

BEFORE THE OREGON PUBLIC UTILITY COMMISSION

UE 250 & UE 251

In the Matter of)
)
PORTLAND GENERAL ELECTRIC)
)
)
2013 Annual Update Tariff)
 (UE 250))
and)
)
Annual Power Cost Update;)
Advice No. 12-08, Schedules 125 and 126 to)
include chemical costs associated with the)
Boardman plant's pollution control)
requirements.)
 (UE 251))

OPENING TESTIMONY OF MICHAEL C. DEEN

ON BEHALF OF

THE INDUSTRIAL CUSTOMERS OF NORTHWEST UTILITIES

July 6, 2012

1 **I. INTRODUCTION AND SUMMARY**

2 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

3 **A.** My name is Michael C. Deen, and my business address is 900 Washington Street, Suite
4 780, Vancouver, Washington 98660. I am employed by Regulatory and Cogeneration
5 Services, Inc. (“RCS”), a utility rate and consulting firm.

6 **Q. PLEASE DESCRIBE YOUR BACKGROUND AND EXPERIENCE.**

7 **A.** I have been involved in the electric utility industry for about 6 years. During that time, I
8 have served as an analyst and expert on a variety of power supply, cost, ratemaking, and
9 policy topics, primarily regarding the Bonneville Power Administration and other utilities
10 in the Pacific Northwest. I have also testified before the Washington Utilities and
11 Transportation Commission in proceedings related to Puget Sound Energy, Avista, and
12 PacifiCorp. I recently provided testimony before the Oregon Public Utility Commission
13 (the “Commission” or “OPUC”) in PacifiCorp’s currently active UE 245 Transition
14 Adjustment Mechanism and UE 246 General Rate Adjustment dockets. A further
15 description of my educational background and work experience can be found in Exhibit
16 ICNU/101.

17 **Q. ON WHOSE BEHALF ARE YOU APPEARING IN THIS PROCEEDING?**

18 **A.** I am testifying on behalf of the Industrial Customers of Northwest Utilities (“ICNU”).
19 ICNU is a non-profit trade association whose members are large industrial customers
20 served by electric utilities throughout the Pacific Northwest, including Portland General
21 Electric Company (“PGE” or the “Company”).

1 **Q. PLEASE BRIEFLY SUMMARIZE YOUR RECOMMENDATIONS IN THIS**
2 **PROCEEDING.**

3 **A.** This testimony will address changes to the level of the Company’s Net Variable Power
4 Costs (“NVPC”) proposed in this proceeding in two areas. These are the proposed
5 changes in costs associated with day-ahead wind forecast error, and chemical costs
6 related to environmental controls at the Boardman coal facility. ICNU recommends that
7 the Commission exclude all of these costs from the Company’s NVPC in this proceeding.
8 The effect on the Company’s allowed NVPC in this proceeding for these changes is as
9 follows:

NVPC Adjustments (Millions)	
Item	NVPC Impact
Boardman Pollution Controls	\$3.1
Wind Integration (Day Ahead)	\$4.3
Total	\$7.4

10 The remainder of this testimony discusses the scope and background of the Annual
11 Update Tariff (“AUT”) in its current form and why the Commission should exclude these
12 particular costs from the Company’s NVPC in this proceeding.

13 **II. AUT PROCEEDING BACKGROUND AND SCOPE**

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15 **PROCESS CAME INTO EFFECT AND ITS PURPOSE.**

16 **A.** The AUT updates PGE’s rates each year to reflect changes in NVPC. The current AUT
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15 2. Under these particular circumstances, the parties agreed to open a new docket to
16 address “all of the issues related to PGE’s NVPC, including its AUT filing.” Id.

17 **Q. PLEASE DISCUSS THE IMPORTANCE OF THESE LIMITATIONS ON**
18 **CHANGES TO THE SCOPE OF THE AUT PROCESS.**

19 **A.** The limits of the AUT process are extremely important to provide the Company’s
20 customers with proper procedural protections in the rate setting process. As discussed
21 above, the AUT is intended to address a narrow set of issues related to the Company’s
22 NVPC. Given the limited scope, it is granted a faster procedural schedule with less
23 opportunity for parties to analyze and provide commentary on the Company’s costs.
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7 III. BOARDMAN POLLUTION CONTROL COSTS

8 **Q. PLEASE DISCUSS THE COMPANY'S PROPOSAL IN THIS PROCEEDING**
9 **REGARDING POLLUTION CONTROL COSTS AT THE BOARDMAN PLANT.**

10 **A.** As described in PGE/100, pages 10-14, PGE is proposing to expand the scope of the
11 AUT to include costs of pollution control chemicals at the Boardman plant in its NVPC.
12 The Company is proposing two distinct pollution control measures for inclusion in rates
13 in this proceeding. The first is a mercury emissions control system using activated
14 carbon and calcium bromide injection first implemented by the Company in 2011. The
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18 **A.** Neither of these measures is currently included in rates. The mercury control system is
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20 Company has no current mechanism to defer the costs of the sulfur dioxide control
21 mechanism.

1 **Q. DOES ICNU AGREE WITH THE COMPANY'S PROPOSAL TO EXPAND THE**
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3 **COMPANY'S NVPC?**

4 **A.** No. ICNU strongly opposes the Company's proposed treatment of these costs. As
5 described earlier in this testimony, updates to the scope of costs included in the AUT
6 updates of the NVPC should be strictly limited to the factors described in Schedule 125
7 outside the context of a general rate proceeding. The amounts at issue in this proceeding
8 are relatively limited (although certainly not inconsequential to customers); however,
9 regardless of the magnitude, the precedent is extremely important to consider. If the
10 Commission were to allow an expansion of the scope of costs that may be changed in this
11 proceeding, it would create a slippery slope for consumers. Further, ICNU does not
12 believe the AUT is the appropriate context to review the level and prudence of the
13 Company's pollution control costs. This is due to the fact that considering the prudence
14 of pollution control costs requires an overall consideration of the Company's resource
15 portfolio and options for meeting its load and environmental obligations. The AUT is
16 intended to be a straightforward update proceeding and is not well suited to this type of
17 review. Due to my understanding of the limited nature of the AUT, I have not conducted
18 such a comprehensive prudence analysis.

19 In addition, the pollution control costs are not considered part of NVPC. Simply,
20 chemical pollution control costs are not listed amongst the allowable cost updates to
21 NVPC in Schedule 125 (as listed early in this testimony). To add chemical costs would
22 require an update to Schedule 125 that is only permissible in a general rate proceeding.

1 **Q. PLEASE SUMMARIZE ICNU'S RECOMMENDATION REGARDING THE**
2 **COMPANY'S PROPOSED POLLUTION CONTROL COSTS IN THIS**
3 **PROCEEDING.**

4 **A.** The Commission should deny the Company's inclusion of the proposed pollution control
5 costs in NVPC in this proceeding. These costs are more appropriately considered in the
6 context of a general rate case, and expansion of the cost categories that may be updated in
7 the AUT would be a dangerous precedent for consumers. The Company should continue
8 deferring the costs of its mercury emissions control costs, as it is currently doing. The
9 combined impact on NVPC of removing these items from this proceeding is
10 approximately \$3.1 million.

11 **IV. WIND INTEGRATION DAY-AHEAD FORECAST ERROR**

12 **Q. PLEASE DESCRIBE THE COMPANY'S PROPOSAL WITH REGARD TO**
13 **WIND INTEGRATION DAY-AHEAD FORECAST ERROR IN THIS**
14 **PROCEEDING.**

15 **A.** As described in Exhibit No. PGE/100, pages 9-10, the Company is proposing to update
16 the level of costs included in Monet to account for day-ahead forecast error of wind
17 resources. The current level of \$0.50 per MWh was established by stipulation in Docket
18 No. UE 198, Order No. 08-505, Appendix A at 3. The Company is proposing to update
19 this value to \$3.44 per MWh based on PGE's most recent Wind Integration Study
20 published with the Company's Integrated Resource Plan Update of November 23, 2011,
21 Docket No. LC 48.

22 **Q. WHAT RATIONALE HAS THE COMPANY PROVIDED FOR UPDATING THIS**
23 **COST ESTIMATE?**

24 **A.** The Company's rationale for updating the stipulated value is that the Wind Integration
25 Study has now advanced to the point of having such an estimate. Further, the Company
26 asserts that the study was reviewed by stakeholders and a panel of outside experts.

1 **Q. PLEASE SUMMARIZE HOW PGE'S WIND INTEGRATION STUDY**
2 **ESTIMATES THE COST OF DAY-AHEAD WIND FORECAST ERROR.**

3 **A.** PGE's methodology for this estimation is described fully in its Wind Integration Study,
4 which was included as Exhibit No. PGE/103. PGE assumes that the difference between
5 day-ahead and hour-ahead wind schedules will lead to sub-optimal resource
6 commitments by the Company. To attempt to isolate this cost, the Company ran a
7 scenario which did not include its day-ahead forecast error for wind integration and
8 compared those power costs to its base case scenario, which included the full range of
9 load and wind variations considered in the Wind Integration Study.

10 **Q. DOES ICNU AGREE THAT THIS VALUE SHOULD BE UPDATED IN THIS**
11 **PROCEEDING?**

12 **A.** No. As a threshold matter, ICNU does not believe that this update falls within any of the
13 eight allowable update categories for the AUT. For this reason alone, similar to the
14 previously discussed environmental upgrade costs, ICNU believes it is essential for the
15 Commission to reject this proposal. PGE's proposed change is a significant revision and
16 increase that should only be considered in a general rate case.

17 **Q. DOES ICNU HAVE OTHER CONCERNS WITH INCLUDING THIS VALUE**
18 **FROM THE COMPANY'S WIND INTEGRATION STUDY AS PART OF THE**
19 **NVPC DETERMINATION?**

20 **A.** Yes. ICNU objects both to the use of the specific value derived from the Company's
21 Wind Integration Study and also to the inclusion of day-ahead forecast error for wind in
22 general.

23 **Q. PLEASE DESCRIBE YOUR GENERAL CONCERNS.**

24 **A.** Fundamentally, the Company is attempting to place a value on a particular type of
25 uncertainty for which it does not actually incur any costs. In other words, day-ahead

1 wind uncertainty is not, for example, like a wind-integration charge paid to another utility
2 balancing authority. The Company does not even hold out reserves to deal explicitly
3 with the uncertainty of wind on a day-ahead basis. It is a hypothetical isolation of just
4 one of many sources of uncertainty in the Company's day-to-day operations, which
5 include myriad factors such as load and weather uncertainty, resource performance,
6 transmission availability, and others. The Company has attempted to isolate one such
7 factor in a sensitivity analysis outside the power cost modeling of the case and then
8 include it as an ad hoc addition to costs without any offsetting benefit to consumers.
9 PGE has not attempted to account for other isolated factors that lower costs, or account
10 for how the totality of all these factors impact its costs. Loads and resources are
11 constantly changing, and customers should only be charged if the total costs of balancing
12 increase.

13 Power cost modeling is an attempt to create an expected value for the costs of
14 operating a utility's resources. It will never be a perfect simulation of all the factors that
15 go into actual real-time operations. Including ad hoc adjustments in favor of the
16 Company without offsetting benefits to ratepayers is inappropriate. This is especially
17 true in a case like this one, where PGE is actually over-recovering its projected power
18 costs. Clearly, on balance the Company's power supply modeling is adequate to allow
19 cost recovery without adding additional hypothetical costs. If PGE incurs actual costs, a
20 portion of these prudently incurred costs can be recovered through the Company's
21 PCAM.

1 **Q. WHAT ISSUES DO YOU SEE WITH THE SPECIFIC WIND INTEGRATION**
2 **STUDY VALUE IN THIS CASE?**

3 **A.** In addition to the general objections just discussed, ICNU has several specific concerns
4 with the particular value from the Wind Integration Study. Although the Company's
5 approach has some theoretical merit, it is unclear, what if, any application the calculated
6 day-ahead uncertainty value has for power costs in this case and rate year. As described
7 in the study, the Company relies heavily on market purchases to balance differences
8 between day-ahead and hour-ahead schedules. As such, the hypothetical costs of day-
9 ahead scheduling uncertainty for wind will be highly dependent on market prices. The
10 Company has not attempted to compare or validate that the market values in the Wind
11 Integration Study are comparable to market values projected in the rate year. Also, the
12 Company has not made an attempt to compare the results of its modeled day-ahead
13 forecast error with historical experience. This type of validation is essential, particularly
14 in the case of trying to isolate a somewhat nebulous opportunity cost. Given that this is a
15 limited AUT proceeding, ICNU has not conducted a full analysis of all the potential
16 concerns with PGE's Wind Integration Study, which should occur in a general rate case.

17 **Q. PLEASE SUMMARIZE ICNU'S RECOMMENDATION REGARDING DAY-**
18 **AHEAD WIND INTEGRATION COSTS IN THIS PROCEEDING.**

19 **A.** The Commission should exclude this update, on the basis that it falls outside the scope of
20 allowable NVPC updates in an AUT proceeding. The Commission should further
21 exclude the update on the basis that the general approach of including one-sided, ad hoc
22 additions to power costs for hypothetical costs is problematic. Finally, the update should
23 be excluded, because the Company has not shown the particular appropriateness of the
24 Wind Integration Study sensitivity analysis in the context of the 2013 NVPC at issue in
25 this case.

1 Q. DOES THIS CONCLUDE YOUR TESTIMONY?

2 A. Yes.

Davison Van Cleve PC

Attorneys at Law

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Portland, OR 97204

July 6, 2012

Via Electronic and U.S. Mail

Public Utility Commission
Attn: Filing Center
550 Capitol St. NE #215
P.O. Box 2148
Salem OR 97308-2148

Re: In the Matter of PORTLAND GENERAL ELECTRIC COMPANY
2013 Annual Power Cost Update Tariff (Schedule 125) AND Annual Power Cost
Update; Advice No. 12-08, Schedules 125 and 126 to include chemical costs
associated with the Boardman plant's pollution control requirements.
Docket Nos. UE 250 & UE 251

Dear Filing Center:

Enclosed please find an original and five (5) copies of the Opening Testimony of
Michael C. Deen on behalf of the Industrial Customers of Northwest Utilities in the above-
referenced docket. Thank you for your attention to this matter.

Sincerely yours,

/s/ Maxwell B. Beach
Maxwell B. Beach

Enclosures

cc: Service List

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that I have this day served the foregoing Opening Testimony of Michael C. Deen on behalf of the Industrial Customers of Northwest Utilities upon the parties, on the service list, by causing the same to be deposited in the U.S. Mail, postage-prepaid, and via electronic mail where paper service has been waived.

Dated at Portland, Oregon, this 6th day of July, 2012.

/s/ Maxwell B. Beach
Maxwell B. Beach

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12 believe the AUT is the appropriate context to review the level and prudence of the
13 Company's pollution control costs. This is due to the fact that considering the prudence
14 of pollution control costs requires an overall consideration of the Company's resource
15 portfolio and options for meeting its load and environmental obligations. The AUT is
16 intended to be a straightforward update proceeding and is not well suited to this type of
17 review. Due to my understanding of the limited nature of the AUT, I have not conducted
18 such a comprehensive prudence analysis.

19 In addition, the pollution control costs are not considered part of NVPC. Simply,
20 chemical pollution control costs are not listed amongst the allowable cost updates to
21 NVPC in Schedule 125 (as listed early in this testimony). To add chemical costs would
22 require an update to Schedule 125 that is only permissible in a general rate proceeding.

1 **Q. PLEASE SUMMARIZE ICNU'S RECOMMENDATION REGARDING THE**
2 **COMPANY'S PROPOSED POLLUTION CONTROL COSTS IN THIS**
3 **PROCEEDING.**

4 **A.** The Commission should deny the Company's inclusion of the proposed pollution control
5 costs in NVPC in this proceeding. These costs are more appropriately considered in the
6 context of a general rate case, and expansion of the cost categories that may be updated in
7 the AUT would be a dangerous precedent for consumers. The Company should continue
8 deferring the costs of its mercury emissions control costs, as it is currently doing. The
9 combined impact on NVPC of removing these items from this proceeding is
10 approximately \$3.1 million.

11 **IV. WIND INTEGRATION DAY-AHEAD FORECAST ERROR**

12 **Q. PLEASE DESCRIBE THE COMPANY'S PROPOSAL WITH REGARD TO**
13 **WIND INTEGRATION DAY-AHEAD FORECAST ERROR IN THIS**
14 **PROCEEDING.**

15 **A.** As described in Exhibit No. PGE/100, pages 9-10, the Company is proposing to update
16 the level of costs included in Monet to account for day-ahead forecast error of wind
17 resources. The current level of \$0.50 per MWh was established by stipulation in Docket
18 No. UE 198, Order No. 08-505, Appendix A at 3. The Company is proposing to update
19 this value to \$3.44 per MWh based on PGE's most recent Wind Integration Study
20 published with the Company's Integrated Resource Plan Update of November 23, 2011,
21 Docket No. LC 48.

22 **Q. WHAT RATIONALE HAS THE COMPANY PROVIDED FOR UPDATING THIS**
23 **COST ESTIMATE?**

24 **A.** The Company's rationale for updating the stipulated value is that the Wind Integration
25 Study has now advanced to the point of having such an estimate. Further, the Company
26 asserts that the study was reviewed by stakeholders and a panel of outside experts.

1 **Q. PLEASE SUMMARIZE HOW PGE'S WIND INTEGRATION STUDY**
2 **ESTIMATES THE COST OF DAY-AHEAD WIND FORECAST ERROR.**

3 **A.** PGE's methodology for this estimation is described fully in its Wind Integration Study,
4 which was included as Exhibit No. PGE/103. PGE assumes that the difference between
5 day-ahead and hour-ahead wind schedules will lead to sub-optimal resource
6 commitments by the Company. To attempt to isolate this cost, the Company ran a
7 scenario which did not include its day-ahead forecast error for wind integration and
8 compared those power costs to its base case scenario, which included the full range of
9 load and wind variations considered in the Wind Integration Study.

10 **Q. DOES ICNU AGREE THAT THIS VALUE SHOULD BE UPDATED IN THIS**
11 **PROCEEDING?**

12 **A.** No. As a threshold matter, ICNU does not believe that this update falls within any of the
13 eight allowable update categories for the AUT. For this reason alone, similar to the
14 previously discussed environmental upgrade costs, ICNU believes it is essential for the
15 Commission to reject this proposal. PGE's proposed change is a significant revision and
16 increase that should only be considered in a general rate case.

17 **Q. DOES ICNU HAVE OTHER CONCERNS WITH INCLUDING THIS VALUE**
18 **FROM THE COMPANY'S WIND INTEGRATION STUDY AS PART OF THE**
19 **NVPC DETERMINATION?**

20 **A.** Yes. ICNU objects both to the use of the specific value derived from the Company's
21 Wind Integration Study and also to the inclusion of day-ahead forecast error for wind in
22 general.

23 **Q. PLEASE DESCRIBE YOUR GENERAL CONCERNS.**

24 **A.** Fundamentally, the Company is attempting to place a value on a particular type of
25 uncertainty for which it does not actually incur any costs. In other words, day-ahead

1 wind uncertainty is not, for example, like a wind-integration charge paid to another utility
2 balancing authority. The Company does not even hold out reserves to deal explicitly
3 with the uncertainty of wind on a day-ahead basis. It is a hypothetical isolation of just
4 one of many sources of uncertainty in the Company's day-to-day operations, which
5 include myriad factors such as load and weather uncertainty, resource performance,
6 transmission availability, and others. The Company has attempted to isolate one such
7 factor in a sensitivity analysis outside the power cost modeling of the case and then
8 include it as an ad hoc addition to costs without any offsetting benefit to consumers.
9 PGE has not attempted to account for other isolated factors that lower costs, or account
10 for how the totality of all these factors impact its costs. Loads and resources are
11 constantly changing, and customers should only be charged if the total costs of balancing
12 increase.

13 Power cost modeling is an attempt to create an expected value for the costs of
14 operating a utility's resources. It will never be a perfect simulation of all the factors that
15 go into actual real-time operations. Including ad hoc adjustments in favor of the
16 Company without offsetting benefits to ratepayers is inappropriate. This is especially
17 true in a case like this one, where PGE is actually over-recovering its projected power
18 costs. Clearly, on balance the Company's power supply modeling is adequate to allow
19 cost recovery without adding additional hypothetical costs. If PGE incurs actual costs, a
20 portion of these prudently incurred costs can be recovered through the Company's
21 PCAM.

1 **Q. WHAT ISSUES DO YOU SEE WITH THE SPECIFIC WIND INTEGRATION**
2 **STUDY VALUE IN THIS CASE?**

3 **A.** In addition to the general objections just discussed, ICNU has several specific concerns
4 with the particular value from the Wind Integration Study. Although the Company's
5 approach has some theoretical merit, it is unclear, what if, any application the calculated
6 day-ahead uncertainty value has for power costs in this case and rate year. As described
7 in the study, the Company relies heavily on market purchases to balance differences
8 between day-ahead and hour-ahead schedules. As such, the hypothetical costs of day-
9 ahead scheduling uncertainty for wind will be highly dependent on market prices. The
10 Company has not attempted to compare or validate that the market values in the Wind
11 Integration Study are comparable to market values projected in the rate year. Also, the
12 Company has not made an attempt to compare the results of its modeled day-ahead
13 forecast error with historical experience. This type of validation is essential, particularly
14 in the case of trying to isolate a somewhat nebulous opportunity cost. Given that this is a
15 limited AUT proceeding, ICNU has not conducted a full analysis of all the potential
16 concerns with PGE's Wind Integration Study, which should occur in a general rate case.

17 **Q. PLEASE SUMMARIZE ICNU'S RECOMMENDATION REGARDING DAY-**
18 **AHEAD WIND INTEGRATION COSTS IN THIS PROCEEDING.**

19 **A.** The Commission should exclude this update, on the basis that it falls outside the scope of
20 allowable NVPC updates in an AUT proceeding. The Commission should further
21 exclude the update on the basis that the general approach of including one-sided, ad hoc
22 additions to power costs for hypothetical costs is problematic. Finally, the update should
23 be excluded, because the Company has not shown the particular appropriateness of the
24 Wind Integration Study sensitivity analysis in the context of the 2013 NVPC at issue in
25 this case.

1 Q. DOES THIS CONCLUDE YOUR TESTIMONY?

2 A. Yes.

BEFORE THE OREGON PUBLIC UTILITY COMMISSION

In the Matter of)
)
PORTLAND GENERAL ELECTRIC)
)
2013 Annual Update Tariff)
 (UE 250))
and)
)
Annual Power Cost Update;)
Advice No. 12-08, Schedules 125 and 126 to)
include chemical costs associated with the)
Boardman plant's pollution control)
requirements.)
 (UE 251))
_____)

EXHIBIT ICNU/101

QUALIFICATIONS OF MICHAEL C. DEEN

July 6, 2012

1 **QUALIFICATION STATEMENT OF**
2 **MICHAEL C. DEEN**
3 **WITNESS FOR INDUSTRIAL CUSTOMERS OF NORTHWEST UTILITIES**

4 **Q. PLEASE STATE YOUR NAME, EMPLOYER AND BUSINESS ADDRESS.**

5 **A.** My name is Michael Deen. I am employed by Regulatory and Cogeneration
6 Services, Inc. ("RCS"). RCS is a utility rate and consulting firm. My business
7 address is 900 Washington Street, Suite 780, Vancouver, WA 98660.

8 **Q. PLEASE STATE YOUR EDUCATIONAL BACKGROUND.**

9 **A.** I received a B.A. in Psychology from Reed College in May 2006. I have
10 completed coursework in statistics, data analysis, research design, and economics.

11 **Q. PLEASE SUMMARIZE YOUR PROFESSIONAL EXPERIENCE.**

12 **A.** After graduating from Reed, I was employed as a Research Analyst at
13 McCullough Research, a consulting firm in Portland, Oregon specializing in
14 energy policy and litigation support. While at McCullough Research, my duties
15 included the modeling and analysis of both Western and national energy markets.
16 I also provided analysis for use in several proceedings surrounding Enron's role in
17 the Western Energy Crisis of 2000-2001.

18 From November 2007, through July 2011, I was employed as a policy
19 analyst at the Public Power Council ("PPC"). PPC is a non-profit trade
20 association representing the interests of consumer-owned utilities buying
21 wholesale power and transmission services from the Bonneville Power
22 Administration ("BPA"). At PPC, I worked extensively on computer modeling
23 relating to the Residential Exchange Program and other BPA rate issues. I also
24 provided analysis and commentary for PPC in a variety of BPA processes. I also

1 was involved in modeling efforts surrounding the potential economic impacts of
2 various greenhouse gas mitigation proposals on Western electricity markets.

3 **Q. PLEASE STATE YOUR EXPERIENCE AS A WITNESS IN PREVIOUS**
4 **PROCEEDINGS.**

5 **A.** I have previously testified in the BPA WP-07 Supplemental, WP-10, TR-10, BP-
6 12 and REP-12 rate proceedings. I have also testified on behalf of ICNU before
7 the Washington Utilities and Transportation Commission in proceedings
8 regarding Puget Sound Energy, PacifiCorp, and Avista. I recently testified before
9 the Oregon Public Utility Commission in the PacifiCorp UE 245 Transition
10 Adjustment Mechanism and UE 246 General Rate Revision dockets.

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