Oregon
John A. Kitzhaber, MD, Governor

Public Utility Commission
3930 Fairview Industrial Dr. SE
Salem, OR 97302
Mailing Address: PO Box 1088
Salem, OR 97308-1088
Consumer Services
1-800-522-2404
Local: (503) 378-6600
Administrative Services
(503) 373-7394

May 27, 2014

Via Electronic Filing

OREGON PUBLIC UTILITY COMMISSION
ATTENTION: FILING CENTER
PO BOX 2148
SALEM OR 97308-2148

RE: Docket No. UE 286: In the Matter of PORTLAND GENERAL ELECTRIC COMPANY's Net Variable Power Costs (NVPC) and Annual Power Cost Update (APCU).

Enclosed for electronic filing in the above-captioned docket is the Public Utility Commission Staff's Opening Testimony.

/s/ Kay Barnes
Kay Barnes
Filing on Behalf of Public Utility Commission Staff
(503) 378-5763
Email: kay.barnes@state.or.us

c: UE 286 Service List (parties)

PUBLIC UTILITY COMMISSION
OF OREGON

UE 286

STAFF OPENING TESTIMONY OF

JOHN CRIDER

In the Matter of
PORTLAND GENERAL ELECTRIC COMPANY's
Net Variable Power Costs (NVPC) and
Annual Power Cost Update (APCU).

May 27, 2014

CASE: UE 286
WITNESS: JOHN CRIDER

PUBLIC UTILITY COMMISSION
OF
OREGON

STAFF EXHIBIT 100

Opening Testimony

May 27, 2014

Q. PLEASE STATE YOUR NAME, OCCUPATION, AND BUSINESS ADDRESS.

A. My name is John Crider. I am employed by the Oregon Public Utility Commission (OPUC) as a Senior Power Cost Analyst in the Energy Resources and Planning Section of the Energy Division. My business address is 3930 Fairview Industrial Drive, Salem, Oregon, 97302.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND WORK EXPERIENCE.

A. My Witness Qualification Statements are found in Exhibit Staff/101.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to first summarize Portland General Electric's (PGE or Company) 2014 Net Variable Power Costs (NVPC) filing, then to comment on two proposed adjustments to the price forecasts proposed in this filing.

Q. HOW IS YOUR TESTIMONY ORGANIZED?

A. My testimony is organized as follows:

I. Summary of PGE's 2015 NVPC filing

II. Market Price Forecast

III. Natural Gas Forecast

IV. Summary

I. SUMMARY OF PGE'S 2015 NVPC FILING

Q. PLEASE EXPLAIN PGE'S 2015 NVPC FILING

A. Since PGE has filed its 2015 NVPC filing concurrently with a general rate case (GRC) proceeding[1] the Company has included in its filing, not only the parameter revisions allowed under PGE's Annual Update Tariff (AUT) -Tariff Schedule 125 - but also MONET model changes and updates.

Q. WHAT MODEL CHANGES AND UPDATES DOES THE COMPANY PROPOSE IN ITS INITIAL FILING?

A. PGE proposed the following modeling changes and updates:[2]

1. updated forced outage rates for thermal units;
2. update to the Boardman plant parameters;
3. transmission related updates;
4. updates to Colstrip Unit 3 and Unit 4 modeling;
5. inclusion in PGE's hydro data of the latest Pacific Northwest Coordination Agreement (PNCA) Headwater Benefits study;
6. new Western Electricity Coordinating Council WECC operating reserve standards;
7. wind related updates; and
8. updated oil forward price basis differential.

Q. WHAT ARE STAFF'S COMMENTS OR ISSUES REGARDING THE ABOVE CHANGES AND UPDATES?

[1] Docketed as UE 283.
[2] See UE283/PGE/500, Niman-Peschka-Hager/7-8.

A. Subject to further discovery during this proceeding, at present Staff considers the above changes and updates reasonable.

Q. DID THE COMPANY PROPOSE ANY OTHER CHANGES TO THE MONET MODELING?

A. Yes. The Company originally included two new resources in the model run, Tucannon River Wind Farm and Port Westward 2. However, these resources were removed from the modeling for the calculation of NVPC in this docket. The variable costs and benefits of these two resources will instead be incorporated into a separate tariff rider being considered in PGE's 2015 general rate case, Docket UE 283. Therefore no NVPC effects of these two resources will be reflected in this proceeding.

Q. WHAT IS THE FINAL RESULT FOR NVPC AFTER INCORPORATING THE MODELING CHANGES AND EXCLUDING THE TWO NEW RESOURCES?

A. The Company's resulting calculation of NVPC after accounting for all of these changes is approximately $594 million.[3]

II. MARKET PRICE FORECAST

Q. EXPLAIN THE SIGNIFICANCE OF THE MARKET PRICE FORECAST ON MONET MODELING AND THE CALCULATION OF NVPC.

A. Market Price Forecast (MPF) is a representation of the price at which energy can be purchased or sold by the Company, forecasted by month for the 12 months comprising the test year, and delineated by peak ("high load hours")

[3] See MONET modeling run Step 56ab provided in the April 15, 2014 Update.

and off-peak ("low load hours") prices. The monthly price forecasts are transformed into hourly prices, one price for each hour of the test year, for use in MONET. The hourly market price represents the marginal cost of energy for each hour; that is, the cost to generate one megawatt-hour of energy at that hour. MONET compares this marginal cost to each generating unit's cost of generation (i.e., "production cost") for that hour. Based on that comparison, MONET will direct the unit to either generate to serve load, to generate to sell to the market, or to not generate and instead MONET will simulate a purchase from the market. NVPC represents the sum of the cost for these hourly decisions for the entire test year, so NVPC is highly dependent on the forecasted market prices.

Q. HOW OFTEN IS THE MARKET PRICE FORECAST UPDATED?

A. The Company provides their most recent Market Price Forecast with the initial (April) filing in each Annual Update Tariff (AUT) NVPC proceeding. The Company is allowed to revise the forecast to reflect the most recent data during each of the updates that occur throughout the AUT proceeding. These updates include the July Update, the October Update, and two updates in November.

Q. DOES STAFF HAVE A CONCERN REGARDING THE MOST RECENT MARKET PRICE FORECAST (MPF)?

A. Yes. Staff's original analysis of the most recent MPF was a simple comparison of the monthly forecast amounts in the 2015 initial filing with the final November filing from the previous AUT proceeding in Docket UE 266. Staff noticed a substantial increase in the proposed market prices on a monthly basis. To gain

further understanding, Staff conducted an analysis of the MPFs used in the last three AUT proceedings.

Q. PLEASE EXPLAIN THE NATURE OF THE ANALYSIS STAFF CONDUCTED.

A. Staff compared the hourly forecasted prices used in the previous three AUT proceedings with actual hourly prices at the Mid- Columbia trading hub[4] for the same time period. Staff calculated the variance between the forecasted hourly price and the actual hourly price for each hour over the three year period, and then averaged these variances on a monthly basis.

Q. DID THIS ANALYSIS REVEAL A TREND?

A. Yes. Staff concluded that there was a strong tendency in each of the three years studied for the Company to overestimate the average monthly forecasted market price. This result did not appear to be a single year anomaly but instead appears to be a systematic forecasting error that appears consistently in each month and each year of the study. Exhibit 102 to this testimony presents Staff findings in tabular form.

Q. IS STAFF SATISFIED THAT THREE YEARS OF DATA ARE ENOUGH TO BASE ITS ANALYSIS ON?

A. Staff believes that three years of hourly data is a large enough sample to determine a general trend. However, Staff understands that utilizing more data will provide greater accuracy in mathematically describing the trend. Staff intends to augment the existing data through discovery with at least three more

[4] Data supplied by the Company in response to ICNU data request No. 79 in UE 283. The Mid-Columbia is the reference trading hub for the Company's forecasted prices.

years of similar data which will verify and validate the trend identified at present. Staff expects to be able to better define the trend as this proceeding continues.

Q. HOW DOES STAFF PROPOSE TO USE THESE FINDINGS?

A. Staff proposes to apply the average monthly variance calculated in Exhibit 102 (Column E) to the Company's flat MPF. The result will be a new flat monthly price forecast for the 12 months of the test year. Staff proposes that the revised flat monthly price forecast be used to first create a peak ("high-load hours") and an off-peak ("low-load hours") monthly forecast in the same manner the Company derives its peak and off-peak forecast from the flat forecast. Staff proposes that these revised peak and off-peak forecasts then be used as the basis for the hourly price forecast which MONET can use for a new modeling run.

Q. HAS STAFF PRODUCED A MONET RUN WITH THE PROPOSED CHANGES FOR COMPARISON?

A. Yes. Using the same methodology the Company used, Staff applied the modified monthly MPF to create an hourly market price forecast.[5] Staff then performed a new modeling run of MONET reflecting the change in MPF.

Q. WHAT WAS THE RESULTING NVPC AND HOW DOES IT COMPARE TO THAT OF THE COMPANY'S ESTIMATE?

[5] Staff utilized the same HLH-to-flat and LLH-to-flat ratios as found in MONET's PCInput tab to create the HLH and LLH monthly forecasts. The monthly forecast was input into the Company's LYDIA model to create an hourly market forecast (the "Trading Curve Dispatch" table).

A. The resulting NVPC is approximately $578 million, a reduction of $16 million from the latest Company estimate (MONET Step 56ab).

III. NATURAL GAS PRICE FORECAST

Q. EXPLAIN THE SIGNIFICANCE OF THE NATURAL GAS PRICE FORECAST ON MONET MODELING AND THE CALCULATION OF NVPC.

A. The Natural Gas Price forecast (NGPF) is used to determine the production cost for all generation units that are fueled by natural gas. As explained previously in this testimony, the production cost for each unit is the element that MONET uses to determine whether a plant generates or not on an hourly basis. The sum of these hourly decisions has a significant impact on the overall annual NVPC.

Q. WHEN IS THE NGPF UPDATED?

A. The NGPF is first updated from the previous year's forecast in the initial filing of the proceeding. The NGPF is updated for each of the subsequent updates during the AUT.

Q. DID THE STAFF HAVE CONCERNS REGARDING THE INITIAL NGPF IN THIS PROCEEDING?

A. Yes. In a fashion similar to that described for the Market Price Forecast, Staff initially compared the proposed gas forecast with the last updated gas forecast from the prior year's proceedings in UE 266. The new NGPF appeared to be considerably higher than the forecast from November 2013. This raised concern since only three months had passed since that forecast was last updated and yet the price had changed as much as 30% or more for some months.[6]

[6] See Staff Exhibit 102.

Q. HOW DID STAFF TREAT THIS CONCERN?

A. As a result of the concern over this rise in NGPF, Staff pursued a similar comparison of AUT natural gas forecasted prices to actual gas prices for the last three AUT proceedings. In an analogous fashion to the MFP analysis, Staff conducted a month by month comparison[7] of Company forecasted gas prices with actual gas prices at four natural gas trading hubs.

Q. DID STAFF IDENTIFY A TREND?

A. Yes. Direct month-by-month comparison of actual natural gas prices at the four trading hubs[8] revealed a strong tendency for the Company to overestimate the forecast. This did not appear to be a single year anomaly but instead the overestimation was observed for all three years studied.

Q. IS THREE YEARS OF DATA ENOUGH TO ESTABLISH A TREND?

A. Staff believes that three years of data is enough to establish a trend. Staff understands that incorporating additional data will allow for a more accurate description of this trend. At this point in the proceeding, Staff has access only to the three years of data analyzed to date; however, Staff fully intends to gain access to several years of additional data through discovery as this proceeding continues. Staff will incorporate the additional data into the analysis to provide further quantification of the magnitude of variance between the company's forecasted prices and actual prices.

[7] The Company does not offer an hourly natural gas price as they do with market prices but instead MONET makes use of monthly average prices.
[8] AECO, Sumas, Rockies (Opal), and Malin.

Q. DOES STAFF HAVE A PROPOSAL TO CORRECT FOR THIS OVERESTIMATION IN THE NGPF?

A. Yes. In a similar fashion to correct for the market price forecast overestimation, Staff proposes that the monthly average variance, calculated over three years of observations, be applied to the Company's natural gas forecast, and the revised forecast be applied to a new MONET modeling run.

Q. HAS STAFF PRODUCED A MONET RUN WITH THE PROPOSED CHANGES FOR COMPARISON?

A. Yes. Staff applied the monthly average variance to the Company's monthly NGPF and created a revised NGPF. Staff re-ran the MONET model with the new gas forecast. Staff's new modeling run also incorporated the previously introduced changes to MPF discussed in section III of this testimony.

Q. WHAT WAS THE RESULTING NVPC FROM THE NEW MONET RUN AND HOW DOES IT COMPARE TO THE RESULT FROM STAFF'S PREVIOUS REVISED NVPC?

A. The new resulting NVPC was approximately $572 million, a reduction of $6 million from Staff's first revised NVPC. This value ($572 million) represents the cumulative sum of both of Staff's proposed changes.

Q. WHAT IS THE RESULT OF A MONET RUN USING ONLY THE REVISED NGPF WITH THE COMPANY'S ORIGINAL MARKET FORECAST?

A. The NVPC resulting from a MONET simulation with the original market forecast and only changing the gas forecast is approximately $581 million, a difference of -$13 million from the original NVPC.

Q. PLEASE EXPLAIN WHY THE REDUCTION IN NVPC DUE TO THE GAS FORECAST BY ITSELF IS $13 MILLION WHEN ONLY AN ADDITIONAL REDUCTION OF $6 MILLION IS REFLECTED WHEN COMBINED WITH THE REVISED MPF.

A. The cumulative change in NVPC resulting from a MONET run incorporating both forecast changes is smaller than the simple addition of individual results from two independent MONET runs, when only one forecast is changed at a time. This is due to the fact that the market prices and gas prices are correlated to some degree – that is, as gas prices rise, market prices will also rise, and vice versa. This interdependence of the two forecasts results in a cumulative effect which is somewhat less than the sum of the two effects calculated individually.

Q. IS THERE SOME VALUE IN SEPARATELY DETERMINING THE NVPC CHANGES DUE TO THE MPF AND THE NGPF?

A. Yes. Although it would be incorrect to simply add the two changes for an adjustment, it is useful to determine each change independently in order to estimate what percentage of the cumulative change (from the MONET results where both MPF and NGPF are modified) is due to the MPF and what percentage is due to the NGPF.

Q. PLEASE DEMONSTRATE HOW THAT ESTIMATE COULD BE CALCULATED.

A. The simple ratio of the change in NVPC due solely to the MPF divided by the simple sum of the change due to MPF PLUS the change due solely to the

NGPF shows the percentage of change due to the modified MPF. In numbers, the ratio of $16 million to ($16 million + $13 million) = $16/$29 = 55%. Likewise, the simple ratio of the change in NVPC due solely to the gas forecast divided by the simple sum of both NVPC changes yields the percentage change due solely to the NGPF. In numbers, the ratio of $13 million to $29 million yields the percentage change due solely to the gas forecast, or $13/$29 = 45%.

Q. HOW ARE THESE PERCENTAGES APPLIED?

A. The relative effect on the cumulative NVPC change due to the modified MPF can now be estimated by applying the percentages calculated above. In numbers, the relative effect of the MPF is 55% times the cumulative NVPC change, or 55% times $22 million = $12 million. Similarly, the relative effect of the NGPF on the cumulative NVPC change is 45% times $22 million, or about $10 million.

Q. HOW MIGHT THESE PERCENTAGE EFFECTS BE USED?

A. If the Commission decides that only one or the other forecasts should be revised, but not both, the Commission could use the values calculated above to estimate an adjustment to NVPC. If, on the other hand, the Commission decides to adopt both forecast revisions, it would be proper to use the cumulative adjustment as opposed to the simple sum of the two adjustments.

IV. SUMMARY

Q. WHAT ISSUES HAS STAFF IDENTIFIED IN THIS PROCEEDING TO DATE?

A. Staff has examined the MONET modeling changes and parameter changes suggested by the Company and takes no issue with most of these. However, Staff has identified a trend for the Company to forecast market prices and gas prices that prove to be substantially higher than actual prices. Staff understands that some error is inherent in any future-looking forecast. However, Staff also expects that any tendency to over-forecast will be balanced over time with a tendency to under-forecast. In other words, Staff would expect that any forecast will show an average variance tending towards zero. Staff is not concerned by any particular month or year being in error – Staff considers this reasonable – but instead Staff is concerned with the Company's trend to consistently forecast higher-than-actual power prices, and higher-than-actual natural gas prices.

Q. DO THESE TRENDS AFFECT OVERALL POWER COSTS?

A. Yes. From 2008 through 2012 (the year of the last filed Power Cost Adjustment Mechanism (PCAM) the Company's forecasted power costs have proven to be consistently higher than actual power costs for all years. Exhibit 103 presents a table comparing the power costs proposed for each year's AUT (or GRC) and the actual power costs for the same years.

Q. PLEASE EXPLAIN THE TERM "PCAM" USED IN EXHIBIT 103.

A. The PCAM is an annual filing made by the Company to "true-up" power costs by comparing the actual power costs for the year with those forecasted for the

same year through the AUT. The difference between the actual costs and the forecasted costs is subject to three adjustments that are in place to share risks between customers and the Company. After applying these adjustments, one of three outcomes is applied to rates – an over-collection in power costs is refunded to customers, an under-collection results in a one-year rate increase, or no action is taken.

Q. PLEASE SUMMARIZE THE RESULTS IN THE EXHIBIT 103.

A. Correcting for variations in load, PGE has over-collected for power costs each of the 5 years from 2008 through 2012. PGE uses the term “power cost variance”, or PCV, to refer to the difference between power costs collected through rates and actual power costs incurred by the Company. In the table, the annual PCV ranges from a low of about $12.4 million to a high of $34.3 million. These PCV values represent potential refunds to customers that were ultimately not refunded due to application of the PCAM deadband, sharing and earnings tests. The total potential refund to customers over this time period is about $112 million out of which $5.5 million was actually refunded after application of the various sharing mechanisms.

Q. HOW IS THIS RELATED TO THE ISSUES RAISED REGARDING THE MARKET AND NATURAL GAS PRICE FORECASTS?

A. The consistent trend to over-forecast the market and natural gas prices leads to a consistent trend to overestimate overall NVPC. It should be noted that the Company is allowed to actually collect this forecasted NVPC from customers. Under the rules of the PCAM the over-collection through rates is adjusted by

the sharing mechanisms to determine if a refund is due to customers. In four of the five years represented in the table, no refund was returned to customers.

Q. WHAT IS STAFF'S SUMMARY RECOMMENDATION REGARDING 2015 NVPC?

A. Staff recommends an adjustment of -$22 million to the Company's estimated NVPC of $594 million, resulting in a revised NVPC of $572, subject to methodological verification by the Company.

Q. ARE THERE ANY OTHER MATTERS THAT YOU WOULD LIKE TO RAISE?

A. Yes, the first concerns the load forecast and the second is more general and related to issues raised by other parties to this docket.

Q. PLEASE DESCRIBE THE CONCERN WITH THE LOAD FORECAST.

A. Under a stipulation adopted in Docket No. UE 228, the load forecast in the AUT does not include a price elasticity adjustment if the power cost filing results in a price change of less than three percent in absolute value. This provision of the stipulation seems intended to streamline the number of issues involved in a power costs review case.

Q. IS THERE A CONCERN REGARDING THIS STIPULATION PROVISION IN THE INSTANCES WHERE A GENERAL RATE CASE FILING OCCURS ALONG WITH A POWER COST FILING?

A. Yes. The UE 228 Stipulation does not apply to the load forecast in a general rate case and it is my understanding that Staff will likely recommend a price elasticity adjustment in Docket No. UE 283. This could result in different load forecasts being used in the power cost filing (under the restrictions of the UE

228 stipulation) and the general rate case. Further, the rationale underlying the UE 228 agreement regarding the price elasticity adjustment does not apply when the AUT filing is processed at the same time as a general rate filing. This is because it makes no sense to determine the effect the AUT price change will have on customers' behavior in isolation from other price changes happening at the same time. Instead, it makes sense to determine the appropriate elasticity adjustment to PGE's loads during the test year by taking into account the AUT rate change, the change from the general rate case, and any rate adders. In light of these concerns, Staff may wish to modify the UE 228 stipulation so that it does not apply to the load forecast in the power cost docket when a general rate case filing is processed at the same time as the power cost filing.

Q. WHAT OTHER MATTER WOULD YOU LIKE TO ADDRESS?

A. Staff anticipates that other parties to this docket will propose adjustments to PGE's forecasted power costs. Staff reserves the opportunity to testify regarding these adjustments in its next round of testimony.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

CASE: UE 286
WITNESS: JOHN CRIDER

PUBLIC UTILITY COMMISSION
OF
OREGON

STAFF EXHIBIT 101

Witness Qualification Statement

May 27, 2014

WITNESS QUALIFICATION STATEMENT

NAME: JOHN CRIDER

EMPLOYER: PUBLIC UTILITY COMMISSION OF OREGON

TITLE: SENIOR UTILITY ANALYST, ELECTRIC RESOURCES AND PLANNING

ADDRESS: 3930 Fairview Industrial Drive SE, SALEM, OR 97302

EDUCATION: Bachelor of Science, Engineering, University of Maryland

EXPERIENCE: I have been employed at the Oregon Public Utility Commission (Commission) since August of 2012. My current responsibilities include analysis and technical support for electric power cost recovery proceedings, with an emphasis on variable power costs and purchases from qualifying facilities. Prior to working for the OPUC I was an engineer in the Strategic Planning division for Gainesville Regional Utilities (GRU) in Gainesville, Florida. My responsibilities at GRU included analysis, design and support for generation economic dispatch modeling, wholesale power transactions, net metering, integrated resource planning, distributed solar generation and fuel (coal and natural gas) planning. Previous to working for GRU, I was a staff design engineer for Eugene Water & Electric Board (EWEB) where my responsibilities included design of control and communications system in support of water and hydro operations.

I am a registered professional engineer in both Oregon and Florida.

CASE: UE 286
WITNESS: JOHN CRIDER

PUBLIC UTILITY COMMISSION
OF
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STAFF EXHIBIT 102

Exhibits in Support
Of Opening Testimony

May 27, 2014

Exhibit 102 **Variance between Mid-C AUT Market Price forecast and actuals**

A	B	C	D	E
	Average [forecast-actual] ($/MWh)			AVG
Month	2011	2012	2013	2011-2013
January	8.17	5.98	6.05	$ 6.73
February	11.42	7.14	6.81	$ 8.46
March	12.85	11.77	-0.40	$ 8.07
April	6.87	15.82	2.80	$ 8.50
May	0.09	11.19	-2.62	$ 2.89
June	0.27	8.07	-12.91	$ (1.52)
July	9.26	17.98	1.35	$ 9.53
August	10.86	14.30	4.41	$ 9.86
September	6.70	10.89	5.95	$ 7.84
October	10.40	5.92	1.27	$ 5.86
November	8.06	8.89	3.59	$ 6.85
December	16.06	17.03	-6.45	$ 8.88
Average	$ 8.43	$ 11.27	$ 0.78	$ 6.83

Average 2011-2013 Natural Gas (Forecast-Actual)

HUB	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	AVG
Opal	0.28	0.42	0.48	0.30	0.19	0.22	0.25	0.39	0.37	0.28	0.41	0.39	0.33
AECO	0.01	0.19	0.24	0.07	-0.02	0.03	0.08	0.23	0.15	0.05	0.09	0.12	0.10
Sumas	0.50	0.59	0.50	0.29	0.18	0.25	0.33	0.52	0.48	0.25	0.48	0.39	0.40
Malin	0.25	0.44	0.46	0.29	0.20	0.24	0.24	0.43	0.38	0.29	0.40	0.38	0.33

Difference between 2015 AUT Natural Gas Curve and 2014 AUT Natural Gas Curve by month

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	39%	40%	34%	9%	11%	11%	8%	5%	6%	5%	10%	11%
% Difference	39%	39%	36%	10%	8%	9%	9%	9%	8%	7%	7%	8%
	31%	30%	28%	10%	9%	8%	7%	7%	7%	7%	7%	8%
	37%	35%	34%	14%	12%	11%	9%	8%	7%	8%	10%	11%

CASE: UE 286
WITNESS: JOHN CRIDER

PUBLIC UTILITY COMMISSION
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STAFF EXHIBIT 103

Exhibits in Support
Of Opening Testimony

May 27, 2014

Exhibit 103 **PGE Power Cost Forecast (AUT) vs. Actual (PCAM) 2008-2012** **($MILLIONS)**

PGE Power Cost

Year	AUT Docket	base NVPC Nov 15 Update ($Millions)*	PCAM	Direct Access Adjusted Base*	Actual	Load Adjusted Variance	After Deadband and share	After Earnings Test	
2008	UE192	745	UE211	685	647	31.8	16.1	0	
2009	UE198	848	UE221	820	793	16.7	0	0	
2010	UE208	784	UE232	766	716	12.4	0	0	
2011	UE 215	728	UE256	706	669	34.3	17.3	5.5	refund
2012	UE 228	703	UE274	687	650	16.9	1.7	0	
			Total			112.1		5.5	
						over collection		refund	

* The base net variable power cost is updated the final time before inclusion in rates on November 15 of the AUT year. The base NVPC is adjusted for the effect of Direct Access elections before being compared to actual collections. This adjustment is reflected in the difference between column "C" and column "F".

CERTIFICATE OF SERVICE

UE 286

I certify that I have, this day, served the foregoing document upon all parties of record in this proceeding by delivering a copy in person or by mailing a copy properly addressed with first class postage prepaid, or by electronic mail pursuant to OAR 860-001-0180, to the following parties or attorneys of parties.

Dated this 27th day of May, 2014 at Salem, Oregon

Kay Barnes

Kay Barnes
Public Utility Commission
3930 Fairview Industrial Drive SE
Salem, Oregon 97302
Telephone: (503) 378-5763

UE 286
SERVICE LIST

CITIZENS' UTILITY BOARD OF OREGON	
OPUC DOCKETS	610 SW BROADWAY, STE 400 PORTLAND OR 97205 dockets@oregoncub.org
ROBERT JENKS **(C)**	610 SW BROADWAY, STE 400 PORTLAND OR 97205 bob@oregoncub.org
G. CATRIONA MCCRACKEN **(C)**	610 SW BROADWAY, STE 400 PORTLAND OR 97205 catriona@oregoncub.org
DAVISON VAN CLEVE PC	
S BRADLEY VAN CLEVE **(C)**	333 SW TAYLOR - STE 400 PORTLAND OR 97204 bvc@dvclaw.com
DAVISON VAN CLEVE, PC	
TYLER C PEPPLE	333 SW TAYLOR SUITE 400 PORTLAND OR 97204 tcp@dvclaw.com
ENERGY STRATEGIES LLC	
KEVIN HIGGINS	215 STATE ST - STE 200 SALT LAKE CITY UT 84111-2322 khiggins@energystrat.com
MOUNTAIN WEST ANALYTICS	
BRADLEY MULLINS **(C)**	333 SW TAYLOR STE 400 PORTLAND OR 97204 brmullins@mwanalytics.com
NOBLE AMERICAS ENERGY SOLUTIONS, LLC	
GREG BASS	401 WEST A ST., STE. 500 SAN DIEGO CA 92101 gbass@noblesolutions.com
NORTHWEST NATURAL	
E-FILING	220 NW 2ND AVE PORTLAND OR 97209 efiling@nwnatural.com
MARK R THOMPSON	220 NW 2ND AVE PORTLAND OR 97209 mark.thompson@nwnatural.com
PACIFIC POWER	
SARAH WALLACE	825 NE MULTNOMAH ST STE 1800 PORTLAND OR 97232 sarah.wallace@pacificorp.com
PACIFICORP, DBA PACIFIC POWER	
OREGON DOCKETS	825 NE MULTNOMAH ST, STE 2000 PORTLAND OR 97232 oregondockets@pacificorp.com
PORTLAND GENERAL ELECTRIC	

DOUGLAS C TINGEY **(C)**	121 SW SALMON 1WTC1301 PORTLAND OR 97204 doug.tingey@pgn.com
JAY TINKER **(C)**	121 SW SALMON ST 1WTC-0702 PORTLAND OR 97204 pge.opuc.filings@pgn.com
PUBLIC UTILITY COMMISSION OF OREGON	
JOHN CRIDER **(C)**	PO BOX 1088 SALEM OR 97308-1088 john.crider@state.or.us
PUC STAFF--DEPARTMENT OF JUSTICE	
STEPHANIE S ANDRUS **(C)**	BUSINESS ACTIVITIES SECTION 1162 COURT ST NE SALEM OR 97301-4096 stephanie.andrus@state.or.us
MICHAEL T WEIRICH **(C)**	BUSINESS ACTIVITIES SECTION 1162 COURT ST NE SALEM OR 97301-4096 michael.weirich@state.or.us
RICHARDSON ADAMS, PLLC	
GREGORY M. ADAMS	PO BOX 7218 BOISE ID 83702 greg@richardsonadams.com