-NVPC	PRC Update Non-NVPC	UM 1679 Depreciation Base	Subtotal	Non-NVPC Adjustments	NVPC Adjustments	Total Results
										Rev Req	Percent
									Total Increase:	(41,310)	-2.39%
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1 Sales to Consumers	1,730,004	4,343	8,153	1,742,500	4,730	793	(11,737)	1,736,285	(36,600)	(6,648)	1,693,037
2 Sales for Resale	-			-				-	-	-	-
3 Other Revenues	23,521			23,521				23,521	2,277	-	25,798
4 Total Operating Revenues	1,753,525		8,153	1,766,021	4,730	793	(11,737)	1,759,806	(34,323)	(6,648)	1,718,835
5 Net Variable Power Costs	593,425			593,425		290		593,715	-	(6,403)	587,312
6 Production O&M (excludes Trojan)	136,508			136,508	4,144	473		141,125	-	-	141,125
7 Trojan O&M	68			68				68	-	-	68
8 Transmission O&M	15,028			15,028				15,028	-	-	15,028
9 Distribution O&M	94,623			94,623				94,623	-	-	94,623
10 Customer & MBC O&M	70,202			70,202				70,202	(1,063)	-	69,139
11 Uncollectibles Expense	8,650		62	8,712	24	4	(59)	8,681	(121)	(31)	7,957
12 OPUC Fees	5,406		39	5,445	15	2	(37)	5,426	(81)	(21)	5,291
13 A&G, Ins/Bene., & Gen. Plant	149,418			149,418				149,418	(9,345)	-	140,073
14 Total Operating & Maintenance	1,073,328		102	1,073,430	4,182	770	(95)	1,078,287	(10,610)	(6,455)	1,060,616
15 Depreciation	245,908			245,908			(11,300)	234,608	-	-	234,608
16 Amortization	34,100			34,100				34,100	(1,228)	-	32,872
17 Property Tax	51,142			51,142				51,142	(126)	-	51,016
18 Payroll Tax	14,033			14,033				14,033	-	-	14,033
19 Other Taxes	1,835			1,835				1,835	-	-	1,835
20 Franchise Fees	43,270		313	43,583	118	20	(294)	43,427	(645)	(166)	42,346
21 Utility Income Tax	59,242		4,824	64,067	129	1	(14)	64,182	(6,525)	(8)	57,649
22 Total Operating Expenses & Taxes	1,522,859		5,238	1,528,097	4,429	790	(11,703)	1,521,614	(19,135)	(6,629)	1,494,974
23 **Utility Operating Income**	230,666		7,257	237,923	301	2	(34)	238,192	(15,189)	(19)	223,860
				237,923							223,860
24 **Average Rate Base**											
25 Avg. Gross Plant	7,293,364			7,293,364	3,700			7,297,064	(20,447)	-	7,276,617
26 Avg. Accum. Deprec. / Amort	(3,805,842)			(3,805,842)				(3,805,842)	(490)	-	(3,806,332)
27 Avg. Accum. Def Tax	(579,549)			(579,549)				(579,549)	(32,734)	-	(612,284)
28 Avg. Accum. Def ITC	-			-				-	-	-	-
29 **Avg. Net Utility Plant**	2,907,972		-	2,907,972	3,700	-	-	2,911,672	(53,671)	-	2,858,001
30 Misc. Deferred Debits	30,852			30,852				30,852	(1,500)	-	29,352
31 Operating Materials & Fuel	75,103			75,103				75,103	-	-	75,103
32 Misc. Deferred Credits	(11,740)			(11,740)				(11,740)	(45,500)	-	(57,240)
33 Working Cash	56,346		194	56,540	164	29	(433)	56,300	(708)	(245)	55,314
34 **Average Rate Base**	3,058,533		194	3,058,727	3,864	29	(433)	3,062,187	(101,379)	(245)	2,960,530
35 **Rate of Return**	7.542%			7.779%							7.562%
36 **Implied Return on Equity**	9.526%			10.000%							9.680%

PGE Exhibit 2301
Portland General Electric Company
2015 Revenue Requirement - Base Business
Dollars in $000s

	Rev Req	Percent
Total Increase:	(41,310)	-2.39%

	At Current Rates	June Load Forecast Delta	GRC Change for RROE	Proposed 2015	PRC Non-NVPC	PRC Update Non-NVPC	UM 1679 Depreciation Base	Subtotal	Non-NVPC Adjustments	NVPC Adjustments	Total Results
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
37 Effective Cost of Debt	5.557%		5.557%	5.557%	5.557%	5.557%	5.557%	5.557%	5.443%	5.443%	5.443%
38 Effective Cost of Preferred	0.000%		0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
39 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%
40 Preferred Share of Cap Structure	0.000%		0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
41 Weighted Cost of Debt	2.779%		2.779%	2.779%	2.779%	2.779%	2.779%	2.779%	2.722%	2.722%	2.722%
42 Weighted Cost of Preferred	0.000%		0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
43 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%
44 State Tax Rate	7.614%		7.614%	7.614%	7.614%	7.614%	7.614%	7.614%	7.614%	7.614%	7.614%
45 Federal Tax Rate	35.000%		35.000%	35.000%	35.000%	35.000%	35.000%	35.000%	35.000%	35.000%	35.000%
46 Composite Tax Rate	39.949%		39.949%	39.949%	39.949%	39.949%	39.949%	39.949%	39.949%	39.949%	39.949%
47 Bad Debt Rate	0.500%		0.500%	0.500%	0.500%	0.500%	0.500%	0.500%	0.470%	0.470%	0.470%
48 Franchise Fee Rate	2.501%		2.501%	2.501%	2.501%	2.501%	2.501%	2.501%	2.501%	2.501%	2.501%
49 Working Cash Factor	3.700%		3.700%	3.700%	3.700%	3.700%	3.700%	3.700%	3.700%	3.700%	3.700%
50 Gross-Up Factor	1.665		1.665	1.665	1.665	1.665	1.665	1.665	1.665	1.665	1.665
51 ROE Target	10.000%		10.000%	10.000%	10.000%	10.000%	10.000%	10.000%	9.680%	9.680%	9.680%
52 Grossed-Up COC	11.105%		11.105%	11.105%	11.105%	11.105%	11.105%	11.105%	10.781%	10.781%	10.781%
53 OPUC Fee Rate	0.3125%		0.3125%	0.3125%	0.3125%	0.3125%	0.3125%	0.3125%	0.3125%	0.313%	0.313%
Utility Income Taxes											
54 Book Revenues	1,753,525		12,496	1,766,021	4,730	793	(11,737)	1,759,806	(34,323)	(6,648)	1,718,835
55 Book Expenses	1,463,617		414	1,464,031	4,301	789	(11,689)	1,457,432	(13,486)	(6,621)	1,437,325
56 Interest Deduction	84,981		5	84,987	107	1	(12)	85,083	(2,759)	(7)	80,571
57 Production Deduction	-			-				-	-		-
58 Permanent Ms	(20,679)			(20,679)				(20,679)	-		(20,679)
59 Deferred Ms	(26,469)			(26,469)				(26,469)	(31,657)		(58,125)
60 Taxable Income	252,074		12,076	264,151	322	2	(36)	264,439	13,578	(20)	279,744
61 Current State Tax	19,193		919	20,112	24	0	(3)	20,134	1,034	(2)	21,299
62 State Tax Credits	(3,009)			(3,009)				(3,009)	-		(3,009)
63 Net State Taxes	16,183		919	17,103	24	0	(3)	17,125	1,034	(2)	18,290
64 Federal Taxable Income	235,891		11,157	247,048	297	2	(33)	247,314	12,544	(18)	261,454
65 Current Federal Tax	82,562		3,905	86,467	104	1	(12)	86,560	4,391	(6)	91,509
66 Federal Tax Credits	(28,929)			(28,929)				(28,929)	-		(28,929)
67 ITC Amort	-		-	-					-		-
68 Deferred Taxes	(10,574)		0	(10,574)	0	0	0	(10,574)	(12,647)	-	(23,221)
69 Total Income Tax Expense	59,242		4,824	64,067	129	1	(14)	64,182	(7,222)	(8)	57,649
70 Regulated Net Income	145,684			152,936							143,290
71 Check Regulated NI				152,936							143,290

PGE Exhibit 2301
Portland General Electric Company
2015 Revenue Requirement - Port Westward 2
Dollars in $000s

	As Filed (2/13/2014)	DR 437 Update (5/12/2014)	Subtotal	First Settlement Impact	First Settlement Subtotal	Depreciation Study Update Impact	NVPC Adjustments	Total
1 Sales to Consumers	51,371	2,106	53,476	(1,085)	52,391	(4,991)	768	48,169
2 Sales for Resale	-	-	-		-	-	-	-
3 Other Revenues	-	-	-		-	-	-	-
4 Total Operating Revenues	51,371	2,106	53,476	(1,085)	52,391	(4,991)	768	48,169
5 Net Variable Power Costs	(1,213)	(792)	(2,006)	-	(2,006)	-	740	(1,266)
6 Production O&M (excludes Trojan)	1,479	-	1,479	-	1,479	-	-	1,479
7 Trojan O&M	-	-	-	-	-	-	-	-
8 Transmission O&M	-	-	-	-	-	-	-	-
9 Distribution O&M	-	-	-	-	-	-	-	-
10 Customer & MBC O&M	-	-	-	-	-	-	-	-
11 Uncollectibles Expense	257	11	267	(5)	246	(23)	4	226
12 OPUC Fees	161	7	167	(3)	164	(16)	2	151
13 A&G, Ins/Bene., & Gen. Plant	347	-	347	-	347	-	-	347
14 Total Operating & Maintenance	1,030	(775)	254	(8)	230	(39)	746	937
15 Depreciation	13,588	749	14,337	-	14,337	(4,846)	-	9,491
16 Amortization	-	-	-	-	-	-	-	-
17 Property Tax	1,434	229	1,663	-	1,663	-	-	1,663
18 Payroll Tax	30	-	30	-	30	-	-	30
19 Other Taxes	-	-	-	-	-	-	-	-
20 Franchise Fees	1,285	53	1,338	(27)	1,310	(125)	19	1,205
21 Utility Income Tax	10,186	855	11,040	(419)	10,700	6	1	10,707
22 Total Operating Expenses & Taxes	27,551	1,111	28,662	(455)	28,270	(5,004)	766	24,032
23 **Utility Operating Income**	23,819	995	24,815	(630)	24,121	13	2	24,137
24 **Average Rate Base**								
25 Avg. Gross Plant	310,417	12,809	323,227	-	323,227	-	-	323,227
26 Avg. Accum. Deprec. / Amort	(6,676)	(346)	(7,023)	-	(7,023)	1,223	-	(5,800)
27 Avg. Accum. Def Tax	1,457	293	1,750	-	1,750	(861)	-	890
29 **Avg. Net Utility Plant**	305,198	12,756	317,954	-	317,954	362	-	318,316
30 Misc. Deferred Debits	-	-	-	-	-	-	-	-
31 Operating Materials & Fuel	-	-	-	-	-	-	-	-
32 Misc. Deferred Credits	-	-	-	-	-	-	-	-
33 Working Cash	1,019	41	1,060	(17)	1,046	(185)	28	889
34 **Average Rate Base**	306,217	12,797	319,015	(17)	319,000	177	28	319,205
35 **Rate of Return**	7.779%		7.779%					7.562%
36 **Implied Return on Equity**	10.000%		10.000%					9.680%

PGE Exhibit 2301
Portland General Electric Company
2015 Revenue Requirement - Port Westward 2
Dollars in $000s

	As Filed (2/13/2014)	DR 437 Update (5/12/2014)	Subtotal	First Settlement Impact	First Settlement Subtotal	Depreciation Study Update Impact	NVPC Adjustments	Total
37 Effective Cost of Debt	5.557%	5.557%	5.557%	5.443%	5.443%	5.443%	5.443%	5.443%
38 Effective Cost of Preferred	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
39 Debt Share of Cap Structure	50.000%	50.000%	50.000%	50.000%	50.000%	50.000%	50.000%	50.000%
40 Preferred Share of Cap Structure	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
41 Weighted Cost of Debt	2.779%	2.779%	2.779%	2.722%	2.722%	2.722%	2.722%	2.722%
42 Weighted Cost of Preferred	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
43 Equity Share of Cap Structure	50.000%	50.000%	50.000%	50.000%	50.000%	50.000%	50.000%	50.000%
44 State Tax Rate	7.614%	7.614%	7.614%	7.614%	7.614%	7.614%	7.614%	7.614%
45 Federal Tax Rate	35.000%	35.000%	35.000%	35.000%	35.000%	35.000%	35.000%	35.000%
46 Composite Tax Rate	39.949%	39.949%	39.949%	39.949%	39.949%	39.949%	39.949%	39.949%
47 Bad Debt Rate	0.500%	0.500%	0.500%	0.470%	0.470%	0.470%	0.470%	0.470%
48 Franchise Fee Rate	2.501%	2.501%	2.501%	2.501%	2.501%	2.501%	2.501%	2.501%
49 Working Cash Factor	3.700%	3.700%	3.700%	3.700%	3.700%	3.700%	3.700%	3.700%
50 Gross-Up Factor	1.665	1.665	1.665	1.665	1.665	1.665	1.665	1.665
51 ROE Target	10.000%	10.000%	10.000%	9.680%	9.680%	9.680%	9.680%	9.680%
52 Grossed-Up COC	11.105%	11.105%	11.105%	10.781%	10.781%	10.781%	10.781%	10.781%
53 OPUC Fee Rate	0.313%	0.313%	0.313%	0.313%	0.313%	0.313%	0.313%	0.313%
Utility Income Taxes								
54 Book Revenues	51,371	2,106	53,476	(1,085)	52,391	(4,991)	768	48,169
55 Book Expenses	17,366	256	17,621	(36)	17,570	(5,010)	765	13,325
56 Interest Deduction	8,508	356	8,864	(0)	8,682	5	1	8,687
57 Production Deduction	-	-	-	-	-	-	-	-
58 Permanent Ms	-	(645)	(645)	-	(645)	-	-	(645)
59 Deferred Ms	-	1,350	1,350	-	1,350	4,847	-	6,196
60 Taxable Income	25,496	790	26,287	(1,049)	25,435	(4,832)	2	20,605
61 Current State Tax	1,941	60	2,001	(80)	1,937	(368)	0	1,569
62 State Tax Credits	-	-	-	-	-	-	-	-
63 Net State Taxes	1,941	60	2,001	(80)	1,937	(368)	0	1,569
64 Federal Taxable Income	23,555	730	24,285	(969)	23,499	(4,464)	2	19,036
65 Current Federal Tax	8,244	255	8,500	(339)	8,225	(1,563)	1	6,663
66 Federal Tax Credits	-	-	-	-	-	-	-	-
67 ITC Amort	-	-	-	-	-	-	-	-
68 Deferred Taxes	-	539	539	-	539	1,936	-	2,475
69 Total Income Tax Expense	10,186	855	11,040	(419)	10,700	6	1	10,707
70 Regulated Net Income								
71 Check Regulated NI								

PGE Exhibit 2301
Portland General Electric Company
2015 Revenue Requirement - Tucannon River Wind Farm
Dollars in $000s

	As Filed (2/13/2014)	DR 443 Update (5/12/2014)	Subtotal	First Settlement Impact	First Settlement Subtotal	Depreciation Study Update Impact	NVPC Adjustments	Total
1 Sales to Consumers	46,663	919	47,582	(1,705)	45,877	(3,323)	(3,595)	38,959
2 Sales for Resale	-	-	-		-	-	-	-
3 Other Revenues	-	-	-		-	-	-	-
4 Total Operating Revenues	46,663	919	47,582	(1,705)	45,877	(3,323)	(3,595)	38,959
5 Net Variable Power Costs	(16,423)	(2,542)	(18,965)	-	(18,965)	-	(3,462)	(22,427)
6 Production O&M (excludes Trojan)	8,473	(1,003)	7,470	-	7,470	-	-	7,470
7 Trojan O&M	-	-	-	-	-	-	-	-
8 Transmission O&M	-	-	-	-	-	-	-	-
9 Distribution O&M	-	-	-	-	-	-	-	-
10 Customer & MBC O&M	-	-	-	-	-	-	-	-
11 Uncollectibles Expense	233	5	238	(8)	216	(16)	(17)	183
12 OPUC Fees	146	3	149	(5)	143	(10)	(11)	122
13 A&G, Ins/Bene., & Gen. Plant	435	-	435	-	435	-	-	435
14 Total Operating & Maintenance	(7,136)	(3,537)	(10,673)	(13)	(10,701)	(26)	(3,490)	(14,217)
15 Depreciation	23,671	2,876	26,547	-	26,547	(3,338)	-	23,209
16 Amortization	-	-	-	-	-	-	-	-
17 Property Tax	6,943	-	6,943	-	6,943	-	-	6,943
18 Payroll Tax	7	-	7	-	7	-	-	7
19 Other Taxes	-	-	-	-	-	-	-	-
20 Franchise Fees	1,167	23	1,190	(43)	1,147	(83)	(90)	974
21 Utility Income Tax	(16,482)	788	(15,694)	(659)	(16,232)	37	(4)	(16,199)
22 Total Operating Expenses & Taxes	8,171	149	8,320	(715)	7,712	(3,410)	(3,585)	717
23 **Utility Operating Income**	38,492	770	39,261	(991)	38,164	87	(10)	38,241
24 **Average Rate Base**								
25 Avg. Gross Plant	510,037	14,579	524,617	-	524,617	-	-	524,617
26 Avg. Accum. Deprec. / Amort	(11,834)	(1,534)	(13,368)	-	(13,368)	1,764	-	(11,604)
27 Avg. Accum. Def Tax	(3,660)	(3,154)	(6,815)	-	(6,815)	(485)	-	(7,300)
29 **Avg. Net Utility Plant**	494,543	9,891	504,434	-	504,434	1,279	-	505,713
30 Misc. Deferred Debits	-	-	-	-	-	-	-	-
31 Operating Materials & Fuel	-	-	-	-	-	-	-	-
32 Misc. Deferred Credits	-	-	-	-	-	-	-	-
33 Working Cash	302	6	308	(26)	285	(126)	(133)	27
34 **Average Rate Base**	494,845	9,897	504,742	(26)	504,719	1,152	(133)	505,739
35 **Rate of Return**	7.779%				7.562%			7.562%
36 **Implied Return on Equity**	10.000%				9.680%			9.680%

PGE Exhibit 2301
Portland General Electric Company
2015 Revenue Requirement - Tucannon River Wind Farm
Dollars in $000s

	As Filed (2/13/2014)	DR 443 Update (5/12/2014)	Subtotal	First Settlement Impact	First Settlement Subtotal	Depreciation Study Update Impact	NVPC Adjustments	Total
37 Effective Cost of Debt	5.557%	5.557%	5.557%	5.443%	5.443%	5.443%	5.443%	5.443%
38 Effective Cost of Preferred	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
39 Debt Share of Cap Structure	50.000%	50.000%	50.000%	50.000%	50.000%	50.000%	50.000%	50.000%
40 Preferred Share of Cap Structure	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
41 Weighted Cost of Debt	2.779%	2.779%	2.779%	2.722%	2.722%	2.722%	2.722%	2.722%
42 Weighted Cost of Preferred	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
43 Equity Share of Cap Structure	50.000%	50.000%	50.000%	50.000%	50.000%	50.000%	50.000%	50.000%
44 State Tax Rate	7.614%	7.614%	7.614%	7.614%	7.614%	7.614%	7.614%	7.614%
45 Federal Tax Rate	35.000%	35.000%	35.000%	35.000%	35.000%	35.000%	35.000%	35.000%
46 Composite Tax Rate	39.949%	39.949%	39.949%	39.949%	39.949%	39.949%	39.949%	39.949%
47 Bad Debt Rate	0.500%	0.500%	0.500%	0.470%	0.470%	0.470%	0.470%	0.470%
48 Franchise Fee Rate	2.501%	2.501%	2.501%	2.501%	2.501%	2.501%	2.501%	2.501%
49 Working Cash Factor	3.700%	3.700%	3.700%	3.700%	3.700%	3.700%	3.700%	3.700%
50 Gross-Up Factor	1.665	1.665	1.665	1.665	1.665	1.665	1.665	1.665
51 ROE Target	10.000%	10.000%	10.000%	9.680%	9.680%	9.680%	9.680%	9.680%
52 Grossed-Up COC	11.105%	11.105%	11.105%	10.781%	10.781%	10.781%	10.781%	10.781%
53 OPUC Fee Rate	0.313%	0.313%	0.313%	0.313%	0.313%	0.313%	0.313%	0.313%
Utility Income Taxes								
54 Book Revenues	46,663	919	47,582	(1,705)	45,877	(3,323)	(3,595)	38,959
55 Book Expenses	24,653	(638)	24,015	(56)	23,944	(3,447)	(3,580)	16,917
56 Interest Deduction	13,749	275	14,024	(1)	13,736	31	(4)	13,764
57 Production Deduction	-	-	-	-	-	-	-	-
58 Permanent Ms	-	(627)	(627)	-	(627)	-	-	(627)
59 Deferred Ms	-	68,402	68,402	-	68,402	3,338	-	71,740
60 Taxable Income	8,260	(66,493)	(58,232)	(1,649)	(59,579)	(3,245)	(11)	(62,835)
61 Current State Tax	629	(5,063)	(4,434)	(126)	(4,536)	(247)	(1)	(4,784)
62 State Tax Credits	-	-	-	-	-	-	-	-
63 Net State Taxes	629	(5,063)	(4,434)	(126)	(4,536)	(247)	(1)	(4,784)
64 Federal Taxable Income	7,631	(61,430)	(53,799)	(1,523)	(55,043)	(2,998)	(10)	(58,051)
65 Current Federal Tax	2,671	(21,501)	(18,829)	(533)	(19,265)	(1,049)	(3)	(20,318)
66 Federal Tax Credits	(19,782)	25	(19,757)	-	(19,757)	-	-	(19,757)
67 ITC Amort	-	-	-	-	-	-	-	-
68 Deferred Taxes	-	27,326	27,326	-	27,326	1,333	-	28,659
69 Total Income Tax Expense	(16,482)	788	(15,694)	(659)	(16,232)	37	(4)	(16,199)
70 Regulated Net Income								
71 Check Regulated NI								

BEFORE THE PUBLIC UTILITY COMMISSION

OF THE STATE OF OREGON

Port Westward 2

PORTLAND GENERAL ELECTRIC COMPANY

Surrebuttal Testimony of

Maria Pope
James Lobdell

September 2, 2014

Table of Contents

I. Introduction

Q. Please state your names and positions with Portland General Electric Company (PGE).

A. My name is Maria Pope. My position at PGE is Senior Vice President of Power Supply and Operations and Resource Strategy. My qualifications appear in PGE Exhibit 400.

My name is Jim Lobdell. I am Senior Vice President, CFO and Treasurer. My qualifications appear in PGE Exhibit 100.

Q. What is the purpose of your testimony?

A. After the partial settlement reached on July 28, 2014, OPUC Staff requested that PGE file additional testimony regarding Port Westward 2 (PW2). The purpose of our testimony is to supplement the record, at the request of OPUC Staff, regarding the development, selection, and execution of the PW2 flexible capacity resource, currently anticipated to come online in January 2015.

Q. How is the remainder of your testimony organized?

A. Our testimony has five additional sections. After this introduction, we discuss the terms of the stipulation reached in Docket No. UE 283 regarding the prudence and costs of PW2. In Section III, we discuss the identification of the need for flexible capacity in our 2009 Integrated Resource Plan (IRP) and the continued need in our 2011 and 2012 IRP updates (see Docket No. LC 48). In Section IV, we discuss the RFP process and the selection of PW2 as the highest scoring bid that represented the least-cost, least-risk option for PGE and our customers. In Section V, we discuss PGE's execution of the PW2 project. Finally, we offer a conclusion to our testimony in Section VI.

II. Stipulation

Q. Has a stipulation been submitted regarding the prudence and costs of PW2?

A. Yes. Parties held a joint UE 283 and UE 286 settlement discussion on July 28, 2014. Representatives from PGE, Staff of the Public Utility Commission of Oregon (Staff), the Citizens' Utility Board of Oregon (CUB), Fred Meyer Stores and Quality Food Centers, Divisions of Kroger Co. (Kroger), and the Industrial Customers of Northwest Utilities (ICNU) were in attendance. A partial settlement was reached resolving the prudence and costs of PW2. Parties submitted the stipulation and supporting joint testimony to the Commission on September 2, 2014.

Q. What are the terms of the stipulation regarding PW2?

A. The stipulating parties agree that PGE's decision to construct PW2 was prudent and that the Commission should approve the requested PW2 tariff rider to reflect the costs and benefits of PW2 when it begins providing service to customers, subject to the following:

- For determining rates in UE 283, the gross plant for PW2 will be $323,227,000.[1]
- If actual capital costs are lower than the stipulated amount, PGE will refund the revenue requirement difference, with interest at its overall cost of capital, beginning January 1, 2016. If actual capital costs are higher than the stipulated amount, parties may examine the prudence of the higher costs in PGE's next general rate case.
- PGE will file an officer attestation when the plant is placed in service.
- If PW2 is not completed and in service by March 31, 2015, the conditions for review of the costs of the plant proposed in Staff Exhibit 902 will apply.

[1] The estimated gross plant from the PW2 RFP bid is approximately $331 million.

III. Identification of Flexible Capacity Need

Q. What needs did PGE identify in its 2009 IRP?

A. PGE's 2009 IRP identified gaps in our energy load-resource balance, our winter capacity load-resource balance, and our summer capacity load-resource balance. As a result of these gaps, our 2009 IRP identified a need for baseload energy, seasonal capacity, and year-round flexible capacity resources.

Q. What did PGE request regarding flexible capacity in its 2009 IRP Action Plan?

A. In our 2009 IRP Action Plan, we requested:

> "acknowledgement of up to 200 MW of flexible capacity resources by year-end 2013 to fill a dual function of providing capacity to maintain supply reliability during peak demand periods and providing needed flexibility to address variable load requirements and increasing levels of intermittent energy resources."[2]

Q. Did Staff submit a Report and recommendation regarding PGE's 2009 IRP Action Plan?

A. Yes. At the November 19, 2010 Public Meeting, Staff submitted its Report recommending that, "…the Commission acknowledge Portland General Electric's (PGE or Company) 2009 Integrated Resource Plan (IRP or the Plan)…"[3]

Q. Did the Commission acknowledge PGE's 2009 IRP Action Plan?

A. Yes. The Commission acknowledged the 2009 IRP Action Plan, with requirements, in Order No. 10-457 on November 23, 2010. None of the requirements in the Order applied to the acquisition of flexible capacity resources identified in the Action Plan.

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[2] Page 325 of PGE's 2009 IRP (Docket No. LC 48).
[3] Page 1 of the Staff Report. The Staff Report is available here: http://www.puc.state.or.us/meetings/pmemors/2010/111910/reg1.pdf

Q. Did PGE file any updates to the 2009 IRP?

A. Yes. Pursuant to Order No. 10-457 and Competitive Bidding Guideline 3g, we filed two updates to our 2009 IRP: on November 23, 2011 (2011 IRP Update) and on November 21, 2012 (2012 IRP Update).

Q. Did the 2011 IRP or 2012 IRP Updates result in any changes to PGE's need for flexible capacity?

A. No. As detailed in PGE's responses to OPUC Data Request No. 544 and OPUC Data Request No. 537 (provided as PGE Exhibits 2401 and 2402), our 2011 and 2012 IRP Updates each incorporated an assessment of the impact of various forecast changes on the 2009 IRP Action Plan. In our 2011 IRP Update we stated, "Similar to the case with energy, we do not believe the changes identified in this IRP Update trigger a deviation from our Action Plan for capacity resources."[4] Our 2012 IRP Update resulted in a similar conclusion,

> "We continue to project a large need for capacity to meet peak load and other contingencies. In addition, we continue to expect future declines in our hydro resource availability and increases in variable energy resources such as wind to meet RPS targets. Therefore, we are making no changes to our Action Plan for acquiring new flexible capacity resources."[5]

In both IRP Updates, the need for the flexible capacity identified in the 2009 IRP continued to persist and remained unchanged.

Q. Has the development of PW2 been consistent with the Commission acknowledged 2009 IRP Action Plan?

A. Yes. PW2 will provide approximately 220 MW of flexible capacity for maintaining supply reliability during peak demand periods and needed flexibility to address both variable load requirements and increasing levels of intermittent energy resources. Our development of

[4] Page 16 of PGE's 2011 IRP Update.
[5] Page 4 of PGE's 2012 IRP Update.

PW2 continues to be on budget, on scope, and on time. We discuss the development of PW2 in Section V.

IV. Selection of Port Westward 2

Q. When did PGE issue a Request for Proposals (RFP) for capacity resources?

A. As discussed above, we identified our flexible capacity needs in the 2009 IRP and the Commission acknowledged our Action Plan in Order No. 10-457. We began our RFP process in March 2011, and the Commission directed us to refile the RFP as a combined Energy and Capacity RFP in January 2012 (Order No. 11-371). After substantial additional comments and involvement from several parties, Staff and the Independent Evaluator (IE) filed reports recommending that the Commission approve PGE's combined RFP. The Commission approved the combined RFP in Order No. 12-215 on June 2012 and we implemented all of the necessary changes to the RFP ordered by the Commission. We issued the RFP shortly after the Commission's Order.

Q. Did PGE consider any benchmark resources in the RFP?

A. Yes. As explained in PGE's Response to OPUC Data Request No. 511 (provided in PGE Exhibit 2403) in accordance with Order No. 07-002, Guideline 13a required PGE to "identify any Benchmark Resources it plans to consider in competitive bidding."[6] As we stated in our 2009 IRP and disclosed in the RFP, we intended to submit bids for benchmark resources in the RFP.[7] PGE's flexible capacity benchmark resource was supported by two different technologies, one of which was the reciprocating engine technology that was ultimately determined to provide the least-cost, least-risk option for customers.

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[6] Page 22 of Order No. 07-002.
[7] Page 8 of PGE's 2009 IRP and Page 12 of PGE's Final Draft Request for Proposals in Docket UM 1535.

Q. How did PGE evaluate the flexible capacity bids?

A. In addition to our benchmark bids, we received multiple bids for flexible capacity resources consisting of power purchase agreements, gas-fired generation facilities, battery facilities, and various other configurations and technologies. Each bid was assigned a price and non-price score according to the criteria and scoring methodology. The scoring methodology was developed, vetted, and finalized with the IE prior to the receipt of any bids. The IE scored and finalized PGE's benchmark bid prior to receiving any other bids and subsequently released the bids to PGE's RFP team for evaluation. PGE's RFP team evaluated each flexible capacity bid based on the bid's economics, which was determined by its ability to meet the accepted "forced dispatch" profile for ancillary services as well as its ability to economically dispatch. The same forced dispatch profile was used to evaluate each bid's ability to provide flexible capacity. The RFP team then incorporated this analysis into the price scoring of each bid. The flexible capacity bids, scoring criteria, evaluation documentation, bid scores, and short list were provided in PGE's responses to ICNU Data Request Nos. 046, 047, and 048.

Q. What was the result of the flexible capacity portion of the combined RFP?

A. On January 31, 2013, PGE selected the PW2 reciprocating engine bid as the highest scoring, least-cost, least-risk, flexible capacity bid based on its ability to meet the 2009 IRP identified need.

Q. Did the IE file a Final Report?

A. Yes. The IE concluded in its Final report filed on January 31, 2013 that the RFP was conducted in a fair manner and resulted in the selection of the best value resource:

> "…the RFP was conducted fairly, that all bidders were treated in the same manner and the resulting short list of bids is the product of the evaluation process that was developed by PGE with the participation of the IE being fairly employed. The IE believes the short list includes the bids that are the best value considering both price and non-price factors from among all bids presented in the RFP."[8]

On February 14, 2013 the IE filed an addendum to its Final Report addressing questions submitted by Staff regarding the need for the resource and the final short list. Staff posed the following three questions to the IE:[9]

- Is there a need for the resource(s)?
- What is the need for the resource(s), e.g., type, size, and timing?
- Does the final short list identify the resource(s) with the best combination of cost and risk?

In its addendum to the Final Report, the IE addressed Staff's questions and concluded that,

> "…seeking 200 MW of flexible year-round capacity, 200 MW of summer-only peaking capacity, 150 MW of winter-only peaking supply, and 300-500 MW of baseload, natural gas-fired capacity to be consistent with the acknowledge IRP needs and those needs did not change enough to justify redesigning the RFP categories. The IE found that the final short list selections provided a reasonable mix of products to meet the identified system need."[10]

PGE's Response to OPUC Data Request No. 544 (provided as PGE Exhibit 2401) details additional answers to Staff's questions to the IE and important conclusions provided by the IE in its addendum to the Final Report.

Q. Did any parties dispute the results of the RFP?

A. Yes. There were two disputes. Troutdale Energy Center (TEC) petitioned the Commission for a Declaratory Ruling that PGE may not in a pending or future rate case recover some or

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[8] Page 39 of Accion Group's "Report of the Independent Evaluator" in Docket UM 1535.
[9] Page 1 of Accion Group's "Addendum to the Final Report of the Independent Evaluator Filed January 31, 2013" in Docket UM 1535.
[10] Id. at Page 4.

all of the costs associated with PW2.[11] The second dispute was filed by Grays Harbor Energy (GHE) as a request for an investigation into the RFP in Docket UM 1535 based on the assertions that PGE improperly conducted the RFP and failed to adhere to the applicable guidelines.

Q. Did Staff respond to the disputes raised by TEC and GHE?

A. Yes. In response to TEC's petition, Staff prepared a Report which concluded the following:

> "...PGE fairly and properly conducted the RFP process; that the RFP scoring and evaluation and short list of resources are consistent with PGE's acknowledged IRP Action Plan; and that the final short list represents the resources with the best combination of cost and risk for the utility and ratepayers. As a result, Staff finds no basis to recommend a Final Short List acknowledgment investigation or an investigation into the integrity of the RFP process."[12]

Staff also prepared a Report in response to GHE's request for an investigation and again found that:

> "...PGE fairly and properly conducted the RFP process; that the RFP scoring and evaluation and short list of resources are consistent with PGE's last IRP and acknowledged IRP Action Plan; and that the Final Short List represents the resources with the best combination of cost and risk for the utility and ratepayers."[13]

Q. What did the Commission conclude regarding these two requests?

A. The Commission agreed with Staff and adopted Staff's recommendations and denied both the petition for a Declaratory Ruling and the request for an investigation into the RFP.[14]

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[11] Docket No. DR 46.
[12] Page 18 of the Staff Report. The Staff Report is available at: http://www.puc.state.or.us/meetings/pmemos/2013/091913/reg1.pdf
[13] Page 14 of the Staff Report. The Staff Report is available at: http://www.puc.state.or.us/meetings/pmemos/2013/091913/reg.2.pdf
[14] Order Nos. 13-345 and 13-346.

V. Development of Port Westward 2

Q. When did PGE give full notice to proceed to the contractors for PW2?

A. The PW2 project team at PGE received notification through the RFP website on January 31, 2013 that the PW2 reciprocating engine bid was selected as the highest scoring flexible capacity resource bid. On that same date, PGE gave full notice to proceed to Columbia River Power Constructors (CRPC) and Wärtsilä North America.[15]

Q. Has PGE significantly modified the PW2 project from the project bid submitted in the RFP?

A. No. PGE has not made any modifications to the PW2 project that would cause it to significantly differ from the bid submitted and scored in the RFP. PGE's Response to OPUC Data Request No. 249, provided as PGE Exhibit 2405, details the change orders to the CRPC contract at the time of the data request. When PW2 comes online it will be the same plant that was selected as the highest scoring bid in the RFP and the least-cost, least-risk option for providing flexible capacity for peak reliability, load variability, and increased variability due to intermittent energy resources.

Q. What is the current status of PW2?

A. PW2 is currently under construction. Mechanical completion is estimated to be achieved in September 2014 and PW2 is currently expected to be online by January 2015. The project continues to be on schedule, on budget, and on scope. We previously discussed the progress of PW2 in PGE Exhibit 1800.

[15] PGE's Response to OPUC Data Request No. 538, provided in PGE Exhibit 2404.

Q. Has PGE provided updated information during this proceeding?

A. Yes. We have responded to multiple data requests regarding PW2 and the costs of the project. We have also provided updates during various settlement meetings and workshops with parties. OPUC Data Request No. 437, provided as PGE Exhibit 1801 in our reply testimony, furnished an update that included actual costs through April 2014. Additionally, PGE Exhibit 1800 of our reply testimony provided updated costs for PW2, which included actual costs through May 2014, and discussed the updates to the PW2 project costs, revenue requirement, and changes that occurred since the update we provided in our response to OPUC Data Request No. 437.

Q. Will PGE continue to provide updated information prior to the completion of PW2?

A. Yes. PGE has agreed to work with interested parties to provide PW2 capital cost updates and forecasts during the remainder of this proceeding. Per the terms of the stipulation, if actual capital costs are lower than the stipulated amount ($323,227,000), PGE will refund the revenue requirement difference, with interest at its overall costs of capital, beginning January 1, 2016.[16] If actual capital costs are higher than the stipulated amount, parties may examine the prudence of such costs in PGE's next general rate case. PGE will provide final project capital costs after the close of PW2 and parties will then have the opportunity to review the costs for compliance with the stipulation.

[16] The estimated gross plant from the PW2 RFP bid is approximately $331 million.

VI. Conclusion

Q. Do you have any concluding remarks?

A. Yes. PW2 was selected because it was the highest scoring flexible capacity resource bid capable of meeting the need identified in our 2009 Commission acknowledged IRP and Action Plan at the least-cost and with the least-risk to PGE and our customers. The IRP, the RFP, and the record in both this docket and UE 286 demonstrate that PGE has and will continue to prudently manage the development, execution, operation, and costs of PW2. When PW2 comes online, it will provide flexible capacity needed for peak reliability, contingency reserves, load variability, and variability due to increasing levels of intermittent energy resources. The stipulation filed by the parties and the terms of the tariff rider represent an appropriate and reasonable outcome in this proceeding that will result in fair, just, and reasonable prices.

Q. Does this conclude your testimony?

A. Yes.

List of Exhibits

PGE Exhibit	**Description**
2401	PGE's Response to OPUC Data Request No. 544
2402	PGE's Response to OPUC Data Request No. 537
2403	PGE's Response to OPUC Data Request No. 511
2404	PGE's Response to OPUC Data Request No. 538
2404C	Confidential Attachment A to PGE's Response to OPUC Data Request No. 538
2405	PGE's Response to OPUC Data Request No. 249
2405C	Confidential Attachment C to PGE's Response to OPUC Data Request No. 249

July 29, 2014

TO: Kay Barnes
Oregon Public Utility Commission

FROM: Patrick Hager
Manager, Regulatory Affairs

PORTLAND GENERAL ELECTRIC
UE 283
PGE Response to OPUC Data Request No. 544
Dated July 18, 2014

Request:

Regarding Exhibit UE283/PGE/1800, Pope – Lobdell/6 (lines19-23) and 7 (lines 1-3), where the Company represented:

> ***"...all flexible capacity resources in the RFP were dispatched for the dual purposes of meeting the required 'forced dispatch' profile and economic dispatch. The economic dispatch logic compares the variable dispatch costs (gas, variable O&M) of the RFP bid to the market curve of energy. The 'forced dispatch' profile is an illustrative forecast developed solely for the purpose of scoring RFP bids and is not firm commitment from PGE. In order to fairly and equally assess each flexible capacity bid on the same variable cost basis for energy and flexibility, PGE evaluated all bids using a 'forced dispatch' profile to gauge flexibility..."***

And,

Regarding Exhibit UE283/PGE/1800, Pope – Lobdell/6, lines 7-8

> ***"PGE sought a resource capable of providing capacity for peak demand, the integration of variable energy resource, and variability of load."***

Please:

a. **Rerun the "forced dispatch" profile for all the bids in flexible capacity resources in PGE's 2012 Capacity and Energy Power Supply Resources RFP excluding the flexibility need for integrating variable energy**

resources. In other words only include the flexibility need for addressing the variability of load; and

b. **Provide a short explanation and summary of the results from the response to sub-question "a" of this data request. For the summary of results, please provide such summary in the same format as the chart "Flexible Capacity" (Appendix E; page 45) in the confidential portion of the Report of the Independent Evaluator of PGE's 2012 Capacity and Energy Power Supply Resources RFP;**

If the information requested in the above questions, including any component or subcomponent, was derived or obtained from other sources, please identify each such specific source and provide a copy of each such specific source document in portable document format (PDF) file(s), MS Word file(s), Excel workbook (with cell references and formulae intact) file(s), or any other common document format indicating the specific page, section, etc. of the relevant source document.

Response:

PGE objects to this request as overly broad and unduly burdensome. The request calls for a study that PGE has not performed and seeks information that is neither relevant to, nor reasonably calculated to lead to, the discovery of admissible evidence. Bidders in PGE's 2012 Capacity and Energy Power Supply Resources Request for Proposals (RFP) responded with offers to provide a flexible capacity resource capable of providing capacity to maintain supply reliability during peak demand periods and needed flexibility to address variable load requirements and increasing levels of intermittent energy resources. Changing the "forced dispatch" profile to assess a different capability would lead to unsupported results, because PGE has no way of determining the manner in which bidders would have changed their offers if PGE's RFP specifications would have been different. In addition, an assessment based only on flexibility needed for addressing the variability of load would not be relevant or helpful as it would ignore PGE's need for flexibility to integrate variable energy resources.

Without waiving its objection, PGE responds as follows:

PGE identified a need for a flexible capacity resource in its 2009 Integrated Resource Plan (IRP) and since that time, PGE's need has not changed. Attachment 544-A summarizes the identification of PGE's need, the continued identification of PGE's need through IRP updates, and the selection of Port Westward 2 as the highest scoring flexible capacity bid. Since its selection, PGE's development of Port Westward 2 continues to be on budget, on scope, and on time.

UE 283

Attachment 544-A

Provided in Electronic Format only

Summary of PGE's Flexible Capacity Need and the Selection of Port Westward 2 as the Highest Scoring Flexible Capacity Bid

Summary of PGE's Flexible Capacity Need and the Selection of Port Westward 2 as the Highest Scoring Flexible Capacity Bid

PGE identified a need for a flexible capacity resource in its 2009 Integrated Resource Plan (IRP) and since that time, PGE's need has not changed. In the summary below, PGE describes the identification of the flexible capacity need, the continued identification of PGE's need through IRP updates, and the selection of Port Westward 2 as the highest scoring flexible capacity bid. Since its selection, PGE's development of Port Westward 2 continues to be on budget, on scope, and on time.

PGE's 2009 Integrated Resource Plan
As stated in PGE's Response to OPUC Staff Data Request No. 511, PGE's IRP was initially filed in November 2009 identifying a need for capacity resources including 200 MW of flexible capacity:

> "PGE requests acknowledgement of up to 200 MW of flexible capacity resources by year-end 2013 to fill a dual function of providing capacity to maintain supply reliability during peak demand periods and providing needed flexibility to address variable load requirements and increasing levels of intermittent energy resources."[1]

OPUC Staff filed its Final Comments and Recommendations with a Draft Proposed Order on October 15, 2010. In its Final Comments and Recommendations, OPUC Staff recommended:

> "...the Commission acknowledge PGE's 2009 IRP with the understanding that PGE will meet the following requirements, in the timeframe decided by Staff."[2]

At the November 19, 2010 Public Meeting, OPUC Staff submitted the Staff Report and again recommended:

> "...the Commission acknowledge Portland General Electric's (PGE or Company) 2009 Integrated Resource Plan (IRP or the Plan) with the requirements listed below."[3]

The requirements listed in OPUC Staff's report did not pertain to the flexible capacity need identified in PGE's 2009 IRP.

PGE's 2009 IRP was acknowledged by Commission Order No. 10-457 on November 23, 2010. As noted above, PGE sought a resource that would provide capacity for peak

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[1] Page 325 of PGE's 2009 IRP (dated November 5, 2009). PGE's IRP filings are available here: www.portlandgeneral.com/irp.
[2] Page 1 of OPUC Staff's "Final Comments and Recommendations" filed on October 15, 2010 (OPUC Docket No. LC 48).
[3] Page 1 of the Staff Report. The Staff Report is available here: http://www.puc.state.or.us/meetings/pmemos/2010/111910/reg1.pdf

demand and flexibility for both load variability and integration of variable energy resources. In Order No. 10-457, the Commission stated:

> "This order does not constitute a determination on the ratemaking treatment of any resource acquisitions or other utility expenditures. As a legal matter, the Commission must reserve judgment on all ratemaking issues. *Notwithstanding these legal requirements, we consider the integrated resource planning process to complement the ratemaking process. In ratemaking proceedings, in which the reasonableness of resource acquisitions is considered, the Commission will give considerable weight to utility actions that are consistent with acknowledged plans.* [emphasis added]"[4]

PGE's development of Port Westward 2 has been consistent with the Commission acknowledged Action Plan in PGE's 2009 IRP and PGE continues to develop Port Westward 2 on budget, on scope, and on time.

PGE's 2011 IRP Update

Pursuant to Order No. 10-457 and Competitive Bidding Guideline 3g, PGE filed its 2011 IRP Update on November 23, 2011 focusing on the following elements:

- Updates to the 2009 IRP Action Plan implementation activities;
- An assessment of the impact to the Action Plan of various forecast changes; and,
- Supplemental information required by Commission Order No. 10-457.

In its 2011 IRP Update, PGE did not propose changes to the acknowledged Action Plan or seek acknowledgment of a revised plan.[5] Regarding the various forecast changes, PGE stated:

> "Similar to the case with energy, we do not believe the changes identified in this IRP Update trigger a deviation from our Action Plan for capacity resources."[6]

PGE's 2012 IRP Update

Pursuant to Order No. 10-457 and Competitive Bidding Guideline 3g, PGE filed its 2012 IRP Update on November 21, 2012 focusing on the following elements:

- Updates to the 2009 IRP Action Plan implementation activities; and,
- An assessment of the impact to the Action Plan of various forecast changes.

In its 2012 IRP Update, PGE continued to recommend acquiring a new flexible capacity resource:

> "We continue to project a large need for capacity to meet peak load and other contingencies. In addition, we continue to expect future declines in our hydro

[4] See Order No. 10-457 at 2 (OPUC Docket No. LC 48).
[5] Page 4 of PGE's 2011 IRP Update (dated November 23, 2011).
[6] Page 16 of PGE's 2011 IRP Update (dated November 23, 2011).

> resource availability and increases in variable energy resources such as wind to meet RPS targets. Therefore, we are making no changes to our Action Plan for acquiring new flexible capacity resources."[7]

PGE's 2012 Request for Proposals (RFP)

To fill the need identified by the IRP and acknowledged by the Commission in Order No. 10-457, PGE initiated an RFP process in March 2011 seeking capacity resources. Under direction of the Commission in Order No. 11-371, PGE refiled the RFP as a combined Energy and Capacity RFP on January 25, 2012. The Independent Evaluator (IE) and Staff filed reports recommending that PGE's RFP be approved by the Commission, subject to certain requirements, none of which included a change to the need for flexible capacity. The Commission approved the combined RFP on June 7, 2012 in Order No. 12-215 and PGE implemented all of the necessary changes identified by the Commission.

The IE filed its Final Report on January 31, 2013 and concluded:

> "...the RFP was conducted fairly, that all bidders were treated in the same manner and the resulting short list of bids is the product of the evaluation process that was developed by PGE with the participation of the IE being fairly employed. The IE believes the short list includes the bids that are the best value considering both price and non-price factors from among all bids presented in the RFP."[8]

The RFP was conducted with oversight by the Independent Evaluator (IE) who was appointed by the Commission pursuant to the Competitive Bidding Guidelines. On January 31, 2013, the Port Westward 2 Reciprocating Engine bid was selected as the highest scoring flexible capacity bid. The IE's report concluded that the RFP was conducted in a fair and transparent manner consistent with the Competitive Bidding Guidelines.

On February 14, 2013, the IE filed an addendum to its final report addressing the following questions posed by OPUC Staff:

1. Is there a need for the resource(s)?
2. What is the need for the resource(s), e.g., type, size, and timing?
3. Does the final shortlist identify the resource(s) with the best combination of cost and risk?

The IE concluded PGE's selection of resources (and their timing) represented an optimal plan forward.[9] Regarding the flexible capacity resource, important conclusions from the IE's addendum include:

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[7] Page 4 of PGE's 2012 IRP Update (dated November 21, 2012).
[8] Page 39 of Accion Group's "Report of the Independent Evaluator" filed on January 31, 2013 (OPUC Docket No. UM 1535).
[9] Page 4 of Accion Group's "Addendum to the Final Report of the Independent Evaluator Filed January 31, 2013" filed on February 14, 2013 (OPUC Docket No. UM 1535).

- "With reference to the flexible capacity need, early in the RFP process, the IE reviewed the results of PGE's wind integration study to determine whether the size and timing of the previously identified flexible capacity need was still reasonable. The IE concluded that the identified need was still present."[10]

- "...the flexible capacity RFP was properly conducted to maximize competitiveness given the constraints."[11]

- "After bids were received and evaluated the IE found that the portfolio represented by the final short list provided the optimal supply options available to PGE."[12]

- "The IE believes that PGE adequately considered changes to loads and resources in constructing the final short list, and fully considered system needs, including changes since the IRP, when applying the portfolio analysis to identify the optimal resource mix from the options presented in the bids."[13]

- "Before bids were received, the IE found that seeking 200 MW of flexible, year-round capacity...to be consistent with the acknowledge IRP needs and those needs did not change enough to justify redesigning the RFP categories. The IE found that the final short list selections provided a reasonable mix of products to meet the identified system need."[14]

Docket No. DR 46 and Request for Investigation into Matters Relating to PGE's 2012 RFP

After completion of PGE's 2012 RFP, Troutdale Energy Center (TEC) filed a petition for a Declaratory Ruling that PGE may not in a pending or future rate case recover some or all of the costs associated with Port Westward 2. In the Staff Report, OPUC Staff found that:

> "...PGE fairly and properly conducted the RFP process; that the RFP scoring and evaluation and short list of resources are consistent with PGE's acknowledged IRP Action Plan; and that the final short list represents the resources with the best combination of cost and risk for the utility and ratepayers. As a result, Staff finds no basis to recommend a Final Short List acknowledgement investigation or an investigation into the integrity of the RFP process."[15]

Shortly after TEC's petition, Grays Harbor Energy (GHE) filed a request for investigation into PGE's 2012 RFP in Docket No. UM 1535. GHE's request was based

[10] Id. at page 2.
[11] Id. at page 2.
[12] Id. at page 3.
[13] Id. at pages 3-4.
[14] Id. at page 4.
[15] Page 18 of the Staff Report. The Staff Report is available here: http://www.puc.state.or.us/meetings/pmemos/2013/091913/reg1.pdf

on assertions that PGE improperly conducted the 2012 RFP and failed to adhere to the RFP guidelines. In the Staff Report, OPUC Staff again concluded that:

> "...PGE fairly and properly conducted the RFP process; that the RFP scoring and evaluation and shortlist of resources are consistent with PGE's last IRP and acknowledged IRP Action Plan; and that the Final Short List represents the resources with the best combination of cost and risk for the utility and ratepayers."[16]

In Order Nos. 13-345 and 13-346, the Commission adopted OPUC Staff's recommendations to deny the request for an investigation into PGE's 2012 RFP and to deny the petition for Declaratory Ruling.

PGE's 2015 General Rate Case Filing

PGE filed for a general rate case on February 13, 2014. Our direct testimony identified expected capital expenditures of approximately $300 million, excluding allowance for funds used during construction, for Port Westward 2.[17] We also stated that our current expected capital expenditures were approximately $1 million lower than the estimated capital expenditures provided in the Port Westward 2 RFP bid.[18] As stated in our reply testimony in Docket No. UE 283, PGE continues to expect capital expenditure to be approximately $300 million.[19]

When Port Westward 2 comes online, it will provide capacity for peak reliability and flexibility for contingency reserves, load variability, day-ahead forecast error, and hour-to-hour fluctuations of wind.

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[16] Page 14 of the Staff Report. The Staff Report is available here: http://www.puc.state.or.us/meetings/pmemos/2013/091913/reg.2.pdf
[17] See Exhibit UE 283/PGE/400, Pope-Lobdell/24, at lines 3-4.
[18] See Exhibit UE 283/PGE/400, Pope-Lobdell/25, at lines 8-10.
[19] See Exhibit UE 283/PGE/1800, Pope-Lobdell/15, at line 11.

July 7, 2014

TO: Kay Barnes
Oregon Public Utility Commission

FROM: Patrick Hager
Manager, Regulatory Affairs

PORTLAND GENERAL ELECTRIC
UE 283
PGE Response to OPUC Data Request No. 537
Dated June 23, 2014

Request:

The current peak demand forecast (page 37 of the 2013 IRP) appears lower than the 2009 load forecast (page 34 of the 2009 IRP) by approximately 800 MW in 2016 and 1500 MW in 2030.

- **a. How has this reduction in demand affected PGE's need for and planning of new resources, including PW2 and Tucannon?**
- **b. When was the reduction in demand forecast first noticed by the Company?**
- **c. Did PGE consider delaying the construction of new generation capacity in response to this reduced demand forecast? If yes, please provide the results of any modeling evaluating such delay. If no, why not?**

Response:

a. PGE's planning for new resources to meet peak demand is based on our projected summer and winter capacity load-resource balance. PGE's 2009 IRP and the subsequent 2011 RFP identified a need for and sought 200 MW of flexible, year-round capacity and up to 350 MW of seasonal capacity products. PGE's projected winter capacity load-resource balance in the 2013 IRP demonstrated that we expect to be essentially flat through 2018 after including the resource additions resulting from the energy/capacity and renewables RFPs (PGE's 2013 IRP, page 47, Figure 3-5). This reflects PGE's decision not to pursue the full extent of the seasonal capacity contract need outlined in the 2009 IRP Action Plan due, in part, to the forecasted reduction in peak demand. Instead of the total

350 MW of identified need, PGE entered into two contracts that provide 100 MW of seasonal capacity (PGE's 2013 IRP, page 21).

Additionally, Port Westward 2 is a flexible capacity resource that can address both peaking and load/wind following needs; a reduced need for peak capacity does not directly translate to a reduced need for load/wind following.

The Tucannon River Wind Farm is a resource intended to bring PGE into physical compliance with the 2015 Oregon renewable portfolio standard (RPS). PGE's 2011 IRP Update revised our RPS energy need downward by 21 MWa (from 122 MWa in the 2009 IRP Action Plan to 101 MWa) based on the load forecast included in that Update (PGE's 2011 IRP Update, pages 9-10). This downward revision was subsequently reflected in the renewables RFP, which sought, "approximately 101 MWa of mid-to-long-term renewable energy supply, bundled with their associated renewable energy credits (RECs), to be available beginning in the 2013–2017 timeframe" (PGE RFP for Renewable Energy Resources, page 1). PGE's 2013 IRP reported an expected 98 MWa from Tucannon River (PGE's 2013 IRP, page 21).

b. PGE has revised our peak demand forecast downward on several occasions subsequent to the 2009 IRP (the 2009 IRP included a March 2009 load forecast).

   Our 2011 IRP Update relied on the September 2011 load forecast and documented a reduction to the load forecast relative to that included in the 2009 IRP (PGE's 2011 IRP Update, pages 21–22). The reduction was largely attributed to the 2008–2009 recession and the effects of lost or curtailed paper manufacturing.

   The 2012 IRP Update reflected a load forecast dated September 2012. This forecast was lower than the March 2009 and September 2011 forecasts. While PGE's forecast of load growth was essentially unchanged relative to the 2009 IRP, "(t)he reduction in load comes entirely from unrealized growth between 2009 and now. Lower load growth than expected since the 2011 IRP Update results in modestly lower loads by 2016" (PGE's 2012 IRP Update, pages 6–7).

   In the 2013 IRP, PGE noted that, "our peak demand growth rate forecast for this IRP is lower than forecast in the 2009 IRP" (PGE's 2013 IRP, page 36). The 2013 IRP included a December 2013 load forecast. PGE identified several factors contributing to this lower load growth rate, chiefly, the slower than anticipated recovery from the 2008–2009 recession and curtailments or closures among paper and solar manufacturing customers.

   PGE reviewed the load forecast and load-resource balance on multiple occasions with OPUC Staff and stakeholders in the current IRP public review process (for example, April 3, 2013, IRP Public Meeting, August 29, 2013, IRP Public Meeting, and March 5, 2014, IRP Public Meeting). Additionally, as discussed at the March 11, 2014, IRP Public Meeting and in the 2013 IRP (pages 41–42), PGE's December 2013 load forecast included updated load factors that incorporate recent data. This data update increased the January load factor, which, relative to the September 2013 load forecast, resulted in a reduction to the January (winter) peak of nearly 250 MW in 2016.

c. PGE objects to this request on the basis that it is vague. Without waiving its objection, PGE responds as follows:

   Regarding Port Westward 2 and Tucannon, PGE did not consider delaying the construction of either project. As detailed above, PGE updated our load forecast in the 2011 IRP Update and the 2012 IRP Update. PGE's need for year-round, flexible capacity for peak reliability and load/wind following does not have a commensurate change as a result of the reduction in forecasted peak demand. Additionally, PGE reduced the identified need for a renewable energy in the 2011 IRP Update and Tucannon's expected energy production matches the updated need.

   Appendix K to the 2013 IRP provides PGE's load-resource balance, which includes the RFP resources and seasonal capacity contracts, the 15% Boardman ownership share increase, and the Warm Springs Agreement. Prior to 2018, PGE has deficits in 2014 and 2015 and slight surpluses in 2016 and 2017. Generally, PGE has growing deficits beyond 2018. As noted in the 2013 IRP, the summer surplus in 2016 is due simply to a timing difference between the anticipated online date for Carty and expiration dates of existing contracts (PGE's 2013 IRP, page 46). Without the RFP resources and contracts, PGE would have annual average energy, winter capacity, and summer capacity deficits throughout the entire IRP analysis period.

June 17, 2014

TO: Kay Barnes
Oregon Public Utility Commission

FROM: Patrick Hager
Manager, Regulatory Affairs

PORTLAND GENERAL ELECTRIC
UE 283
PGE Response to OPUC Data Request No. 511
Dated June 4, 2014

<u>Request:</u>

Regarding PGE's response to Staff Data Request 001 in Docket No. UE286, part "a," where the Company represented:

> ***"PGE is continuing to work toward the least cost, least risk option for integrating wind. The fourth quarter of 2015 is the next available date for which PGE could elect self-integration or some other combination of services for wind resources, if PGE has the necessary infrastructure and systems in place"***

And,

Given the fact that Port Westward 2 was conceived in PGE's 2009 Integrated Resource Plan,[1] was selected in a 2012 Request for Proposal,[2] and started construction in May 13, 2013,[3]

Please respond the following questions:

a. **If available, how much time did the Company estimate it would take to have the necessary infrastructure and systems in place to self-integrate wind at the following points in time?**
   i. **Approximately five years ago when Port Westward 2 was conceived;**
   ii. **Approximately two years ago when Port Westward 2 was selected;**
   iii. **Approximately one and a half year ago when Port Westward 2 started construction;**
   iv. **As of the date of filing the current rate case proceeding in Docket No. UE283 (i.e., February 2014); and**

[1] See Exhibit UE 283/PGE/400, Pope - Lobdell/2, lines 19-20.
[2] See Exhibit UE 283/PGE/400, Pope - Lobdell/3, lines 3-4.
[3] See Exhibit UE 283/PGE/400, Pope - Lobdell/26, Table 2.

   v. **As of the date of responding this data request.**

b. **What actions have the Company taken since Port Westward 2 was conceived approximately five years ago to have the necessary infrastructure and systems in place to self-integrate wind?**

Response:

PGE objects to this request to the extent that it calls for speculation and is based on inaccurate assumptions and/or incomplete premise. Notwithstanding this objection, PGE responds as follows:

The timing for self-integration is informed by multiple issues, many of them external to PGE such as the evolving BPA rates/products, regional issues and market solutions. PGE's internal process to evaluate the costs, benefits and risks associated with comparing self-integration against BPA offered products, in particular Variable Energy Resource Balancing Service (VERBS) rate, began with the development of PGE's Biglow Canyon wind farm.

From that point on, PGE's decision to self-integrate proceeded on a parallel path with its process to (1) identify a need for flexible capacity resources and (2) fill the identified need. In addition, PGE also developed multiple Wind Integration Study phases; participates in BPA's 30/30 pilot program; conducted the Renewable and Flexible Capacity Requests for Proposals; and explored (and continues to explore) Energy Imbalance Market (EIM) based solutions. These paths do intersect and the decisions made at each significant point were submitted along the way as part of various regulatory processes.

As demonstrated, PGE's strategy to self-integrate wind is not focused exclusively on utilizing Port Westward 2. Instead, integration of wind resources is conducted on a portfolio basis. As discussed with OPUC Staff, CUB and ICNU during the last several years, and most recently during UE 266 workshops leading up to PGE's election to continue with BPA VERBS 30/60 in April 2014, PGE is taking a systematic and methodical approach in its strategy for wind integration, including potential self-integration. PGE's next opportunity to evaluate self-integration is the BPA April 2015 election for the period of October 2015 to October 2017.

Please refer to PGE's Response to OPUC Data Request No. 510 regarding the contractual restrictions and potential penalties on PGE's ability to terminate VERBS before October 2015.

Integrated Resource Plan (IRP)

PGE's IRP was initially filed in November 2009 identifying a need for capacity resources including 200 MW of flexible capacity:

"PGE requests acknowledgement of up to 200 MW of flexible capacity resources by year-end 2013 to fill a dual function of providing capacity to maintain supply reliability during peak demand periods and providing needed flexibility to address variable load requirements and increasing levels of intermittent energy resources."[4]

PGE's IRP was acknowledged by Commission Order No. 10-457 on November 23, 2010. As noted in the excerpt above, PGE sought a resource that would provide capacity for peak demand and load following, not just integration of variable energy resources.

Request for Proposals (RFP)
To fill the need identified in the IRP, PGE initiated a Capacity RFP process. In the Capacity RFP, PGE sought a resource that would provide both peaking and flexible capacity to meet the needs identified in the Commission acknowledged action plan. This RFP allowed for a broad array of potential resources to meet the stated need. The Capacity RFP process initially started in March 2011, and was refiled at the direction of the Commission (Order No. 11-371). The Capacity RFP was approved as a combined Energy and Capacity RFP in June 2012, following public involvement in the drafting of the RFP.

In accordance with Order No. 07-002, Guideline 13.a. required PGE to "identify any Benchmark Resources it plans to consider in competitive bidding". As stated in the IRP, and further disclosed in the RFP, PGE intended to submit benchmark bids in the 2012 RFP. See Draft RFP page 18. To that end, the IRP and RFP identified PGE's proposed benchmark resources. PGE's capacity benchmark resource was supported by two different technologies, and one of the bids was determined to offer the lowest cost and least risk alternative for customers.

The RFP was conducted with oversight by the Independent Evaluator who was appointed by the Commission pursuant to the OPUC's Competitive Bidding Guidelines. Port Westward 2 was selected as the highest scoring flexible capacity resource bid in the RFP on January 31, 2013. The Independent Evaluator's report concluded that the RFP was conducted in a fair and transparent manner consistent with the OPUC's Competitive Bidding Guidelines.

Port Westward 2
PGE selected the Port Westward 2 bid and it is under construction and is expected to be completed on-budget by January 2015. Please refer to PGE's Response to OPUC Data Request No. 001 in UE 286 for a discussion of the benefits provided by Port Westward 2 included in PGE's 2015 test year forecast.

BPA's 30/30 Committed Intra-Hour (CIH) Pilot Program
During the CIH Pilot Program PGE participated in the Interchange Transaction Accelerator Project (ITAP), which is a trading platform designed to facilitate a sub-

[4] Page 325 of PGE's 2009 IRP (dated November 5, 2009). PGE's IRP filings are available here: www.portlandgeneral.com/irp.

hourly energy and capacity market. The sub-hourly market was underdeveloped and not liquid. Due to the lack of a liquid sub-hourly market and the existing hourly bi-lateral market structure of the Northwest, PGE relied substantially on its own system to balance intra-hour load and wind variations. This experience helped PGE to identify several areas within PGE's traditional system operations model that are in need of expansion and development. See Dynamic Dispatch Program below for information on PGE's efforts to address these areas.

Please refer to Attachment 511-A for additional information regarding PGE's participation in BPA's 30/30 CIH Pilot Program beginning in October 2011. Attachment 511-A is PGE's Response to OPUC Data Request No. 009 in Docket No. UE 266 (PGE's 2014 net variable power cost filing).

Wind Integration Study (Wind Study)
Leading up to and in parallel with the 2009 IRP process, PGE conducted a Wind Study to estimate the cost of self-integrating its variable energy resources. PGE has continued to develop its Wind Study during the last several years and recently submitted Phase 4 with its 2013 IRP Report. Attachment 511-B is an excerpt from Appendix D to PGE's 2013 IRP Report that summarizes PGE's Wind Study efforts from 2007 to present.

Dynamic Dispatch Program
After gaining experience with sub-hourly scheduling of wind resources, PGE organized the efforts of three integration-related efforts under the Dynamic Dispatch Program:

1. PI Consolidation – this project began in early 2012 to consolidate current generating plant PI systems and expand a centralized PI system to include data from all generating plants. This combined data source will then be used by plant management and Power Operations to perform daily business functions.
2. Cycling Cost Studies & Automated Generation Control (AGC) Telemetry Installation – this work also began in early 2012. PGE is conducting studies on PGE's thermal resources to determine their cycling capabilities and the costs associated with using them for integration (wear and tear, forced outage rates, etc.). Based on the outcome of the cycling cost studies, PGE will install AGC at appropriate thermal plants.
3. Dynamic Dispatch Tool – this project creates/purchases a tool(s) that can simultaneously optimize the PGE system for reliability requirements and economic dispatch of the plants. This will support PGE's ability to 1) self-integrate wind, 2) participate in an EIM, and 3) automatically dispatch plants more efficiently to load.

All of this work is expected to be completed prior to October 1, 2015.

In parallel with the work described above, PGE also monitors developments such as sub-hourly scheduling and EIM markets. A combination of any of these processes could yield additional cost-effective tools for integrating VERs.

In summary, PGE developed an IRP that identified the need for peaking capacity as well as flexible capacity to follow load and integrate wind. An RFP was conducted and resulted in the selection of Port Westward 2, which will provide both peaking and flexible capacity to meet customers' identified needs. In addition, PGE continues to refine its Wind Integration Study, and participate in the sub-hourly scheduling and EIM markets while evaluating the requisite infrastructure and systems for integration. The level of maturity of these steps will help inform PGE's election on wind integration in April 2015.

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Attachment 511-A

Provided in Electronic Format only

UE 266, PGE's Response to OPUC Data Request No. 009

UE 283

Attachment 511-B

Provided in Electronic Format only

PGE 2013 IRP Excerpt Regarding Wind Study

July 7, 2014

TO: Kay Barnes
Oregon Public Utility Commission

FROM: Patrick Hager
Manager, Regulatory Affairs

PORTLAND GENERAL ELECTRIC
UE 283
PGE Response to OPUC Data Request No. 538
Dated June 23, 2014

Request:

PGE response to OPUC Data Request No. 249 Attachment A indicates PGE entered into a construction agreement for PW 2 on [Begin Confidential] January 9, 2013. [End Confidential]

- **a. Is [Begin Confidential] January 9, 2013,[End Confidential] the decision date for committing to constructing Port Westward 2? If not, what was the decision date for contractually committing to construct Port Westward 2?**
- **b. Please itemize the costs the company would have incurred by delaying this agreement indefinitely prior to the date given in response to (a) above.**
- **c. Please provide the total costs of PW2 that the company had already spent or committed to spend prior to that date.**

Response:

Attachment 538-A provides PGE's response to this request.

Attachment 538-A is confidential and subject to Protective Order No. 14-043.

UE 283

Attachment 538-A

Confidential and Subject to Protective Order No. 14-043

Provided in Electronic Format only

PGE's Response to OPUC Data Request No. 538

Exhibit 2404

Confidential

April 11, 2014

TO: Kay Barnes
Oregon Public Utility Commission

FROM: Patrick Hager
Manager, Regulatory Affairs

PORTLAND GENERAL ELECTRIC
UE 283
PGE Response to OPUC Data Request No. 249
Dated March 24, 2014

Request:

Regarding the engineering, procurement and construction (EPC) contract with Columbia River Power Constructors (CRPC) referenced in Exhibit UE283/PGE/400, Pope-Lobdell/19, please provide:

a. **A copy of the executed EPC contract with CRPC (CRPC EPC Contract) and copies of any amendments to such contract as of the date of the response to this data request; please include a brief description of the reasons for each amendment;**
b. **The agreed lump-sum cost as of the date of the execution of the CRPC EPC Contract. Please include the corresponding increase or decrease to in the agreed-upon lump-sum cost that resulted from each amendment identified in the response to question "a";**
c. **A list of the cost, scope, and schedule changes from the date of the execution of the CRPC EPC Contract; please indicate which changes were authorized by PGE;**
d. **For each change in cost, scope, and/or schedule provided in the response to question "c," please provide:**
    i. **A copy of the document in which either PGE or CRPC requested the change;**
    ii. **The documentation in which PGE required CRPC to conduct a strict review of the change; and**
    iii. **The documentation in which PGE analyzed each change request and determined whether the analysis justified authorization of the change.**

Response:

a. Attachment 249-A provides a copy of the EPC agreement between PGE and CRPC. Attachment 249-B provides copies of the three amendments to the EPC contract. Attachments 249-A and 249-B are confidential and subject to Protective Order No. 14-043. Please see PGE's response to part d for additional details on the three amendments.

b. Attachment 249-C summarizes the cost changes and provides supporting details for each amendment. Attachment 249-C is confidential and subject to Protective Order No. 14-043.

c. Please see PGE's response to part b. The "Change Order Log" tab provides a list of the cost and scope changes to the EPC contract. All cost and scope changes have been reflected in the change orders, which have been authorized by PGE. There have been no schedule changes and all costs for the change orders have been funded from the EPC contingency that was included in the PW2 bid. Please see PGE's response to part d for details on the change orders. Please see PGE's Response to OPUC Data Request No. 248, Attachment 248-A for a copy of the PW2 bid.

d. Attachment 249-D provides copies of the change requests and change orders. These are reflective of the final negotiated changes between PGE and CRPC. Changes in cost and scope were initiated via verbal communication, emails, and Requests for Information. As mentioned in part c, there have been no changes to the schedule. Attachment 249-D is confidential and subject to Protective Order No. 14-043.

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Attachment 249-A

Confidential and Subject to Protective Order No. 14-043

Provided in Electronic Format only

CRPC EPC Contract

UE 283

Attachment 249-B

Confidential and Subject to Protective Order No. 14-043

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Amendments to CRPC EPC Contract

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Attachment 249-C

Confidential and Subject to Protective Order No. 14-043

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Detailed List of Changes to EPC Contract

UE 283

Attachment 249-D

Confidential and Subject to Protective Order No. 14-043

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Copy of Change Order Requests to EPC Contract

Exhibit 2405

Confidential