

**EXHIBIT NO. ___(DEM-5CT)
DOCKET NO. UE-141141
2014 PSE PCORC
WITNESS: DAVID E. MILLS**

**BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

**WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION,**

Complainant,

v.

PUGET SOUND ENERGY, INC.,

Respondent.

Docket No. UE-141141

**PREFILED SUPPLEMENTAL DIRECT TESTIMONY
(CONFIDENTIAL) OF DAVID E. MILLS
ON BEHALF OF PUGET SOUND ENERGY, INC.**

**REDACTED
VERSION**

AUGUST 1, 2014

PUGET SOUND ENERGY, INC.

**PREFILED SUPPLEMENTAL DIRECT TESTIMONY
(CONFIDENTIAL) OF DAVID E. MILLS**

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PUGET SOUND ENERGY, INC.

**PREFILED SUPPLEMENTAL DIRECT TESTIMONY
(CONFIDENTIAL) OF DAVID E. MILLS**

I. INTRODUCTION

Q. Are you the same David E. Mills who provided prefiled direct testimony in this docket on behalf of Puget Sound Energy, Inc. (“PSE”)?

A. Yes, I filed prefiled direct testimony, Exhibit No. ____ (DEM-1CT), and three supporting exhibits, Exhibit No. ____ (DEM-2) through Exhibit No. ____ (DEM-4C).

Q. What is the nature of your prefiled supplemental direct testimony in this proceeding?

A. This prefiled supplemental direct testimony updates PSE’s requested rate decrease and the projected rate year power costs presented in my prefiled direct testimony, Exhibit No. ____ (DEM-1CT), and supporting exhibits thereto, for changes that have occurred since the original filing on May 23, 2014. This prefiled supplemental direct testimony updates the following issues relevant to both this power cost only rate case (“PCORC”) and power costs for this proceeding’s rate year December 1, 2014 through November 30, 2015 (the “rate year”):

- (i) an update to PSE’s requested rate change;
- (ii) an update to PSE’s projected rate year power costs for this proceeding, including changes in the underlying resources and resource assumptions available to PSE to meet customer demand; and

1 (iii) the sale of the Electron Hydroelectric Project (the “Electron
2 Project”) as discussed in the prefiled supplemental direct
3 testimony of Ms. Katherine J. Barnard, Exhibit
4 No. ____ (KJB-9T).

5 **II. UPDATE TO REQUESTED RATE CHANGE**

6 **Q. What rate change is PSE requesting in this supplemental filing?**

7 A. Due to an increase in projected rate year power costs since PSE’s initial filing in
8 this case, PSE is proposing to decrease rates for electric customers by \$5.5 million,
9 rather than the \$9.6 million decrease proposed in its initial filing. The \$5.5
10 million reflects an average 0.261 percent decrease in the rates associated with
11 PSE’s electric power cost adjustment mechanism (“PCA”) in PSE’s 2013 power
12 cost only rate case, Docket Nos. UE-130617, *et al.* (the “2013 PCORC”), that
13 became effective on November 1, 2013. Please see the prefiled supplemental
14 direct testimony of Ms. Katherine J. Barnard, Exhibit No. ____ (KJB-9T) for a
15 discussion of the revenue requirement calculation.

16 **III. UPDATE TO PROJECTED POWER COSTS**

17 **Q. Please summarize the update to projected power costs provided in this**
18 **prefiled supplemental direct testimony.**

19 A. Projected rate year net power costs in this supplemental filing are
20 \$757.8 million—a \$6.0 million increase from the originally filed power costs of
21 \$751.7 million and a \$23.4 million increase from amounts set in current rates.

1 Please see Exhibit No. ____ (DEM-6) and Exhibit No. ____ (DEM-7C) for the
2 updated rate year power costs. As discussed in the prefiled supplemental direct
3 testimony of Ms. Katherine J. Barnard, Exhibit No. ____ (KJB-9T), PSE has
4 updated the revenue requirement to reflect these updated power costs.

5 **Q. Has PSE reconciled the projected power costs filed on May 23, 2014, to the**
6 **updated projected power costs?**

7 A. Yes. Please see Exhibit No. ____ (DEM-6) and Exhibit No. ____ (DEM-7C) for a
8 comparison of the updated rate year power cost projections to those originally
9 filed in this proceeding and to those currently reflected in rates.

10 Table 1 below also presents the changes to projected power costs for the rate year
11 since those originally filed May 23, 2014.

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Table 1. 2014 PCORC Rate Year Power Cost Forecast
2014 PCORC Power Costs Projections - AURORA + Not in Models
Rate Year December 1, 2014 through November 30, 2015
(dollars are in thousands)

	AURORA	Not in Models	Total	Load (MWhs)
As-Filed Power Costs – 4.10.14 prices	\$513,140	\$238,604	\$751,744	22,932,513
Gas Price & Gas for Power Hedges Update	\$7,596	(\$2,409)	\$5,187	
Power Hedges Update	(\$1,037)	\$1,308	\$271	
Electron Project sold & replaced with Electron PPA	\$2,957	\$0	\$2,957	
Contract Updates for Point Roberts and WNP-3	(\$1,050)	\$0	(\$1,050)	
BPA 2016 Rate Case Update	\$0	(\$584)	(\$584)	
Transmission Reassignments	\$0	(\$367)	(\$367)	
Mid-C Contract costs	\$0	(\$407)	(\$407)	
Other	\$14	\$0	\$14	
Total Change to Power Costs	\$8,480	(\$2,459)	\$6,020	0
Supplemental Power Costs – 6.19.14 prices	\$521,620	\$236,145	\$757,765	22,932,513

Q. How did PSE update projected power costs for the rate year?

A. As shown in Table 1 above, projected power costs changed as PSE updated forward market gas prices and PSE resource assumption inputs to the AURORA hourly dispatch model. Additionally, PSE updated cost projections outside of the AURORA model to reflect these and other changes as noted below. PSE made these updates to rate year power costs to reflect current changes in power cost assumptions and inputs from those proposed in my prefiled direct testimony. This update is intended to provide current information in a timely manner in accordance with the final order in PSE’s 2011 GRC, in which the Commission stated as follows:

The Commission consistently strives to reflect the most recent operating and market conditions when setting power costs. In tandem with that aim, is the Company’s responsibility to provide

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an informed record in a timely manner.¹

Q. What changes did PSE make to the AURORA model database for this supplemental filing?

A. PSE updated the AURORA model database for:

- (i) the three-month average forward gas prices at June 19, 2014² and the short-term rate year power hedges as of the same date;
- (ii) rate year contract prices and/or volumes for the following purchase power contracts for:
 - (a) the power purchase agreement between PSE and Electron Hydro LLC (“Electron Hydro”) related to the Electron Hydroelectric Project (the “Electron PPA”),
 - (b) the WNP-3 Bonneville Power Administration (“BPA”) Exchange agreement with BPA (the “WNP-3 Exchange Agreement”), and
 - (c) an update for the renewal of the purchased power agreement with Powerex to serve Point Roberts, Washington (“Point Roberts PPA”).

As shown above and in Exhibit No. ____ (DEM-7C), the AURORA modeled power costs for the rate year increased \$8.5 million from the power costs filed on May 23, 2014, due to these updates.

¹ *WUTC v. Puget Sound Energy, Inc.*, Docket Nos. UE-111048 and UG-111049, Order 08 at ¶ 262 (May 7, 2012).
² PSE used a gas price cutoff date of April 20, 2014 in the prefiled direct testimony filed May 23, 2014 .

1 **Q. What changes did PSE make to forecast power costs outside of the AURORA**
2 **model?**

3 A. PSE adjusted costs outside of the AURORA model—the Not-in-Models costs—to
4 reflect:

- 5 (i) the mark-to-market calculation for gas for power
6 contracts that were in place at June 19, 2014;
- 7 (ii) updated forecast transmission costs to include rate
8 updates from BPA’s upcoming 2016 Wholesale Power
9 and Transmission Rate Adjustment Proceeding (the
10 “BPA 2016 Rate Case”);
- 11 (iii) updates for transmission reassignment revenues to reflect
12 additional months of actual information;
- 13 (iv) updated rate year budget information for PSE’s Mid-
14 Columbia (“Mid-C”) contract with the Public Utility
15 District No. 1 of Douglas County, Washington
16 (“Douglas PUD”) for the output from the Wells
17 Hydroelectric Project;
- 18 (v) updated rate year power costs with the Public Utility
19 District No. 2 of Grant County, Washington (“Grant
20 PUD”) for output from the Wanapum and Priest Rapids
21 Hydroelectric Projects to reflect the updated rate year
22 power price forecast; and
- 23 (vi) other power cost updates.

24 As shown in Exhibit No. ____ (DEM-7C), these changes decreased costs outside of
25 the AURORA model (i.e., the Not-in-Models costs) by \$2.5 million.

1 **A. Natural Gas Price Update**

2 **Q. What natural gas prices did PSE use for the rate year in running its**
3 **AURORA model for this supplemental filing?**

4 A. PSE used a three-month average of daily forward market gas prices for the rate
5 year for each trading day in the three-month period ending June 19, 2014. PSE
6 input these data and the rate year fixed-price short-term power contracts in place
7 at June 19, 2014 into the AURORA model for each of the months in the rate year.
8 This is the same methodology as described in my prefiled direct testimony,
9 Exhibit No. ____ (DEM-1CT).

10 For purposes of comparison, the updated average price at Sumas for the rate year
11 is \$4.39/MMBtu. This updated average price is \$0.15/MMBtu higher than the
12 average price of \$4.24/MMBtu used in PSE's original filing on May 23, 2014,
13 which used a three-month average of daily forward market gas prices for the rate
14 year for each trading day in the three-month period ending April 10, 2014. The
15 AURORA modeled rate year power cost increased by \$7.6 million as a result of
16 this update.

17 **Q. Did updating the rate year natural gas prices affect the mark-to-market**
18 **calculation in Not in Models?**

19 A. Yes. PSE also updated the projected power costs outside of the AURORA model
20 to reflect fixed-price natural gas contracts and any premiums and discounts
21 associated with index power and gas for power contracts that are in place at June

1 19, 2014. The Not in Models mark-to-market adjustment represents (i) the
2 difference between the fixed price of the short-term gas for power contracts and
3 forward gas prices, and (ii) the benefit of firm gas transportation contracts. The
4 updated Not in Models mark-to-market adjustment decreased costs for the rate
5 year by \$2.4 million, which increased the total mark-to-market benefit from a
6 credit of \$16.2 million (as included in the direct filing on May 23, 2014) to a
7 credit of \$18.6 million (as included in this supplemental filing).

8 **Q. Please explain the change to forecast power costs caused by the update to**
9 **rate year gas prices.**

10 A. The rate year power costs were increased by approximately \$5.5 million to reflect
11 the three-month average forward gas prices at June 19, 2014. This routine update
12 includes updates to

- 13 (i) the AURORA model for the more recent gas prices and
14 fixed-price short-term rate year power contracts in place
15 at the pricing date, and
- 16 (ii) the Not-in-Models costs to reflect the updated forecast
17 gas prices, the more current fixed-price short-term
18 natural gas for power contracts and index-based power
19 and gas for power contracts, and an adjustment to
20 correct the price of March 2015 fixed priced off-peak
21 power contracts that were incorrect in the AURORA
22 model.

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B. Contract Updates

1. Electron PPA

Q. Please discuss the rate year contract update included in the AURORA model related to the Electron PPA.

A. To reflect the anticipated sale of the Electron Project to Electron Hydro, PSE replaced the Electron Project as an owned resource with a contract resource in the AURORA model to reflect the Electron PPA between PSE and Electron Hydro. Please see the prefiled supplemental direct testimony of Katherine J. Barnard, Exhibit No. ___(KJB-9T), for a discussion of the sale of the Electron Project.

Accordingly, the AURORA model now reflects the rate year forecast generation, costs and planned maintenance for the Electron PPA. The rate year Electron PPA generation forecast uses the 70-year historical westside streamflow records (1929 through 1998) to be consistent with PSE’s Mid-C generation forecast methodology. PSE has limited the Electron PPA forecast generation to consider the Electron Project’s current and expected capacity limitations and reflects Electron Hydro’s planned maintenance. The effect of including the Electron PPA in the AURORA model increased power costs \$3.0 million.

1 **2. WNP-3 Exchange Agreement**

2 **Q. Please discuss the rate year contract update included in the AURORA model**
3 **related to the WNP-3 Exchange Agreement.**

4 A. PSE has updated the AURORA model contract rates and volumes to reflect the
5 preliminary annual update to the WNP-3 Exchange Agreement, which decreased
6 the volumes available under this contract and increased the cost per megawatt
7 hour (“MWh”). Because the final update for this contract has historically not
8 changed from the draft, PSE is updating power costs at this time and will also
9 provide the final updated contract information when received in August 2014.
10 Rate year power costs decreased approximately \$0.4 million for this contract
11 update.

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12 **3. Point Roberts PPA**

13 **Q. Please discuss the rate year contract update included in the AURORA model**
14 **related to the Point Roberts PPA.**

15 A. As discussed in my prefiled direct testimony in this proceeding, Exhibit No.
16 (DEM-1CT), PSE’s current five-year contract with [REDACTED] expires September
17 30, 2014 and provides for up to 8 megawatts (“MW”) at a cost of [REDACTED] per
18 MWh. PSE is continuing negotiations with [REDACTED] to [REDACTED] the Point Roberts
19 PPA with [REDACTED] for a [REDACTED] term and has updated the projected cost per
20 megawatt hour to a more recent estimate of [REDACTED], a [REDACTED] from the original
21 estimate of [REDACTED] per MWh. PSE expects to finalize this contract in August

1 2014 and will provide the final updated contract information later in this
2 proceeding. Rate year power costs decreased approximately \$0.6 million for this
3 contract update.

4 In total, the rate year power costs decreased \$1.0 million due to the latter two
5 contract updates discussed above.

6 **C. BPA Transmission Costs**

7 **Q. Are there changes to the rate year BPA transmission rates that are presented**
8 **in Not in Models?**

9 A. Yes. PSE has updated rate year transmission rates to represent more recent
10 information from BPA's upcoming rate proceeding. As discussed in my prefiled
11 direct testimony, BPA will be conducting a combined power and transmission rate
12 proceeding to set new transmission and ancillary services rates for BPA's fiscal
13 years 2016-2017 (effective October 1, 2015, through September 30, 2016). My
14 prefiled direct testimony provided BPA's then-projected transmission rate
15 increase on its Network segment of 9.7 percent, effective October 1, 2015.

16 **Q. Has BPA provided an updated projected rate increase on its Network**
17 **segment?**

18 A. Yes. In mid-June 2014, BPA provided an updated projected rate increase on its
19 Network segment of 6.1 percent for the upcoming rate proceeding. PSE has
20 included BPA's projected transmission rate increase of 6.1 percent, effective
21 October 1, 2015, in the pro forma transmission costs included in the rate year

1 power cost forecast. These BPA proposed rate increases have increased PSE's
2 projected power costs by \$1.1 million, which is \$0.6 million less than the
3 \$1.7 million projected power cost increase presented in my prefiled direct
4 testimony.

5 **D. Clymer 1MW Transmission Contract Addition**

6 **Q. Please explain the contract addition for Clymer.**

7 A. Clymer is a PSE load remote to PSE's transmission system that requires BPA
8 firm transmission for delivery of energy. There are currently no near-term
9 alternatives to BPA transmission for service to this load, so last year, and as
10 approved in PSE's 2013 PCORC, PSE exercised its rollover rights with BPA for a
11 4 MW five-year contract. Earlier this month, PSE increased the capacity to serve
12 this load by 1 MW, to a total of 5 MW, which increased rate year power costs
13 approximately \$21,000.

14 **E. Other Power Cost Updates**

15 **Q. Please describe the other updates to the rate year power costs.**

16 A. PSE's other updates to power costs include power cost items that update
17 automatically in the MS Excel files whenever prices are updated or a new
18 AURORA model run download is included in the files. These other power cost
19 updates reduced power costs by an immaterial amount less than \$5,000.

IV. CONCLUSION

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2 **Q. Does this conclude your prefiled supplemental direct testimony?**

3 **A. Yes, it does.**