

**EXHIBIT NO. ___(WJE-20CT)
DOCKET NOS. UE-090704/UG-090705
2009 PSE GENERAL RATE CASE
WITNESS: W. JAMES ELSEA**

**BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

**WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION,**

Complainant,

v.

PUGET SOUND ENERGY, INC.,

Respondent.

**Docket No. UE-090704
Docket No. UG-090705**

**PREFILED SUPPLEMENTAL TESTIMONY (CONFIDENTIAL) OF
W. JAMES ELSEA
ON BEHALF OF PUGET SOUND ENERGY, INC.**

REDACTED

AUGUST 25, 2009

PUGET SOUND ENERGY, INC.

**PREFILED SUPPLEMENTAL TESTIMONY (CONFIDENTIAL) OF
W. JAMES ELSEA**

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1 **PUGET SOUND ENERGY, INC.**

2 **PREFILED SUPPLEMENTAL TESTIMONY (CONFIDENTIAL) OF**
3 **W. JAMES ELSEA**

4 **I. INTRODUCTION**

5 **Q. Are you the same W. James Elsea who provided prefiled direct testimony in**
6 **this proceeding on May 8, 2009, on behalf of Puget Sound Energy, Inc.**
7 **(“PSE” or “the Company”)?**

8 A. Yes.

9 **Q. What is the purpose of your supplemental testimony?**

10 A. Since providing my prefiled direct testimony, Exhibit No. ___(WJE-1HCT), I
11 have discovered some modeling errors with the Portfolio Screening Models
12 (“PSM”) provided in my workpapers that support the resource acquisition
13 analysis described in that testimony. This supplemental testimony explains and
14 corrects these modeling errors and provides updated analysis results. As
15 discussed below, the effect of these corrections on the analysis results are minor
16 and largely immaterial. In addition, with this supplemental testimony PSE is
17 filing corrected workpapers and several additional workpaper files inadvertently
18 omitted from the original filing.

1 **II. DESCRIPTION OF THE MODELING ERRORS IN THE**
2 **PSM**

3 **Q. How did you discover these errors in the PSM?**

4 A. PSE scheduled two meetings with Commission Staff (on August 4, 2009, and
5 August 6, 2009) to explain the logic structure and operation of the PSM submitted
6 as part of workpapers supporting my prefiled direct testimony. Another analyst
7 and I reviewed the details of the PSM in preparation for those meetings. In the
8 process of replicating the original work, we discovered one model error and one
9 model inconsistency. At the August 6, 2009 meeting, we discussed with
10 Commission Staff these modeling issues and how the correction of these issues
11 affects the preliminary resource acquisition results.

12 **Q. What is the modeling error discovered by PSE?**

13 A. The PSM uses the baseline portfolio cost (also called the “all generic” portfolio
14 cost) to compute the incremental portfolio benefit or cost of a generation resource
15 or contract. The Current Trends scenario of PSM 11-3 contained an incorrect
16 baseline portfolio cost. Specifically, cell C15 of the Evaluation Summary tab in
17 the Current Trends scenario of PSM 11-3 contained an incorrect baseline
18 portfolio cost of \$15,337,516,000, whereas the correct baseline portfolio cost is
19 \$15,338,181,000. In other words, the Current Trends scenario of PSM 11-3
20 understated the baseline portfolio cost by approximately \$665,000.

21 The correct baseline portfolio cost of \$15,338,181,000 is calculated when the “all

1 generic” portfolio of resources in the Current Trends PSM is dispatched against
2 the power and gas prices contained in the model. The “all generic” PSM was
3 inadvertently not dispatched one final time prior to using the output value, and
4 this failure caused the modeling error.

5 **Q. What is the modeling inconsistency discovered by PSE?**

6 A. Some, but not all, of the Current Trends scenario of PSM 11-3 files are missing
7 one hour of power price input data in the first hour after midnight on April 16,
8 across all years. Unlike the human error that caused the modeling error described
9 above, this missing data appears to be caused by a problem in the replication of
10 the extremely large (over 80 megabytes) PSM files. Because this missing data
11 occurred inconsistently across models, the impact of correcting the error on the
12 measured portfolio cost or benefit is not constant across resources evaluated.

13 **Q. Has PSE discovered other errors in the PSM?**

14 A. Yes. The combined hydro generation data is missing one hour of data in a similar
15 manner that the power price data was missing a row of data. The missing hydro
16 data on the Combined Hydro Tab is for January 11, from 9 to 10 a.m. across all
17 years. The difference with the missing power price data is that the one hour of
18 hydro data is missing in all PSMs, including the “all generic” base cost models.
19 Because the PSMs for “all generic” resources and PSMs for evaluated resources
20 each have the same missing data, the relative portfolio benefits remain
21 unchanged. In addition to the change being immaterial, there would be no

1 relative cost differences between resources evaluated.

2 **Q. What models and evaluations has PSE revised to correct for the modeling**
3 **error and the modeling inconsistency?**

4 A. PSE found the baseline generic portfolio cost error in the Current Trends scenario
5 of PSM 11-3 only. The Green World, High Capital, Low Capital, and Low
6 Growth scenarios of PSM 11-3 did not contain the baseline generic portfolio cost
7 error. PSE has also corrected the missing one hour of power price data for the
8 Current Trends scenario of PSM 11-3 because those models were the ones that
9 required correction of the baseline generic portfolio cost error. Correction of this
10 modeling inconsistency proved to be immaterial to the results of the Current
11 Trends scenario of PSM 11-3. Due to this immateriality, PSE decided not to
12 correct the missing price data that may have occurred in the Green World, High
13 Capital, Low Capital, and Low Growth scenarios of PSM 11-3 because correction
14 of this inconsistency would not likely affect the results.

15 In all, PSE has corrected twenty-three models. Of these, thirteen are from PSE's
16 Phase II evaluation of the Candidate Short List and ten are Current Trends
17 scenario of PSM 11-3 runs that PSE conducted subsequent to the RFP. Please see
18 Table 1 below for a list of the twenty-three models corrected by PSE.

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Table 1. Revised Models

RFP Phase II Analysis		Post RFP Analysis	
801	Wind PPA	Post RFP	Barclays PPA
803	Wind PPA	Post RFP	Market PPA
809	Wind Own	Post RFP	Market PPA
825	Gas Tolling	Post RFP	Credit Suisse
826	Gas Tolling	Post RFP	Market PPA
829	Gas Peaker	Post RFP	Market PPA
831.09	Gas Purchase	Post RFP	Fredonia 3 and 4
831.12	Gas Purchase	Post RFP	Gas Peaker
834	Mint Farm	Post RFP	Wild Horse Expansion
875e	Market PPA	Post RFP	Wind PPA
875g	Barclays PPA		
875h	Market PPA		
881e	Market PPA		

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**III. THE EFFECTS OF CORRECTING THE MODELING
ERROR AND MODELING INCONSISTENCY IN THE
CURRENT TRENDS SCENARIO OF PSM 11-3 PSM ARE
MINOR AND LARGELY IMMATERIAL**

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Q. What is the result of correcting the modeling error described above?

A. As described above, the correct baseline portfolio cost of \$15,338,181,000 is approximately \$665,000 higher than the incorrect baseline portfolio cost of \$15,337,516,000. Therefore, correction of this modeling error improves the portfolio benefit metrics of all tested resources, including the portfolio benefit and portfolio benefit ratio of the individual resources tested in Phase 2 of the RFP analysis. This error did not affect the levelized cost of the resources evaluated.

1 **Q. What is the result of correcting the modeling inconsistency described above?**

2 A. The impact of replacing the missing one hour of power price data in those files
3 where the data were missing was to increase portfolio power purchase cost by
4 about \$0.47 million for those files. Because the missing price data was only one
5 off-peak hour in April, the impact, if any, on levelized costs of resources or PPAs
6 was immaterial—a decrease in levelized cost of less than \$0.002 per MWh.

7 **Q. What changes to the prefiled direct testimony are necessary because of the**
8 **corrections to the Current Trends scenario of PSM 11-3?**

9 Mint Farm

10 A. Page 27 of Exhibit No. ___(WJE-1HCT) states that, when compared to an “all
11 generic” portfolio of resources, the Mint Farm Energy Center has a projected net
12 present value portfolio benefit of \$45 million, a projected levelized cost of
13 \$█/MWh, and a projected benefit ratio of 0.05. The corrections to the Current
14 Trends scenario of PSM 11-3 increase the Mint Farm Energy Center projected
15 portfolio benefit from \$45 million to \$45.2 million, but the levelized cost and the
16 benefit ratio remain unchanged. Please see Table 2 below for a comparison of the
17 Mint Farm Energy Center metrics before and after the corrections to the Current
18 Trends scenario of PSM 11-3.

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Table 2. Mint Farm Energy Center

	PSM Results Filed on May 8, 2009	Revised PSM Results
Levelized Cost	\$█/MWh	\$█/MWh
Portfolio Benefit	\$45 million	\$45.2 million
Benefit Ratio	0.05	0.05

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Barclays PPA

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Page 33 of Exhibit No. ____ (WJE-1HCT) states that, when compared to an “all generic” portfolio of resources, the Barclays PPA has a projected net present value portfolio benefit of \$26.9 million, a projected levelized cost of

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\$█/MWh, and a projected benefit ratio of 0.57. The corrections to the Current

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Trends scenario of PSM 11-3 increase the Barclays PPA projected portfolio

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benefit from \$26.9 million to \$27.6 million and increase the Barclays PPA

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projected benefit ratio from 0.57 to 0.58. Please see Table 3 below for a

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comparison of the Barclays PPA metrics before and after the corrections to the

11

Current Trends scenario of PSM 11-3.

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Table 3. Barclays PPA

	PSM Results Filed on May 8, 2009	Revised PSM Results
Levelized Cost	\$█/MWh	\$█/MWh
Portfolio Benefit	\$26.9 million	\$27.6 million
Benefit Ratio	0.57	0.58

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1 Wild Horse Wind Project Expansion

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2 Pages 38-40 of Exhibit No. ___(WJE-1HCT) state that, when compared to an “all
3 generic” portfolio of resources, the Wild Horse Wind Project Expansion has a
4 projected net present value portfolio benefit of \$3 million and a projected levelized
5 cost of \$█/MWh. The corrections to the Current Trends scenario of PSM 11-3
6 increase the Wild Horse Wind Project Expansion projected portfolio benefit from
7 \$3 million (rounded down from \$3.1 million) to \$3.8 million. Please see Table 4
8 below for a comparison of the Wild Horse Wind Project Expansion metrics before
9 and after the corrections to the Current Trends scenario of PSM 11-3.

10 **Table 4. Wild Horse Wind Project Expansion**

	PSM Results Filed on May 8, 2009	Revised PSM Results
Levelized Cost	\$█/MWh	\$█/MWh
Portfolio Benefit	\$3 million	\$3.8 million
Benefit Ratio	.03	.04

11 Credit Suisse Market PPA

12 Page 43 of Exhibit No. ___(WJE-1HCT) states that, when compared to an “all
13 generic” portfolio of resources, the Credit Suisse replacement of the Lehman
14 Market PPA (“Credit Suisse Market PPA”) has a projected net present value
15 portfolio benefit of \$5.057 million, a projected levelized cost of \$█/MWh,
16 and a projected benefit ratio of 0.0511. The corrections to the Current Trends
17 scenario of PSM 11-3 increase the Credit Suisse Market PPA projected portfolio

1 benefit from \$5.057 million to \$5.722 million and increase the Credit Suisse
2 Market PPA portfolio ratio from 0.0511 to 0.0578. Please see Table 5 below for a
3 comparison of the Credit Suisse Market PPA metrics before and after the
4 corrections to the Current Trends scenario of PSM 11-3.

5 **Table 5. Credit Suisse Market PPA**

	PSM Results Filed on May 8, 2009	Revised PSM Results
Levelized Cost	\$ [REDACTED]/MWh	\$ [REDACTED]/MWh
Portfolio Benefit	\$5.057 million	\$5.722 million
Benefit Ratio	0.0511	0.0578

6 **IV. ADDITIONAL WORKPAPERS SUBMITTED**

7 **Q. What additional workpapers are you submitting at this time?**

8 A. As previously mentioned, some workpaper files were inadvertently omitted from
9 PSE's original filing. With this filing, PSE is submitting these additional
10 workpaper files to the Commission and the parties to this proceeding. The files
11 are contained on Disk #8, labeled "WJE-WP (HC) Supplemental" and include the
12 following: i) two MS Excel files used in the preparation of gas transportation
13 costs used in Phase I of the RFP analysis; ii) four summary MS Excel files used to
14 prepare some of the charts shown in Exhibit No. ___(RG-3HC); iii) RFP Phase II
15 "all generic" PSM 11-3 files for the five scenarios of Current Trends, Green
16 World, High Capital, Low Capital and Low Growth, and iv) a PSM 11-3 for Mint
17 Farm with clean-up of several cells unrelated to analysis results.

[REDACTED]

V. CONCLUSION

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2 Q. Does this conclude your supplemental testimony?

3 A. Yes, it does.