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May 21, 2013

Via Electronic Filing

OREGON PUBLIC UTILITY COMMISSION
ATTENTION: FILING CENTER
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**RE: Docket No. UE 266 – In the Matter of PORTLAND GENERAL
ELECTRIC COMPANY'S Net Variable Power Costs (NVPC) and Annual
Power Cost Update.**

Enclosed for electronic filing in the above-captioned docket is Joint Staff
Reply Testimony.

/s/ Mark Brown
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c: UE 266 Service List (parties)

**PUBLIC UTILITY COMMISSION
OF OREGON**

UE 266

JOINT STAFF REPLY TESTIMONY OF

**JOHN CRIDER
JORGE ORDONEZ**

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

May 21, 2013

CASE: UE 266

WITNESSES: John Crider &
Jorge Ordonez

**PUBLIC UTILITY COMMISSION
OF
OREGON**

STAFF EXHIBIT 100

Reply Testimony

May 21, 2013

1 **Q. PLEASE STATE YOUR NAME, OCCUPATION, AND BUSINESS**
2 **ADDRESS.**

3 A. My name is John Crider. I am employed by the Oregon Public Utility
4 Commission (OPUC) as a Senior Utility Analyst in the Energy Resources and
5 Planning Section of the Energy Division. My business address is 550 Capitol
6 Street NE, Suite 215, Salem, Oregon 97301-2551.

7 My name is Jorge Ordonez. I am employed by the Oregon Public Utility
8 Commission (OPUC) as a Senior Financial Economist in the Energy
9 Resources and Planning Section of the Energy Division. My business address
10 is 550 Capitol Street NE, Suite 215, Salem, Oregon 97301-2551. John Crider
11 and I will jointly address all issues in this testimony.

12
13 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND WORK**
14 **EXPERIENCE.**

15 A. Our Witness Qualification Statements are found in Exhibit Staff/101 and
16 Staff/102

17 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

18 A. The purpose of our testimony is to first summarize Portland General Electric's
19 (PGE or Company) 2014 Net Variable Power Costs (NVPC) filing; then to

1 comment on two issues¹ regarding the updates of parameters of PGE's NVPC
2 forecast for 2013 and proposed modeling changes.

3 **Q. HOW IS YOUR TESTIMONY ORGANIZED?**

4 A. Our testimony is organized as follows:

- 5 I. Summary recommendation
- 6 II. Summary of PGE's 2014 NVPC filing
- 7 III. Emission Control Chemicals
- 8 IV. Wind Day-Ahead Forecast Error Cost

9 **I. SUMMARY RECOMMENDATION**

10 **Q. PLEASE SUMMARIZE YOUR RECOMMENDATION.**

11 A. Staff recommends that the Commission conclude that with the exception of the
12 Company's proposed July update to its cost estimate for wind day-ahead
13 forecast error, the Company's updates and changes to its MONET model are
14 reasonable. Staff recommends that the Commission reject PGE's proposed
15 July update because it will be based on a different methodology than the value
16 included in the initial filing and will come after Staff and interveners last round
17 of testimony in this docket.

18
19 **SUMMARY OF PGE'S 2014 NVPC FILING**

20 **Q. PLEASE EXPLAIN PGE'S 2014 NVPC FILING**

¹ The two issues are: the inclusion of emission control chemicals in NVPC rather than in O&M expenses; and the intention to include in the July filing the cost estimate of wind day-ahead forecast error based on PGE's wind integration study.

1 A. Since PGE has filed its 2014 NVPC filing concurrently with a general rate case
2 (GRC) proceeding, the Company has included in its filing, not only the
3 parameter revisions allowed under PGE's AUT (Tariff Schedule 125), but also
4 MONET model changes and updates.

5 **Q. WHAT MODEL CHANGES AND UPDATES DOES THE COMPANY**
6 **PROPOSE IN ITS INITIAL FILING**

7 A. PGE proposed the following changes and updates:

- 8 1. the use of a five-year rolling average when forecasting wind energy;
- 9 2. the use of MONET's dynamic programming model for dispatching coal
10 plants similar to the modeling of gas-fired resources;
- 11 3. the use of monthly values of variable operation and maintenance
12 expenses for dispatching purposes;
- 13 4. the update of MONET's modeling of ancillary services;
- 14 5. the inclusion in PGE's hydro data of the latest Pacific Northwest
15 Coordination Agreement (PNCA) Headwater Benefits study;
- 16 6. the inclusion of emission control chemicals in NVPC rather than in O&M
17 expenses;
- 18 7. the inclusion of the biomass test burn at the Boardman plant scheduled
19 for the second quarter of 2014; and
- 20 8. an update of the previously-used cost estimate of wind day-ahead
21 forecast error based on PGE's wind integration study.

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

1 A. Staff considers the above changes and updates reasonable. However Staff
2 would like to comment on the two following changes/updates:

- 3 1. the inclusion of emission control chemicals in NVPC rather than in O&M
4 expenses (Emission Control Chemicals); and
- 5 2. PGE's intention to include in its July filing the cost estimate of wind day-
6 ahead forecast error based on PGE's wind integration study (Wind Day-
7 Ahead Forecast Error).

8 II. EMISSION CONTROL CHEMICALS

9 Q. WHAT ARE STAFF'S COMMENTS ABOUT THE EMISSION CONTROL 10 CHEMICALS

11 A. The cost recovery treatment for the emission control chemicals at the
12 Company's coal plants has been previously vetted in the 2012 NVPC
13 proceeding Docket No. UE 250. However, inclusion of these costs in the
14 previous case would have necessitated a change in the rules related to
15 allowable AUT updates² and such rule changes are not allowed in a stand-
16 alone AUT. Since this AUT is concurrent with a general rate case, the AUT
17 methodology may be modified in order to include these costs. Similarly,
18 modifications to the AUT to allow the modeling upgrades which produce
19 dynamic changes in coal plant dispatch and variable O&M are allowed in this
20 case because of the concurrent GRC filing. These two modeling changes, as
21 well as the inclusion of costs for emission control chemicals, provide a more
22 precise and realistic simulation of PGE's generation operations. Therefore,

² *In the Matter of PGE Request for a General Rate Revision, Docket UE 180, Order No. 07-015*

1 Staff recommends that the Commission approve the proposed change in
2 methodology regarding the inclusion of emission control chemicals.

3
4 **III. WIND DAY-AHEAD FORECAST ERROR**

5 **Q. PLEASE EXPLAIN THE COSTS ASSOCIATED WITH WIND**
6 **INTEGRATION.**

7 A. Wind integration costs are typically classified into four categories based on the
8 length of time a load-resource imbalance exists and how long the response
9 time of the generation system is to recover from the imbalance.

10 Very short duration imbalances (on the order of minutes) and their associated
11 costs are considered "regulation" integration. As the time duration lengthens,
12 costs are associated with "load following", "hourly imbalance" and "day-ahead
13 error." Typical industry practice is to associate a separate integration cost with
14 each component of wind integration. The cost for each component is a
15 measure of the cost of providing the necessary capacity on the system to
16 respond to the load-resource imbalance within the various time-frames.

17 **Q. HOW DOES PGE PROPOSE TO PROVIDE WIND INTEGRATION?**

18 A. According to the MFR's, PGE plans to provide wind integration through two
19 means. PGE elects to contract services to balance load-resource for the
20 "regulation," "load following," and "hourly imbalance" components through BPA
21 at the BPA Variable Energy Resource Balancing Service (VERBS) rate. PGE
22 proposes to self-integrate for the day-ahead component. The costs associated

1 with service from BPA and PGE's self-provided integration service are included
2 in MONET as two separate cost inputs.

3 **Q. WHAT IS THE BPA VERBS RATE?**

4 A. BPA currently is in the process of revising its rate structure. The current
5 MONET estimate based on BPA proposed rates is \$1.14 per kilowatt-month.

6 **Q. WHAT DID THE COMPANY PROPOSE REGARDING THE WIND DAY-
7 AHEAD FORECAST ERROR?**

8 A. The Company is proposing to self-integrate for the day-ahead imbalance. The
9 Company's initial filing has assumed a value of \$0.50 per MWh as a cost for
10 this self service. This value is unchanged from all previous power cost dockets
11 dating from 2009. The Company has proposed to update this value based on
12 the result of its updated Wind Integration Study. The Company plans to provide
13 this value in a July update.

14 **Q. IS THE COMPANY'S APPROACH TO CALCULATING WIND INTEGRATION
15 COSTS GENERALLY REASONABLE?**

16 A. Yes. As was discussed in the 2012 AUT (Docket UE 250), Staff concludes that
17 the Wind Integration Study is based on sound methodology and allows for
18 reasonably accurate separation and calculation of the wind integration cost
19 components. The Study is consistent with industry practice and has been peer-
20 reviewed throughout its development.

21 **Q. SHOULD THE REVISED DAY-AHEAD WIND INTEGRATION VALUE BE
22 INCLUDED IN THIS AUT WHEN AVAILABLE IN THE JULY UPDATE?**

1 A. No. Although Staff believes the general methodology is sound, Staff also
2 believes that the final value for day-ahead error cost resulting from the updated
3 Wind Integration Study needs to be vetted before it can be accepted as
4 accurate. Staff believes that all Parties should have ample opportunity to
5 perform discovery and analyze the inputs to the study for accuracy. It is likely
6 that a substantial change in the day-ahead forecast error cost will have
7 significant impact in net variable power cost. Introducing such a relevant
8 change after the time for staff and intervenors to file testimony does not allow a
9 reasonable time for Parties to perform the necessary analysis.

10 **Q. IS REJECTING PGE'S PROPOSED JULY UPDATE THE ONLY OPTION TO**
11 **ADDRESS STAFF'S CONCERN REGARDING OPPORTUNITY TO REVIEW?**

12 A. No. As an alternative, the administrative law judge could modify the schedule
13 so that the surrebuttal testimony of staff and intervenors is due after the July
14 update. Staff believes this alternative is preferable because the cost for wind
15 day-ahead forecast error would be based on fresh data rather than the value
16 used in AUTs since 2009.

17 **Q. DO YOU HAVE ANY OTHER ISSUES REGARDING THE COMPANY'S**
18 **WIND INTEGRATION PROPOSALS?**

19 A. Yes. The Company has indicated during discovery³ that reliability and
20 economic analyses were performed before the decision to select integration
21 choices was made – choosing BPA for regulation, load following and intra-hour
22 imbalance, and choosing self-integration for day-ahead imbalance. However,

³ Company response to RNP DR #2

1 these analyses have not been presented as evidence in this case and as a
2 result Parties have not had the opportunity to independently examine the
3 analyses and the corresponding cost results. It is possible that Staff will have
4 recommendations regarding the treatment of these integration costs after it has
5 had opportunity to review the pertinent PGE analysis.

6 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

7 A. Yes.

8

CASE: UE 266

WITNESSES: John Crider &
Jorge Ordonez

**PUBLIC UTILITY COMMISSION
OF
OREGON**

STAFF EXHIBIT 101

Witness Qualification Statement

May 21, 2013

WITNESS QUALIFICATION STATEMENT

NAME: JOHN CRIDER

EMPLOYER: PUBLIC UTILITY COMMISSION OF OREGON

TITLE: SENIOR UTILITY ANALYST, ELECTRIC RESOURCES AND PLANNING

ADDRESS: 550 CAPITOL ST. NE, SALEM, OR 97308-2148

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, 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 266

WITNESSES: John Crider &
Jorge Ordonez

**PUBLIC UTILITY COMMISSION
OF
OREGON**

STAFF EXHIBIT 102

Witness Qualification Statement

May 21, 2013

WITNESS QUALIFICATION STATEMENT

NAME Jorge D. Ordonez

EMPLOYER Public Utility Commission of Oregon

TITLE Senior Financial Economist, Energy Resources and Planning Section

ADDRESS 550 Capitol Street NE, Suite 215, Salem, Oregon 97301-2115

EDUCATION AND TRAINING

Utility Management Certificate
Willamette University, Oregon, 2008

Certificate in Management of Hydropower Development
Swedish International Development Cooperation Agency, Sweden,
2006 & South Africa, 2007

Fulbright Scholar, MBA, concentration in finance
Willamette University, Oregon, 2005

Certificate in Project Appraisal and Management
Maastricht School of Management, Netherlands, 2002

BS, Mechanical Engineering, thermal power efficiency
Electrical & Mechanical Engineering School
San Antonio Abad University, Peru, 1998

EXPERIENCE

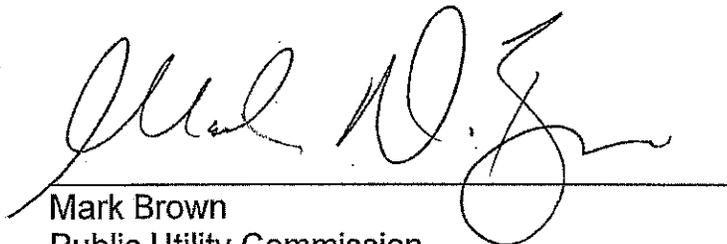
I received a Bachelors of Science degree in Mechanical Engineering from San Antonio Abad University in Cusco, Peru in 1998. Subsequently, as a Fulbright Scholar, I received an MBA with an emphasis in finance from Willamette University in 2005. From 1999 to 2008, I worked for a Peruvian power generation company and was promoted many times, working as an Engineer, Resource Scheduler, Manager of Economic Planning and Vice-President of Generation, Commercial and Trading. Since January 2009, I have been employed by the Public Utility Commission of Oregon as a Senior Financial Economist, evaluating utilities' issuance of securities, cost of capital, mergers and acquisitions, cost studies, rate spread and rate design, integrated resource plans, and power costs.

CERTIFICATE OF SERVICE

UE 266

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 21st day of May 2013 at Salem, Oregon.

A handwritten signature in black ink, appearing to read "Mark Brown", is written over a horizontal line. The signature is cursive and stylized.

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