

**EXHIBIT NO. \_\_\_(MM-1HCT)  
DOCKET NO. UE-13 \_\_\_  
2013 PSE PCORC  
WITNESS: MICHAEL MULLALLY**

**BEFORE THE  
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

**WASHINGTON UTILITIES AND  
TRANSPORTATION COMMISSION,**

**Complainant,**

**v.**

**PUGET SOUND ENERGY, INC.,**

**Respondent.**

**Docket No. UE-13 \_\_\_**

**PREFILED DIRECT TESTIMONY (HIGHLY CONFIDENTIAL) OF  
MICHAEL MULLALLY  
ON BEHALF OF PUGET SOUND ENERGY, INC.**

**REDACTED  
VERSION**

**APRIL 25, 2013**

**PUGET SOUND ENERGY, INC.**

**PREFILED DIRECT TESTIMONY (HIGHLY CONFIDENTIAL) OF  
MICHAEL MULLALLY**

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**REDACTED  
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**PUGET SOUND ENERGY, INC.**

**PREFILED DIRECT TESTIMONY (HIGHLY CONFIDENTIAL) OF  
MICHAEL MULLALLY**

**I. INTRODUCTION**

**Q. Please state your name, business address, and position with Puget Sound Energy, Inc.**

A. My name is Michael Mullally. My business address is 10885 N.E. Fourth Street Bellevue, WA 98004. I am employed by Puget Sound Energy, Inc. (“PSE”) as a Senior Energy Resource Planning Acquisition Analyst.

**Q. Have you prepared an exhibit describing your education, relevant employment experience, and other professional qualifications?**

A. Yes, I have. It is Exhibit No. \_\_\_(MM-2).

**Q. What are your duties as Senior Energy Resource Planning Acquisition Analyst?**

A. As a Senior Energy Resource Planning Acquisition Analyst, one of my roles is to review, analyze, and negotiate submittals into PSE’s generation Request for Proposals (“RFP”) process. I participated in the negotiations that resulted in the acquisition of the Ferndale Cogeneration Station [REDACTED]

[REDACTED].

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

2 A. This prefiled direct testimony describes the 2011 RFP process and the quantitative  
3 and qualitative evaluation of (i) the acquisition of the Ferndale Cogeneration  
4 Station and (ii) [REDACTED]. This prefiled direct  
5 testimony demonstrates the thorough and robust qualitative and quantitative  
6 analyses PSE undertook, consistent with the analyses PSE has undertaken for  
7 other resource acquisitions in the past. PSE's analyses of each of the acquisitions  
8 of the Ferndale Cogeneration Station [REDACTED]  
9 [REDACTED] took into account decreasing gas prices, power prices and  
10 changes to PSE's forecasted load that occurred between PSE's Integrated  
11 Resource Plan ("IRP") and the RFP evaluation process. This prefiled direct  
12 testimony demonstrates that each of the acquisitions—the Ferndale Cogeneration  
13 Station [REDACTED]—is the lowest reasonable cost and lowest  
14 reasonable risk resource that meets the capacity needs of PSE and its customers.

15 **Q. Has PSE prepared a document that summarizes the qualitative and**  
16 **quantitative analyses undertaken by PSE with respect to the 2011 RFP?**

17 A. Yes. Please see Exhibit No. \_\_\_(MM-3HC) for a copy of the 2011 RFP  
18 Evaluation Document and Appendices, which summarizes the qualitative and  
19 quantitative analyses undertaken by PSE with respect to the 2011 RFP. Please see  
20 Exhibit No. \_\_\_(MM-4HC) for a copy of the July 2012 Memorandum regarding  
21 Evaluation of New and Revised Offers.

1                   **II.     PSE’S EVALUATION OF RESOURCE ALTERNATIVES**

2     **A.     Overview**

3     **Q.     How does PSE acquire new resources?**

4     A.     PSE may acquire new resources to meet the needs of customers in several ways.  
5             Washington Administrative Code (“WAC”) 480-107-001 states that a utility may  
6             acquire additional generation resources:

- 7                 1)     through a competitive bidding process, which PSE refers to as  
8                         its request for proposal process;
- 9                 2)     by constructing additional electric resources (“self-build”); or
- 10                3)     by purchasing power through negotiated contracts.

11             If PSE identifies a need, it will issue an RFP after publication of its IRP, which  
12             occurs every two years. In between RFPs, PSE is actively involved in the  
13             marketplace discussing and evaluating potential resource opportunities. In fact,  
14             several of the proposals that are typically submitted in the RFP are opportunities  
15             that PSE has followed closely and has an understanding of the key benefits and  
16             risks associated with the project and/or proposal. Furthermore, PSE is also  
17             actively evaluating the cost to develop its own self-build resources, most typically  
18             renewables, such as wind and solar, and natural gas-fired generation, such as  
19             combined-cycle and peakers. This knowledge of the marketplace and costs is  
20             critical in informing the IRP process and allows PSE to be commercially astute  
21             with any opportunities that come to us whether through unsolicited proposals or  
22             through the RFP process.

1 **Q. Did PSE issue a RFP?**

2 A. Yes. After PSE's IRP was published on May 30, 2011, PSE submitted a draft  
3 RFP to the Commission. The Commission accepted the RFP with no comments  
4 or conditions, and PSE issued the final RFP on October 17, 2011, seeking  
5 proposals from all generation resources by November 1, 2011. *See Exhibit*  
6 *No. \_\_\_(RG-4).*

7 **Q. How many responses did PSE receive to its 2011 RFP?**

8 A. PSE received 27 proposals from many different generation sources in response to  
9 the 2011 RFP. Some proposals included multiple offers from one or more  
10 generating sources. PSE also evaluated two additional proposals submitted  
11 outside the 2011 RFP ("Unsolicited Proposals"). *See Exhibit No. \_\_\_(MM-3HC)*  
12 *at page 43 for a list of all proposals received.*

13 **Q. Did PSE consider self-build resource options in response to the 2011 RFP?**

14 A. Yes. PSE evaluated a self-build simple-cycle gas turbine ("SCGT") peaker  
15 project with two different technology options. *See Exhibit No. \_\_\_(MM-3HC) at*  
16 *page 19 for a discussion of PSE's self-build options.*

17 **Q. How did PSE organize and document its efforts during the 2011 RFP**  
18 **processes?**

19 A. From October 2011 until the completion of the 2011 RFP in June 2012, PSE staff  
20 responsible for the 2011 RFP evaluation met regularly to review, discuss, and  
21 document findings and recommendations.

1 During the course of the evaluation process, PSE staff regularly presented updates  
2 to PSE's management on the status of the evaluation and any preliminary  
3 conclusions. Furthermore, PSE staff made periodic updates to the Staff of the  
4 Washington Utilities and Transportation Commission on the 2011 RFP evaluation  
5 process and results.

6 PSE's evaluation process and conclusions, reached at various stages of its  
7 analysis, are further explained below, and were documented in reports and  
8 presentations prepared during the course of the evaluation. *See generally* Exhibit  
9 No. \_\_\_(MM-3HC) and Exhibit No. \_\_\_(MM-4HC).

10 **B. Evaluation Process Used for the 2011 RFP**

11 **Q. Please describe the 2011 RFP evaluation process.**

12 A. PSE divided the 2011 RFP evaluation processes into two phases. In Phase 1, PSE  
13 conducted the initial screening and fatal flaw analysis and produced a list of the  
14 most promising resources (the "Candidate Short List"). In Phase 2, PSE subjected  
15 the resources on the Candidate Short List to additional due diligence, commercial  
16 discussions, and additional analytical modeling.

17 **Q. Please describe the role of the 2011 RFP evaluation team.**

18 A. PSE's Resource Acquisition department guides a cross-functional evaluation team  
19 (the "2011 RFP evaluation team") in screening and eliminating proposals with  
20 high costs, unacceptable risks, or feasibility constraints. The 2011 RFP  
21 evaluation team consists of staff from specific functional/technical areas within



1 PSE (also referred to as “working groups”) that led the evaluation from each  
2 working group’s area of expertise (e.g., transmission, environmental, real estate,  
3 and quantitative analysis).

4 The working groups screen each proposal according to the evaluation criteria set  
5 forth in Exhibit No. \_\_\_(MM-3HC) at page 47. PSE reviewed both the  
6 qualitative and quantitative attributes of a proposal, including price, development  
7 and construction status, commercial terms, environmental impacts, permitting  
8 issues, real estate, technical considerations, operating characteristics, transmission  
9 and interconnection, community impacts and project-specific economic analysis.  
10 *See generally* Exhibit No. \_\_\_(MM-3HC) at page 20.

11 **Q. What evaluation criteria did PSE use during the evaluation process?**

12 A. In general, PSE prefers offers that benefit customers by complementing PSE’s  
13 resource and timing needs, minimizing cost, minimizing risk, providing strategic  
14 and financial benefits, and providing additional public benefits. Each of these  
15 evaluation criteria contains a set of sub-criteria or guidelines that specify PSE’s  
16 preferences for a successful proposal. Please see Exhibit No. \_\_\_(MM-3HC) at  
17 page 21 for a discussion of the primary evaluation criteria.

18 **Q. How did PSE apply the qualitative criteria?**

19 A. For each proposal, individual working groups sought particular information  
20 related to their areas of expertise to identify any fatal flaws or areas of concern, as  
21 well as any associated benefits. These working groups documented their findings  
22 with the teams. For example, members of the commercial and development

1 working group met weekly to discuss the proposals with certain key elements in  
2 mind, such as the viability of the project, counterparty risk, commercial terms and  
3 whether the development timeline was realistic. Other working groups asked  
4 different questions, such as:

- 5 • Does the project have permits, fuel supply agreements and  
6 transmission and interconnection agreements in place? If  
7 not, can they reasonably be obtained in time to meet the  
8 commercial online date?
- 9 • Does the project proponent have site control?
- 10 • What are the operational or technology risks?
- 11 • Are there risks associated with public opposition or  
12 sensitive environmental habitat?
- 13 • What are the costs associated with the proposal, and how  
14 do the benefits and costs compare with other proposals?

15 *See also* Exhibit No. \_\_\_(MM-3HC) at page 21.

16 **Q. How did PSE apply the quantitative criteria for Phase 1?**

17 A. PSE used the Portfolio Screening Model (the “Screening Model”) to identify  
18 proposals with prohibitively high costs. Please see the prefiled direct testimony  
19 of Aliza Seelig, Exhibit No. \_\_\_(AS-1HCT), for a discussion of the Screening  
20 Model and an overview of the quantitative analysis employed by PSE for the  
21 2011 RFP.

1 **Q. How did the working groups work together to discuss the risks and merits of**  
2 **each individual proposal?**

3 A. The RFP evaluation team regularly met to discuss the risks and merits of the  
4 proposals. To ensure a thorough discussion of each proposal, team members were  
5 encouraged to ask questions and to discuss the findings of other groups. Based on  
6 the combined findings of the working groups, the RFP evaluation team made  
7 recommendations to either continue to evaluate proposals in greater detail or  
8 cease due diligence on a proposal due to fatal flaws, high risks or unfavorable  
9 economics.

10 Following the weekly meeting, working groups submitted data requests to bidders  
11 seeking answers to outstanding questions or concerns related to proposals not  
12 eliminated during the initial screening. Once a working group completed its  
13 evaluation of a particular proposal, they prepared a memo or submitted comments  
14 to the RFP evaluation team summarizing their findings, with particular attention  
15 paid to the merits and risks of the proposal and any outstanding questions or areas  
16 of concern.

17 **Q. Did the RFP evaluation team identify a list of the most promising resources**  
18 **for further quantitative analysis and targeted qualitative evaluation?**

19 A. Yes. Upon completing the initial screening, the RFP evaluation team identified  
20 the most promising resources for further quantitative analysis and more targeted  
21 qualitative evaluation in Phase 2 (i.e., the Candidate Short List). The selected  
22 proposals were generally those identified as having a positive portfolio benefit

1 and showed to have less risk compared to other proposals. *See, e.g.*, Exhibit  
2 No. \_\_\_(MM-3HC) at page 41 (Candidate Short List).

3 **Q. What further qualitative analysis did PSE employ for those proposals**  
4 **selected for the candidate short list?**

5 A. PSE subjected the proposals selected for the Candidate Short List to more  
6 rigorous examination during Phase 2 again using the evaluation criteria discussed  
7 above. This second phase is typified by greater interaction with the bidders in  
8 order to gain a deeper understanding of the qualitative risks and benefits of the  
9 proposals and their ability to execute and perform as proposed. The working  
10 groups had an opportunity to contact bidders regarding outstanding or unclear  
11 data request responses, discuss commercial terms and explore any other open  
12 issues.

13 **Q. What further quantitative analysis did PSE employ for those proposals**  
14 **selected for the candidate short list?**

15 A. The quantitative working group employed its portfolio optimization model  
16 (“Optimization Model”) to perform more in-depth quantitative due diligence and  
17 designed to evaluate the proposals’ performance within PSE’s portfolio. Please  
18 see Exhibit No. \_\_\_(AS-1HCT) for a discussion of the Optimization Model and  
19 an overview of the quantitative analysis employed by PSE for the 2011 RFP.

20 **Q. Did the 2011 RFP evaluation team develop a recommended short list?**

21 A. Yes. The 2011 RFP evaluation team held a final working group meeting to  
22 review their findings and to recommend a final short list. Those proposals

1 selected for the recommended short list were those with the lowest reasonable  
2 cost and risk that best complement PSE's resource and timing needs. Please see  
3 Exhibit No. \_\_\_(MM-3HC) at page 59 for an executive summary of findings that  
4 outlines the qualitative risks and advantages, quantitative metrics, as well as each  
5 proposal's selection status and the rationale for that selection status.

### 6 III. 2011 RFP EVALUATION

#### 7 **A. Determination of Need for Resources**

#### 8 **Q. How did PSE determine its need for capacity and renewable resources?**

9 A. PSE determined its need for capacity and renewable resources based on the  
10 analyses performed for PSE's 2011 Integrated Resource Plan (the "2011 IRP"),  
11 which PSE filed with the Commission in May 2011. Please see Exhibit  
12 No. \_\_\_(RG-3) for a copy of the 2011 IRP.

#### 13 **Q. Please describe how the 2011 IRP guides PSE's efforts to acquire resources.**

14 A. The 2011 IRP guides PSE's efforts to acquire new resources at the lowest  
15 reasonable cost, as directed by RCW 19.280. Each biennial IRP provides an  
16 updated customer demand forecast and an analysis of the costs and risks involved  
17 in securing new energy supplies to meet identified shortfalls.

#### 18 **Q. What capacity need did the 2011 IRP identify?**

19 A. The 2011 IRP identified a need for 917 MW of additional supply-side and  
20 demand-side capacity resources by 2012, 1,478 MW by 2016, and 2,595 MW by  
21 2020. See Exhibit No. \_\_\_(RG-3) at page 7.

1 **Q. Did PSE use the capacity identified in the 2011 IRP for purposes of the**  
2 **2011 RFP?**

3 A. No. At the time of the publication of the 2011 RFP, PSE showed its need for  
4 supply-side resources only and included updates to reflect the F2011 load forecast  
5 and resources added after publication of the 2011 IRP. The projected need for  
6 electrical resource capacity at the time of publication of the 2011 RFP was  
7 385 MW by 2012:

8 **Projected Need for Electric Resource Capacity (October 2011)**

<b>Year</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
<b>Projected Need (MW)</b>	385	434	636	713	862

9 **Q. Did PSE continue to update its capacity need throughout the 2011 RFP?**

10 A. Yes. PSE continued to update the capacity need throughout the 2011 RFP process  
11 by incorporating resources added after publication of the 2011 IRP<sup>1</sup> and results  
12 from the F2012 load forecast.<sup>2</sup>  
13 PSE updated its capacity need in November 2011, which resulted in a projected  
14 need for electric resource capacity of 241 MW by 2012:

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<sup>1</sup> Approximately 500 MW of short-term resources (various contract starts and lengths) and transmission contract extensions were not known for inclusion in the analysis for the 2011 IRP which partially meet PSE's 2012 capacity need.

<sup>2</sup> The 2011 RFP analysis uses the **draft** F2012 load forecast from April 17, 2012. This difference between the April 17, 2012 peak forecast and the **final** F2012 forecast is less than 0.1% through 2025 and grows to 0.5% by 2031.

1 **Projected Need for Electric Resource Capacity (November 2011)**

Year	2012	2013	2014	2015	2016
Projected Need (MW)	241	451	653	730	879

2 Furthermore, PSE delayed finalizing the short list selection to reflect the new load  
3 forecast information (F2012) that PSE was developing internally. Pursuant to this  
4 F2012 load forecast, the projected need for electric resource capacity was  
5 138 MW by 2012:

6 **Projected Need for Electric Resource Capacity (F2012 Load Forecast)**

Year	2012	2013	2014	2015	2016
Projected Need (MW)	138	242	460	554	728

7 **Q. Why did PSE delay the short list selection to reflect the new F2012 load**  
8 **forecast?**

9 A. PSE delayed the short list selection to reflect the new F2012 load forecast because  
10 PSE wanted the 2011 RFP evaluation to reflect the latest updates (both for load  
11 forecast and gas price forecast) even if it meant a delay in moving forward with  
12 commercially advantageous proposals. Thus, the 2011 RFP would reflect  
13 contemporaneous information and avoid the potential risk of acquiring surplus  
14 capacity beyond PSE's need.

15 **Q. Were there other reasons that PSE delayed its final 2011 RFP analysis?**

16 A. Yes. PSE was also commercially aware of stagnant power prices in the  
17 marketplace resulting from the economic outlook. Thus, PSE also delayed the  
18 final 2011 RFP analysis to incorporate the most recent gas price forecast received

1 in April. Indeed, the gas price forecast showed a lower than expected future  
2 power price, which resulted in a shift in the competitiveness of resources and  
3 established a more contemporaneous price forecast baseline.

4 **Q. What renewable need did the 2011 IRP identify?**

5 A. The 2011 IRP renewable energy compliance forecast predicted that PSE would be  
6 able to achieve its renewable targets through 2019 with its current portfolio of  
7 renewable resources. By the time PSE filed its final RFP in October 2011, PSE's  
8 updated renewable resource outlook reflected a need of approximately 771,000  
9 Renewal Energy Credits ("REC") in 2020. Updates to PSE's forecast continue to  
10 predict that PSE has sufficient renewable resources to achieve its near-term  
11 compliance targets under the Washington renewable portfolio standards ("RPS").  
12 Exhibit No. \_\_\_(MM-3HC) at page eight depicts the final 2011 RFP renewable  
13 outlook, which PSE prepared using the F2012 load forecast and updated REC  
14 banking assumptions.

15 **Q. How did PSE evaluate renewable resources?**

16 A. Because the 2011 IRP identified a near-term capacity need but not a near-term  
17 renewable need, PSE determined that any renewable offer would need to be  
18 competitive with capacity offers to be selected.



1 **B. 2011 RFP Phase 1 Evaluation Results**

2 **Q. What was the purpose of Phase 1 evaluation?**

3 A. The Phase 1 evaluation screened resource proposals to find the most cost effective  
4 and viable projects available to meet PSE's near-term capacity need so that PSE  
5 could quickly focus on a more detailed qualitative due diligence and robust  
6 quantitative analytical process.

7 **Q. What types of resources did PSE evaluate in Phase 1 of the 2011 RFP?**

8 A. PSE evaluated 29 proposals in Phase 1 of the 2011 RFP--many of which included  
9 multiple offers--from a very diverse mix of generation fuel types, including  
10 hydro, biomass, wind, natural gas, and battery storage. Please see Exhibit  
11 No. \_\_\_(MM-3HC) at page 16 for a summary of the overall resource mix and  
12 number of MWs proposed.

13 **Q. What observations were made during the Phase 1 evaluation?**

14 A. More than 2,200 MW of operating capacity from eleven proposals evaluated  
15 favorably in the 2011 RFP screening analysis and provided positive portfolio  
16 benefits to meet PSE's near-term and long-term capacity need. Generally,  
17 existing thermal resources were more competitive and had fewer risks than new  
18 greenfield development proposals. Resources that avoided third-party  
19 transmission services typically had economic advantages and avoided the risk of  
20 uncertain transmission provider practices.

1 Although some shorter term proposals evaluated favorably in Phase 1 and seemed  
2 to be aligned with short-term market forecast, the evaluation team was concerned  
3 about the exposure remaining at the end of the offered term. Thus, PSE wanted to  
4 further evaluate the risks of short term resources versus long term capacity  
5 resources to fulfill its need.

6 **Q. How many proposals were eliminated in Phase 1?**

7 A. PSE eliminated 18 proposals (including the two unsolicited proposals) after  
8 completing the Phase 1 screening because of quantitative and/or qualitative flaws.

9 Examples of such flaws included:

- 10 • Project is not viable as proposed.
- 11 • Unacceptable risk associated with counterparty,  
12 commercial terms, development schedule, technology,  
13 permitting, etc.
- 14 • No transmission or interconnection proposed and no clear  
15 solution available to ensure commercial operation date  
16 (“COD”) by date needed.
- 17 • Project costs are high relative to other alternatives.

18 Of the 18 proposals eliminated during Phase 1, 17 were development resources  
19 with higher costs and more significant qualitative risks than existing alternatives.

20 See Exhibit No. \_\_\_(MM-3HC) at pages 24 for a summary of the proposals  
21 eliminated from Phase 1 and pages 59-74 for the Phase 1 quantitative results.

1 **Q. Did PSE select any renewable resource proposals for further consideration in**  
2 **Phase 2?**

3 A. Yes, PSE selected the two most favorable renewable resource offers from Phase 1  
4 to compare with existing capacity alternatives in Phase 2—an operating wind  
5 project and a biomass project in development.

6 **Q. What proposals did PSE select for further consideration in Phase 2?**

7 A. Upon completion of the Phase 1 screening, PSE selected a candidate short list  
8 comprised of twelve proposals for further evaluation. The selected proposals  
9 represent the most attractive offers from several resource types when both  
10 qualitative and quantitative factors are considered together. They included both  
11 shorter-term offers, longer-term offers, and a mix of ownership and PPAs. Please  
12 see Exhibit No. \_\_\_(MM-3HC) at page 25 for a summary of the proposals  
13 selected for Phase 2 evaluation.

14 **C. 2011 RFP Phase 2 Evaluation Results**

15 **Q. What analysis did PSE undertake in the Phase 2 of the 2011 RFP?**

16 A. PSE performed additional quantitative and qualitative review of the “Candidate  
17 Short List.” PSE sent data requests to bidders to obtain information about project  
18 operating and maintenance history; plant performance data; status of  
19 environmental permits; updates about emissions performance; transmission  
20 service requests; and for the new development projects, information about  
21 development progress. Discussions were also held with bidders to help clarify

1 and understand the terms and pricing of the proposals. These data requests and  
2 discussions helped PSE refine the quantitative and qualitative analyses, and  
3 further, actually led to bidders revising and updating pricing on their proposals.  
4 Revisions and updated pricing are summarized for the following resources:

- 5 • [REDACTED] (#11124) – [REDACTED]  
6 [REDACTED];
- 7 • **Coal Transition PPA (#11102)** – [REDACTED]  
8 [REDACTED]  
9 [REDACTED];
- 10 • [REDACTED] (#11117) – [REDACTED]  
11 [REDACTED]  
12 [REDACTED]  
13 [REDACTED]  
14 [REDACTED]; and
- 15 • [REDACTED] (#11126) – [REDACTED]  
16 [REDACTED]  
17 [REDACTED]  
18 [REDACTED].

19 **Q. Did PSE’s consideration of data responses, discussions with bidders and**  
20 **other ongoing qualitative review result in the elimination of any proposals in**  
21 **Phase 2?**

22 A. Yes. Consideration of data responses, discussions with bidders and other ongoing  
23 qualitative review led the team to eliminate four proposals due to risks PSE was  
24 not willing to accept given that other proposals presented much lower risk  
25 profiles.

26 In addition to the four eliminated proposals, PSE eliminated the [REDACTED]  
27 [REDACTED] (#11103) because [REDACTED]

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[REDACTED]. PSE also eliminated the [REDACTED]  
[REDACTED] (#11102) because [REDACTED]  
[REDACTED]  
[REDACTED]. PSE continued to evaluate the [REDACTED]  
[REDACTED] (#11103) and the stand-alone Centralia 14-year PPA option  
(#11102) throughout Phase 2.

In addition to the above offers and options, PSE eliminated the [REDACTED]  
[REDACTED] (#11127) proposal in Phase 2 because the bidder never provided pricing and  
eventually withdrew the proposal.

Please see Exhibit No. \_\_\_(MM-3HC) at page 27 for a summary of the rationale  
that led to the elimination of these proposals.

**Q. After the elimination of the proposals described above, which proposals were  
selected for further consideration in the Phase 2 evaluation?**

A. PSE further considered the seven proposals presented in Table 1 below through a  
rigorous quantitative analysis, including portfolio optimization, scenarios  
analysis, sensitivity analysis, and risk analysis; and PSE continued to scrutinize  
these proposals through the qualitative assessment.

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**Table 1. Proposals Selected for Further Consideration in the Phase 2 Evaluation**

Proposal	Term (yrs)	MW
██████████ (#11124)	██	██
████████████████████ (#11117)	██	██
██████████ (#11110)	██	██
██████████ (#11126)	██	██
<b>Centralia Coal Transition PPA (#11102)</b>	14	Up to 500
████████████████████ (#11118)	██	██
████████████████████ (#11103)	██	██

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- Q. Please describe the purpose of the Phase 2 quantitative evaluation.**
- A. PSE designed the Phase 2 quantitative evaluation to create optimal, integrated portfolios for each scenario and sensitivity considered and to evaluate the costs and risks of different portfolio selections while varying peaks, load, hydro generation, wind generation, natural gas prices, and power prices. Additionally, PSE ranked the proposal offers in the scenario that best reflects the most current assumptions for PSE’s peak demand, power prices, and gas prices.
- Q. Which resources fared best in the scenario optimization results?**
- A. The Coal Transition PPA (#11102) and the ██████████ (#11117) were least cost in four of five scenarios. Although each scenario is not necessarily equally weighted, selection across more scenarios is considered more favorable because the proposal is demonstrating that it is least cost across a wide range of possible futures. Furthermore, the “Base with New Gas” scenario represents the most current forecast of natural gas and power prices, and both the

1 Coal Transition PPA and [REDACTED] (#11117) are least cost  
2 in this scenario.

3 Please see Exhibit No. \_\_\_(MM-3HC) at figure 13 on page 28 for the  
4 optimization results for the five scenarios considered in the 2012 RFP.

5 **D. Sensitivity Analyses**

6 **Q. Did PSE conduct sensitivity analyses as part of its 2011 RFP Phase 2?**

7 A. Yes. PSE conducted sensitivity analyses as part of its 2011 RFP Phase 2  
8 analyses. Although the scenario analyses identify the least cost resources, such  
9 analyses do not indicate how close one resource decision is compared to another  
10 decision. To better understand the optimization results, the quantitative  
11 evaluation team considered sensitivity analyses. PSE posed the following  
12 questions in these analyses:

- 13 1. [REDACTED] the Coal Transition PPA (#11102) [REDACTED]  
14 ?
- 15 2. Would a [REDACTED] (#11118) price reduction  
16 change selections?
- 17 3. Would a [REDACTED] (#11124) [REDACTED] change  
18 selections?
- 19 4. Would a [REDACTED] (#11103) [REDACTED]  
20 change selections?
- 21 5. Could PSE rely on short-term market purchases until 2015?
- 22 6. How would a portfolio without the Coal Transition PPA  
23 compare to a portfolio with the Coal Transition PPA?

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To answer the sensitivity analyses questions posed above, PSE staff studied one change at a time in its analysis.

**Q. What were the results of these sensitivity analyses?**

A. From the Coal Transition PPA (#11102) [REDACTED], the Coal Transition PPA (#11102) would [REDACTED].

From the [REDACTED] (#11118) [REDACTED], the [REDACTED] (#11118) [REDACTED].

From the [REDACTED] (#11124) [REDACTED], the [REDACTED] (#11124) [REDACTED] (#11124) was selected with Coal Transition PPA (#11102).

From the [REDACTED] (#11103) [REDACTED], the [REDACTED] (#11103) [REDACTED].

The sensitivity performed to determine if PSE could rely on short term market purchases demonstrated that the Coal Transition PPA (#11102) remained least cost in three of five scenarios.

The sensitivity comparing portfolios with and without Coal Transition PPA demonstrated that when the Coal Transition PPA is included in the portfolio it



1 lowers portfolio costs in four of five scenarios. Furthermore, the sensitivity  
2 showed that the Coal Transition PPA (#11102) provides the biggest portfolio  
3 benefits when gas and power prices are higher.

4 Please see Exhibit No. \_\_\_(MM-3HC) at pages 27-29 for a discussion of, and  
5 results from, these sensitivity analyses.

6 **Q. What does PSE conclude from the sensitivity analyses conducted?**

7 A. Generally, PSE's quantitative analysis demonstrates that the valuation of resource  
8 alternatives is close in terms of economics and performance in PSE's portfolio.  
9 Small changes to price, volume, timing, or PSE's capacity need impact the  
10 combination of resources that are being selected. However, the qualitative  
11 analysis indicated there are key risks that may not be overcome by economics  
12 alone. All things being equal, PSE prefers lower risk propositions when  
13 economics are relatively close or insignificant. Ultimately, it is a combination of  
14 the quantitative results *and* the qualitative findings that determine PSE's resource  
15 strategy.

16 **Q. Did PSE consider a risk analysis that considered a range of portfolio costs**  
17 **varying natural gas prices, power prices, hydro generation, wind generation,**  
18 **and peak and energy loads?**

19 A. Yes. For the same portfolios with and without the Coal Transition PPA (#11102)  
20 discussed above, PSE performed risk analysis consistent with the approach in the  
21 2011 IRP. PSE analyzed the range of the portfolio costs varying natural gas  
22 prices, power prices, hydro generation, wind generation, and peak and energy

1 loads to assess the cost and risk of the resource alternatives. Also, to test the  
2 robustness of the choice of portfolios with and without Coal Transition PPA  
3 (#11102), portfolio optimization was performed for each of the 250 draws of  
4 power prices, gas prices, hydro generation, wind generation, and peak/energy  
5 loads created by the Stochastic model.

6 **Q. What were the results of the risk analysis?**

7 A. The risk analysis demonstrates that the portfolio with the Coal Transition PPA  
8 (#11102) reduces both costs as well as risk.

9 For the portfolio optimization test of the risk analysis results, the Coal Transition  
10 PPA (#11102), in combination with other resource acquisitions or generic  
11 resources, was least cost in about 56 percent of the 250 optimal portfolios.

12 Please see Exhibit No. \_\_\_(MM-3HC) at pages 33-35 for a discussion and the  
13 results from the risk analysis.

14 **E. Short List Selection**

15 **Q. What resources did PSE select for its 2011 RFP short list?**

16 A. PSE selected three resources for its 2011 RFP short list:

17 (i) the Coal Transition PPA (#11102), which contained a long-term  
18 fixed price, ramped to match PSE’s capacity need, reflected the  
19 public policy resource preference of the State of Washington, and  
20 had strong public support;

21 (ii) the [REDACTED] (#11117), a [REDACTED]  
22 [REDACTED]; and  
23 [REDACTED]

1 (iii) the [REDACTED] (#11124), a [REDACTED]-year PPA for [REDACTED] MW from an  
2 existing natural gas-fired combined cycle facility, [REDACTED]  
3 [REDACTED]  
4 [REDACTED]  
5 [REDACTED].

6 Please see Exhibit No. \_\_\_(MM-3HC) at pages 39 for a summary of the primary  
7 qualitative and quantitative findings that led to PSE's short list selection decisions  
8 at the end of Phase 2.

#### 9 IV. REEVALUATION OF OFFERS

##### 10 A. Reevaluation of Offers in July 2012

##### 11 1. Developments in June and July of 2012

12 **Q. Did PSE recommend proceeding with the three resources on its 2011 RFP**  
13 **short list to its Energy Management Committee and Board of Directors?**

14 A. On June 12, 2012, the RFP evaluation team recommended to the EMC that PSE  
15 pursue three resource proposals based on the results of PSE's 2011 RFP analysis.

16 The three resources were:

- 17 • the Coal Transition Power PPA (#11102);
- 18 • the [REDACTED] (#11117); and
- 19 • the [REDACTED] (#11124).

20 The analysis indicated that the three selected resources represented the lowest cost  
21 portfolio with the lowest risk compared to other alternatives in the 2011 RFP.

22 See Exhibit No. \_\_\_(MM-3HC) at pages 187 for the EMC presentation on the  
23 recommendation of the short list.

1 **a. PSE Received Three Revised Offers in June 2012**

2 **Q. Did PSE proceed with the three resources on its 2011 RFP short list?**

3 A. No. After PSE notified bidders of their selection status in the 2011 RFP, PSE  
4 received three revised offers by June 22, 2012, from the following three bidders  
5 that were not selected to the short list in the 2011 RFP:

- 6 • [REDACTED] (#11103-r);  
7 • Ferndale Ownership (#11118-r); and  
8 • [REDACTED] (#11117-r).

9 Additionally, shortly after the short list recommendation to the EMC the  
10 evaluation team identified a new transmission risk for the Coal Transition Power  
11 PPA (#11102) that could limit PSE's ability to purchase contract volumes in  
12 excess of 380 MW.

13 **Q. How did PSE respond to these developments in mid-June 2012?**

14 A. Given the revised proposals, PSE decided to delay any recommendations to the  
15 Energy Management Committee and the Board of Directors with respect to  
16 pursuing the Coal Transition Power PPA (#11102) and the other two short list  
17 selections, to ensure PSE could make the best decision in light of changing  
18 circumstances. The RFP evaluation team reevaluated the revised offers to  
19 determine if the short list should be updated. This reevaluation involved further  
20 qualitative assessment and a re-run of the quantitative analytics. In addition, PSE  
21 manually constructed portfolios to analyze the comparison of the Ferndale  
22 Ownership (#11118-r) offer and the Coal Transition Power PPA. This also

1 allowed time for PSE to consider the impacts of limited PSE transmission transfer  
2 capability for the Coal Transition Power PPA (#11102).

3 **Q. What were the results of the initial reevaluation of the optimization analysis?**

4 A. With the revised offers, the portfolio optimization analysis showed that the Coal  
5 Transition Power PPA (#11102) would be least cost in only one of five scenarios  
6 compared to the four of five scenarios in which it previously was selected as least  
7 cost. With this analysis and the risks around the transmission capability beyond  
8 380 MW, PSE discontinued its pursuit of the Coal Transition Power PPA  
9 (#11102).

10 **b. TransAlta Centralia Revised the Commercial Structure**  
11 **of the Coal Transition Power PPA (#11102-r) in Early**  
12 **July 2012**

13 **Q. How did TransAlta Centralia respond to the notification that PSE was**  
14 **discontinuing its pursuit of the Coal Transition Power PPA (#11102)?**

15 A. On July 5, 2012, TransAlta revised the commercial structure of the Coal  
16 Transition Power PPA (#11102-r) by reducing the contract volumes and pushing  
17 out to a later start date. PSE then reevaluated the revised commercial structure  
18 along with the other revised offers.

19 **Q. Please summarize the revised offers received by PSE in June and July of**  
20 **2012.**

21 A. [REDACTED] reduced the purchase price of the [REDACTED]  
22 [REDACTED] (#11103-r) offer from \$ [REDACTED] million to \$ [REDACTED] million. Tenaska

1 proposed the Ferndale Ownership (#11118-r) offer at a purchase price of  
2 \$84 million; the original 2011 RFP offer was [REDACTED] (#11118).  
3 [REDACTED] restructured the [REDACTED] (#11117-r) offer to  
4 a [REDACTED]  
5 [REDACTED]. TransAlta revised the Coal Transition  
6 Power PPA (#11102-r) offer to include a later start—December 1, 2014, rather  
7 than December 1, 2012—and a reduced volume with a maximum volume of  
8 380 MW.

9 See Exhibit No. \_\_\_(MM-4HC) at Figure 1 on page 3 for a table showing a  
10 summary of the revised offers.

## 11 **2. Reevaluation Process**

### 12 **Q. How did PSE proceed with the reevaluation process?**

13 A. For the reevaluation, PSE considered both the quantitative and qualitative merits  
14 of each revised offer. Specifically, PSE took the following steps to perform the  
15 reevaluation:

- 16 • performed optimization analysis with revised offers in five  
17 scenarios to reexamine short-list;
- 18 • performed a qualitative review of the revised offers;
- 19 • manually constructed portfolios to compare:
  - 20 ○ Ferndale Ownership (#11118-r),
  - 21 ○ Coal Transition Power PPA (RFP Volumes)  
22 (#11102),

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- Ferndale Ownership (#11118-r) combined with Coal Transition Power PPA (revised volumes) (#11102-r); and
- performed risk analyses on manually constructed portfolios.

**a. Reevaluation Process: Qualitative Analyses**

**Q. What was the result of the qualitative analysis PSE conducted on the revised offers?**

A. As shown in Exhibit No. \_\_\_ (MM-4HC) at Figure 6 on page 8, evaluation of the revised proposals continued to show more qualitative risks than advantages for both the [REDACTED] (#11103-r) and the [REDACTED] [REDACTED] (#11117-r) offers. PSE identified more advantages than risks for both the Coal Transition Power PPA (revised volume) (#11102-r) offer and the Ferndale Ownership (#11118-r) offer.

**b. Reevaluation Quantitative Process**

**i. Screening Model Results**

**Q. Did PSE analyze the revised offers with the Screening Model?**

A. Yes. To be consistent with the Phase 1 analysis, the evaluation team performed the Screening Model analysis with the revised offers along with the other Phase 2 resources. The relative ranking of each proposal from the Screening Model can be seen at Exhibit No. \_\_\_ (MM-4HC) at page 18.

1 **ii. Optimization Model Results**

2 **Q. Did PSE analyze the revised offers with the Optimization Model?**

3 A. Yes. Although the Screening Model results show relative rankings, it has the  
4 following relative limitations:

- 5 • the Screening Model represents the results of only one
- 6 scenario—Base with New Gas;
- 7 • the Screening Model uses the PSM I simple dispatch logic;
- 8 • the Screening Model includes additional transmission costs
- 9 on market purchases that the PSM III and IRP did not
- 10 include.

11 Therefore, PSE reevaluated the revised proposals in the Optimization Model to  
12 see how they might affect the 2011 RFP decisions.

13 Please see Exhibit No. \_\_\_(MM-4HC) at page 4 for the results of the optimization  
14 analysis with the revised offers received by PSE. (Although PSE previously  
15 eliminated the [REDACTED] (#11117) offer due to  
16 qualitative risks, PSE decided to reevaluate the revised offer with the lowered  
17 prices in order to see if the revised pricing would warrant accepting the additional  
18 risks associated with the proposal.

19 **Q. What could PSE conclude from the results of the reevaluation quantitative**  
20 **analyses?**

21 A. With the elimination of the [REDACTED] (#11117) due to  
22 qualitative risks, the Coal Transition Power PPA (#11102-r) is lowest cost in four  
23 out of five scenarios. Even keeping the [REDACTED]



1 (#11117) as a resource alternative in the portfolio optimization analysis, the  
2 difference in portfolio cost of the “Base with New Gas” scenario is only  
3 \$9.28 million dollars (or approximately 0.09%) less than the portfolio with the  
4 Coal Transition Power PPA (#11102-r). This differential in portfolio costs was  
5 insufficient for PSE to accept the additional risks associated with the [REDACTED]  
6 [REDACTED] (#11117).

7 **iii. Manual Portfolio Results**

8 **Q. Did PSE undertake further quantitative analyses to verify the results?**

9 A. Yes. The evaluation team also constructed manual portfolios to demonstrate the  
10 quantitative merits of potential portfolios while minimizing surpluses created by  
11 the model. PSE constructed the following manual portfolios in the Optimization  
12 Model to better identify the costs and risks of specific portfolios:

- 13 • Ferndale Ownership (#11118-r),
- 14 • Combined Coal Transition Power PPA (revised volumes)  
15 (#11102-r) and Ferndale Ownership (#11118-r), and
- 16 • Coal Transition Power PPA (RFP volumes) (#11102).

17 Please see Exhibit No. \_\_\_(MM-4HC) at pages 19-20 for the resources included  
18 in the manually constructed portfolios and their surpluses.

19 After manually constructing portfolios, the team considered each portfolio’s costs  
20 in the five scenarios consistent with the 2011 RFP analysis. Exhibit  
21 No. \_\_\_(MM-4HC) at Figure 7 on page 12 demonstrates the Ferndale Ownership

1 (#11118-r) offer and the Coal Transition Power PPA (New Volumes) (#11102-r)  
2 offer provide the lowest cost portfolio in four of five scenarios.

3 **iv. Risk Analysis**

4 **Q. Did PSE perform risk analyses consistent with the approach used in the 2011**  
5 **RFP?**

6 A. Yes. PSE analyzed the range of the portfolio costs varying natural gas prices,  
7 power prices, hydro generation, wind generation, and peak and energy loads to  
8 assess the cost and risk of the manually constructed portfolios. Please see Exhibit  
9 No. \_\_\_(MM-4HC) on pages 15-16 for results of these risk analyses. This shows  
10 that the Ferndale Ownership (#11118-r) and the Coal Transition Power PPA (New  
11 Volumes) (#11102-r) offers provide a lower cost and lower risk portfolio  
12 compared to either the Coal Transition Power PPA (Original Volumes) (#11102-  
13 r) offer or the new Ferndale Ownership (#11118-r) option alone.

14 **3. Key Findings of the Reevaluation Process**

15 **Q. What did PSE conclude from the 2011 RFP after reevaluating those revised**  
16 **offers received by PSE in June and July of 2012?**

17 A. Taking into consideration the quantitative and qualitative analysis, PSE concluded  
18 that the Ferndale Ownership (#11118-r) offer and the Coal Transition Power PPA  
19 (New Volumes) (#11102-r) offer are least cost and least risk. The Ferndale  
20 Ownership (#11118-r) offer is a low cost existing resource that is well-known to  
21 PSE and provides system benefits. At the new term and volumes, the Coal  
22 Transition Power PPA (New Volumes) (#11102-r) is a least-cost resource that

1 provides PSE customers a hedge against higher prices that no other resource has  
2 been able to offer for the duration and at the price offered by TransAlta.

3 Although the revised [REDACTED] (#11117) offer seems  
4 competitive from a cost perspective with the least-cost offers identified, there are  
5 numerous risks to reaching a binding agreement and the project does not have the  
6 ability to provide system benefits such as load management and wind-integration.

7 The [REDACTED] (#11103-r) offer, although offered at a lower  
8 purchase price, greatly exceeds PSE's current capacity need in the near-term,  
9 thereby making such offer less cost-competitive.

10 Exhibit No. \_\_\_(MM-4HC) at Figure 11 on page 15 shows the selected resources  
11 from the reevaluation to meet PSE's needs. Since a combination of the Ferndale  
12 Ownership (#11118-r) offer and the Coal Transition Power PPA (New Volumes)  
13 (#11102-r) offer fits closely with PSE's near-term need, the [REDACTED] (#11124)  
14 is no longer needed until 2017. PSE believes it is better to first pursue the  
15 Ferndale Ownership (#11118-r) and the Coal Transition Power PPA (New  
16 Volumes) (#11102-r) offers prior to beginning negotiations for the [REDACTED]  
17 [REDACTED] (#11117).

1 **B. Reevaluation of Offers in September 2012**

2 **Q. Did PSE subsequently re-evaluate the acquisition of the Ferndale Generating**  
3 **Station to the viable alternatives described in the final 2011 RFP results?**

4 A. Yes. In September 2012, PSE re-evaluated the acquisition of the Ferndale  
5 Generating Station to the viable alternatives described in the final 2011 RFP  
6 results. Such re-evaluation reaffirmed that the acquisition of the Ferndale  
7 Generating Station is a least cost and least risk resource alternative.

8 **Q. Did PSE receive any competitive new or revised offers subsequent to the re-**  
9 **evaluation conducted in July 2012?**

10 A. No. PSE did not receive any competitive new or revised offers since the re-  
11 evaluation of revised offers presented to PSE's Board of Directors on July 24,  
12 2012. PSE conducted further due diligence for the Ferndale Generating Station,  
13 and PSE updated its analysis based on the due diligence findings and then-current  
14 price forecasts.

15 **Q. Did PSE change any assumptions regarding the Ferndale Generating Station**  
16 **based on the additional due diligence conducted by PSE subsequent to the re-**  
17 **evaluation conducted in July 2012?**

18 A. Yes. PSE changed certain assumptions regarding the Ferndale Generating Station  
19 based on the additional due diligence conducted by PSE subsequent to the re-  
20 evaluation conducted in July 2012. The key changes to the assumptions regarding  
21 the Ferndale Generating Station for the updated analysis include the following:

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- The Ferndale Generating Station’s winter capacity evaluated at 290 MW compared to 284 MW based on performance testing in August 2012 and a new interconnection study that accommodated the maximum generation output of the facility up to 300 MW.
- The useful life of the Ferndale Generating Station was determined to be 27 years compared to the assumption of 19 years in the 2011 RFP based on technical due diligence and the expected plan and budget from PSE’s Energy Operations group.
- O&M cost projections were higher compared to the assumptions in the 2011 RFP. Further, the operation costs included in the analysis are based on PSE operating the facility; however, PSE was considering a third-party operator.

**Q. Did PSE update any other assumptions?**

A. Since the 2013 IRP process began, PSE evaluated the Ferndale Generating Station and the alternatives using the “2013 IRP Base” gas and power prices (PSE’s most current long-term price forecast) and the “2011 RFP Phase II Base w/ New gas price” scenario (PSE’s April 2012 forecast, which was most current at the end of the RFP). The “2013 IRP Base” prices are lower than the “2011 RFP Phase II Base w/ New gas” price scenario. Other updates included use of the proposed \$622/kW capacity cost equivalent to calculate the equity return for the Coal Transition PPA compared to the \$934/kW used in the RFP analysis.

Another key update to the analysis includes the recently updated self-build peaker cost from PSE’s engineering consultant, Black and Veatch (“B&V”), which are approximately \$945/kW (in 2015 dollars) for a 2015 build compared to \$1,005/kW used in the 2011 RFP.

1 **Q. Was the Ferndale Generating Station selected in the “2013 IRP Base” gas**  
 2 **and power price scenario?**

3 A. Yes. The Ferndale Generating Station was selected as lowest cost in the optimal  
 4 portfolio when all viable options were available in the “2013 IRP Base” gas and  
 5 power price scenario, as was also the case in the “2011 RFP Base w/ New gas”  
 6 scenario analysis. These results are shown in Table 2 below.

7 **Table 2. 2013 IRP Base Power and Gas Prices Scenario Results**

	All Optimized	No Ferndale Own	No Centralia
Ferndale Own	X		X
Coal Transition (Centralia) PPA	X		
██████████ (#11117)	X	X	X
PSE Self Build Peaker			X
██████████ (#11124)			X
██████████ (#11110)			X
██████████ (#11123)			
██████████ (#11123)			X
██████████ (#11123)	X	X	
██████████ (#11103)		X	
<b>Portfolio Cost (\$000)</b>	<b>\$9,493,027</b>	<b>\$9,868,097</b>	<b>\$9,536,635</b>
<b>Increase from Optimized (\$000)</b>	<b>–</b>	<b>\$375,070</b>	<b>\$43,608</b>

8 Notes:  
 9 • Ferndale Generating Station costs and operational characteristics updated for due diligence  
 10 findings  
 11 • Coal Transition PPA equity return based on \$622/kW capacity cost equivalent compared to  
 12 \$934/kW used in the 2011 RFP.

13 **Q. Was the Ferndale Generating Station selected in the “2011 RFP Phase II**  
 14 **Base with New Gas” scenario?**

15 A. Yes. Re-evaluation in the “2011 RFP Phase II Base with New Gas” scenario  
 16 continued to show the selection of the acquisition of the Ferndale Generating

1 Station and the Coal Transition PPA as the lowest cost portfolio as illustrated in  
 2 Table 3 below.

3 **Table 3. 2011 RFP Phase II Base With New Gas Price Scenario Results**

	All Optimized	No Ferndale Own	No Centralia
Ferndale Own	X		X
Coal Transition (Centralia) PPA	X		
██████████ (#11117)	X	X	X
PSE Self Build Peaker			X
██████████ (#11124)			X
██████████ (#11110)			X
██████████ (#11123)			
██████████ (#11123)			X
██████████ (#11123)	X	X	
██████████ (#11103)		X	
<b>Portfolio Cost (\$000)</b>	<b>\$9,752,629</b>	<b>\$10,144,885</b>	<b>\$9,855,476</b>
<b>Increase from Optimized (\$000)</b>	<b>-</b>	<b>\$392,256</b>	<b>\$102,847</b>

4 Notes:

- 5 • Ferndale Generating Station costs and operational characteristics updated for due diligence  
 6 findings  
 7 • Coal Transition PPA equity return based on \$622/kW capacity cost equivalent compared to  
 8 \$934/kW used in the 2011 RFP.

9 Both the “2011 RFP Phase II Base with New Gas” scenario and the “2013 IRP  
 10 Base” scenario show the same selections in the optimization and the two  
 11 sensitivities performed.

12 **Q. What did PSE conclude from the quantitative re-evaluation conducted by  
 13 PSE in September 2012?**

14 A. PSE concluded from the quantitative re-evaluation conducted by PSE in  
 15 September 2012 that the acquisition of the Ferndale Generating Station was  
 16 attractive under both higher and lower price scenarios. The results from the re-  
 17 evaluation, however, no longer showed the selection of the ██████████ (#11124).

1 **Q. Did PSE re-evaluate the qualitative analyses of options in September 2012?**

2 A. Yes. PSE re-evaluated qualitative factors of available resources in September  
3 2012. The qualitative re-evaluation of alternatives other than the Ferndale  
4 Generating Station in September 2012 did not change, and the qualitative re-  
5 evaluation of the Ferndale Generating Station reaffirmed its selection.

6 **V. ACQUISITION OF THE FERNDALE**  
7 **GENERATING STATION**

8 **A. Facility Description**

9 **Q. Please describe the Ferndale Generating Station.**

10 A. The Ferndale Generating Station is a conventional dual-fuelled (natural gas as the  
11 primary fuel and diesel fuel as the backup fuel) 2x1 (“two-on-one”) combined  
12 cycle power plant with two combustion turbine generators and one steam turbine  
13 generator. The plant is rated at approximately 245 MW ISO base load (no duct  
14 firing, no process steam), approximately 270 MW with duct firing (ISO, no  
15 process steam), and approximately 290 MW winter rating (23° F, with duct firing,  
16 no process steam).

17 Tenaska Washington Partners, L.P. (“Tenaska Washington”) developed the  
18 Ferndale Generating Station, and the facility commenced operations on April 8,  
19 1994. Tenaska Washington sold the output of the Ferndale Generating Station to  
20 PSE pursuant to a long-term power purchase agreement for 245 MW of firm  
21 electricity (“PURPA PPA”). Effective June 1, 2001, Tenaska Washington entered  
22 into an excess power agreement with PSE to share in the margins generated by



1 PSE when the Ferndale Generating Station generated energy in excess of the  
2 contracted capacity of 245 MW. At the same time, Tenaska Washington Partners  
3 enhanced the Ferndale Generating Station with a gas turbine inlet cooling system  
4 to increase summer capacity. The PURPA PPA expired in accordance with its  
5 terms on December 31, 2011.

6 **B. Due Diligence**

7 **Q. What due diligence did PSE conduct with respect to the Ferndale Generating**  
8 **Station?**

9 A. PSE conducted a review of legal, commercial, environmental, real estate,  
10 insurance, operations and maintenance, and technical concerns related to the  
11 Ferndale Generating Station.

12 **1. Commercial and Legal Due Diligence**

13 **Q. Please describe the commercial and legal due diligence conducted by PSE.**

14 A. PSE and its outside counsel reviewed the various contracts pertaining to the  
15 ownership and operation of the Ferndale Generating Station, such as  
16 interconnection, transportation, operations and maintenance, water supply, and  
17 similar types of agreements. In the course of these investigations, PSE discovered  
18 no significant liabilities and ensured that all necessary assignments and consents  
19 were in place.

1 **Q. Please describe the real estate due diligence conducted by PSE.**

2 A. The real estate due diligence included title review and a survey of the entire site to  
3 confirm the site is contiguous, without significant encroachments, and that no  
4 additional real property interests are necessary for the Ferndale Generating  
5 Station.

6 The Ferndale Generating Station is located in unincorporated Whatcom County,  
7 just west of Ferndale, Washington. The facility is adjacent to the Phillips 66  
8 petroleum refinery and was constructed on a ground lease granted to Tenaska  
9 Washington by the predecessor to Phillips 66. The ground lease consisted of  
10 approximately sixteen acres of land, which is bordered on the East by Lake  
11 Terrell Road and is surrounded on the remaining three sides by other property  
12 held by Phillips 66.

13 The ground lease for the facility was granted in 1992 and was set to expire in  
14 2041, unless a renewal is negotiated with Phillips 66. The lease was set up with  
15 an annual payment of one dollar, with other consideration being provided to the  
16 refinery through a steam agreement. This steam agreement obligated Tenaska  
17 Washington to provide tolled steam (if requested by Phillips 66) to the refinery  
18 when the Ferndale Generating Station is operating and make certain payments to  
19 Phillips 66. The ground lease for the Ferndale Generating Station was burdened  
20 by various typical easements for utilities, which included natural gas, water, and  
21 power lines, as well as an easement owned by PSE for the Terrell Substation.

1                   **2. Environmental Due Diligence**

2           **Q. Please describe the environmental due diligence conducted by PSE.**

3           A. PSE engaged consultant URS Corporation (“URS”) to help perform the  
4           environmental due diligence review, which consisted of a site visit, interviews  
5           with Ferndale Generating Station employees, review of available environmental  
6           documentation provided to PSE by Tenaska Washington (including  
7           environmental agency correspondence, permit applications, final permits,  
8           environmental plans and policies, etc.) at the plant, review of Department of  
9           Ecology and Northwest Clean Air Agency (“NWCAA”) files pertaining to the  
10          Facility and interviews with representatives of each of NWCAA and the Public  
11          Utility District No. 1 of Whatcom County, Washington (“Whatcom  
12          County PUD”). Together with PSE, URS also interviewed NWCAA staff.  
13          Neither PSE nor URS identified significant contamination issues as a result of the  
14          environmental due diligence. The facility appeared to be properly sited and  
15          constructed and was visually in good condition. The facility had programs in  
16          place to address air emissions, wastewater discharge, stormwater discharges, solid  
17          waste management, hazardous materials handling and hazardous waste  
18          management.

19          The existing water supply was provided by the Whatcom County PUD under an  
20          agreement which was set to expire in 2014. URS staff contacted Whatcom  
21          County PUD to determine whether there are any known issues that would prevent  
22          Whatcom County PUD from entering into a new water supply agreement with

1 PSE and were told that Whatcom County PUD had offered a 20-year extension to  
2 Tenaska Washington and would be willing to sell water to PSE.

3 The Ferndale Generating Station operates under an existing Title V Operating  
4 Permit (issued and recently updated in 2012 by NWCAA). The permit conditions  
5 allow a significant amount of operating flexibility for the facility's historic  
6 operations, including flexibility for startups. It appeared unlikely that PSE would  
7 need or want to modify the permit within the foreseeable future.

8 Tenaska Washington records indicated a very limited number of minor Notices of  
9 Violation ("NOV") and excess emission reports. There were no significant past  
10 or ongoing issues observed in Tenaska Washington's records. NWCAA staff  
11 confirmed this information and indicated that the facility had a "sterling  
12 compliance record" and excellent rapport with NWCAA staff.

13 The State of Washington's greenhouse gas ("GHG") emissions performance  
14 standard ("EPS") law (RCW 80.80.40), and related rule (WAC Chapter 173-407)  
15 apply to the Ferndale Generating Station after change of ownership from Tenaska  
16 Washington to PSE. PSE worked with B&V to assess compliance with  
17 Washington's then-existing 1,100 lb-CO<sub>2</sub>/MWh EPS, which is an annual average  
18 limit. When the Facility operates optimally in its original "designed and intended  
19 mode" (e.g., 2x1 baseload at 240 MW), emission rates equal approximately 960  
20 lb-CO<sub>2</sub>/MWh. When the Facility operates less efficiently, at lower loads, with  
21 duct firing or while burning diesel, higher emission rates occur. PSE's and  
22 B&V's test results indicated that compliance with the 1,100 lb-CO<sub>2</sub>/MWh annual

1 average EPS may somewhat limit PSE's cycling (i.e. startups and lower load  
2 operations) and other future operational modes. On October 3, 2012, PSE filed a  
3 petition for an Emissions Performance Determination with the Commission in  
4 Docket No. UE-121594 that requested an order determining that the Ferndale  
5 Generating Station complies with the GHG EPS standards in RCW 80.80. On  
6 November 2, 2012, the Commission issued an order finding that the Ferndale  
7 Generating Station meets the GHG EPS of 1,100 pounds of CO2 per MWh.<sup>3</sup>

8 **3. Insurance Due Diligence**

9 **Q. Please describe the insurance due diligence by PSE.**

10 A. PSE's Insurance Risk Management group and FM Global, PSE's insurance  
11 provider, evaluated the Ferndale Generating Station by reviewing documents  
12 provided by Tenaska Washington. Coincidentally, FM Global was the property  
13 insurer for the facility.

14 The review found that the various programs at the Ferndale Generating Station  
15 were well established and reduced the overall risk factors. The Ferndale  
16 Generating Station had an excellent preventive maintenance and unit inspection  
17 program and an ingrained culture to strive for a highly reliable and safe operation.  
18 Neither PSE nor FM Global identified notable findings based on the review of  
19 documentation provided by Tenaska Washington.

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<sup>3</sup> *In the Matter of the Petition of Puget Sound Energy, Inc., For a Determination of Emissions Compliance*, Docket No. UE-121594, Order 02 (Nov. 2, 2012).

1           **4. Technical Due Diligence**

2           **Q. Please describe the combustion turbines at the Ferndale Generating Station.**

3           A. As stated above, the Ferndale Generating Station uses two GE Frame 7EA Model  
4           MS 7111 combustion turbines. GE 7EA gas turbines are mature, well-understood  
5           machines with millions of hours of operation by similar units installed around the  
6           world. The GE 7EA gas turbines at the Ferndale Generating Station are very  
7           similar to the GE 7EA turbine used by PSE at its Sumas Generating Facility.

8           The GE 7EA combustion turbine and generator form a large frame, industrial-type  
9           machine with an axial flow, multi-stage compressor and power turbine on a  
10          common shaft. Each gas turbine is directly coupled to an electric generator  
11          located on the outlet side of the turbine.

12          As of August 2012, both gas turbines had accumulated just over 80,000 fired  
13          hours and approximately 240 starts. The average run time of over 330 hours per  
14          start demonstrates a more conservative run scheme than is typical for PSE's fleet,  
15          with relatively less cycling. Tenaska Washington followed the recommended  
16          maintenance intervals.

17          **Q. Please describe the heat recovery steam generators ("HRSG") at the**  
18          **Ferndale Generating Station.**

19          A. The Ferndale Generating Station incorporates two HRSGs, which produce steam  
20          at three pressure levels: high pressure, intermediate pressure, and low pressure.  
21          The HRSGs are of conventional design, each with its own exhaust stack 180 feet  
22          high and 14 feet in diameter.

1 **Q. Please describe the steam turbine at the Ferndale Generating Station.**

2 A. Steam generated by the HRSGs flows to a non-reheat controlled extraction,  
3 uncontrolled admission condensing steam turbine manufactured by GE. The  
4 steam turbine is nominally rated at 96 MW and is coupled to a GE 3-phase, air-  
5 cooled 13.8 kV generator.

6 **Q. Please describe the cooling tower and circulating water system at the**  
7 **Ferndale Generating Station.**

8 A. The condenser circulating water system is equipped with three 50 percent  
9 capacity pumps that circulate water through a three-cell, forced draft, wood  
10 cooling tower equipped with two-speed fans. Two auxiliary cooling water pumps  
11 take water from the cooling tower basin to provide cooling water to the closed  
12 loop cooling water system heat exchangers.

13 **Q. Please describe the electric transmission arrangements for the Ferndale**  
14 **Generating Station.**

15 A. The Ferndale Generating Station is relatively close to PSE's loads in Whatcom  
16 County. This proximity provides local reliability benefits in the event of  
17 transmission outages elsewhere in the Whatcom County and system operation  
18 benefits when other generation in the county is not running. Additionally, the  
19 Ferndale Generating Station provides reliability benefits to PSE and to the region  
20 when there are heavy south-to-north flows from the United States to British  
21 Columbia and during Puget Sound Area and Northern Intertie transmission  
22 congestion events. Dispatch of the facility can also offset flows across the

1 Northern Cascade Mountain transmission facilities during winter months, thereby  
2 reducing the risk of transmission curtailments.

3 The Ferndale Generating Station interconnects with PSE’s transmission system at  
4 PSE’s Terrell Substation. Consistent with PSE’s Open Access Transmission  
5 Tariff (“OATT”), Tenaska Washington signed a standard Large Generator  
6 Interconnection Agreement (“LGIA”) with PSE in June 2009. PSE Transmission  
7 Contracts studied a request consistent with PSE’s OATT to increase the  
8 generation capacity of the Ferndale Generating Station and determined that the  
9 facility can operate up to 300 MW winter and 285 MW summer. Upon purchase  
10 of the facility, PSE replaced the LGIA between PSE and Tenaska Washington  
11 with a new LGIA between PSE Marketing and PSE Transmission Contracts that  
12 reflected a stated generation capacity of 300 MW winter and 285 MW summer.

13 PSE designated the Ferndale Generating Station as a new Network Resource in  
14 accordance with PSE’s Designated Network Resource process to secure network  
15 transmission capacity on PSE’s transmission system. For off-system sales, PSE  
16 Marketing will follow PSE’s undesignation procedures and purchase Point-to-  
17 Point transmission service to the extent that it is available. Off-system sales of  
18 energy may be limited from time to time when Point-to-Point transmission service  
19 is not available on other PSE posted transmission paths.



1 **Q. Please describe the gas transportation arrangements for the Ferndale**  
2 **Generating Station.**

3 A. As stated above, the Ferndale Generating Station is a dual-fuel facility (natural  
4 gas and distillate). There is on-site fuel storage for approximately 2.05 million  
5 gallons of distillate. Gas and transportation requirements are 52,000 MMBtu/day  
6 for 270 MW baseload (winter rating) and a total of 58,900 MMBtu/day including  
7 the additional 25 MW of duct-fire capacity.

8 The Ferndale Generating Station interconnects to the Westcoast Energy Inc.  
9 (“Westcoast”) system by Cascade Natural Gas Company’s (“Cascade”)   
10 distribution system. The Cascade distribution system delivery pressure is a  
11 minimum of 350 pounds per square inch gage (“psig”) and a maximum pressure  
12 of 700 psig. Through Cascade’s connection to Westcoast, the Ferndale  
13 Generating Station has the ability to access gas from British Columbia directly at  
14 the Sumas/Huntingdon trading hub. PSE will also hold capacity on Westcoast for  
15 approximately one half the plant requirements to allow purchase of supplies at the  
16 Station 2 trading hub, enhancing price diversity and physical access.

17 Although the plant can run on distillate, PSE will secure firm gas pipeline  
18 capacity to support the full output of the facility. The option of running the  
19 facility on distillate allows greater flexibility to the entire PSE fleet by allowing  
20 gas supply destined for the Ferndale Generating Station to be diverted to other  
21 PSE plants without distillate back-up. PSE maintains a moderate distillate  
22 inventory at the facility to support this flexibility.

1 Under ownership of Tenaska Washington, the Ferndale Generating Station held  
2 52,000 MMBtu/day of firm gas transportation under a special contract on the  
3 Cascade system, which expired on June 18, 2013, but could be renewed for up to  
4 ten years. PSE has determined that pricing under the new standard form Cascade  
5 transportation agreement is more advantageous than an extension and  
6 modification of the existing special contract. Cascade retired the special contract  
7 for 52,000 MMBtu/day in favor of a new “standard” firm transportation  
8 agreement, effective upon closing of the transaction.

9 To provide the additional firm transportation of 6,900 MMBtu per day to the  
10 Facility, Cascade also agreed to an amendment of the existing agreement with  
11 PSE for firm gas transportation to PSE’s nearby Whitehorn Generating Station, at  
12 no additional cost. That agreement, which provides firm service of 24,000  
13 MMBtu per day to a plant requiring over 43,000 MMBtu per day –when running  
14 on pure gas- will be amended to allow a diversion, at PSE’s daily option of up to  
15 6,900 MMBtu per day of firm service to the Ferndale Generating Station.

16 **Q. Please describe the fuel supply arrangements for the Ferndale Generating**  
17 **Station.**

18 A. PSE’s natural gas price exposure will be tied to contracts forwardly traded at the  
19 Sumas trading point that interconnects the Westcoast Energy Inc. pipeline with  
20 the Cascade distribution system. The heat rate optionality inherent in this power  
21 plant, and thus its dispatch protocol, will depend on the relationship between  
22 natural gas prices at Sumas and power prices at the Mid-C. The plant’s heat rate

1 driven dispatch characteristics will be added to PSE's existing portfolio, which is  
2 currently modeled in its risk system. Based on forward market heat rates, the  
3 model would assign monthly probabilistic run rates and gas supply requirements  
4 for the plant ranging from near zero to close to the maximum capacity of 58,200  
5 MMBtu per day for two years forward.

6 Although Sumas is not a liquid trading point, there is enough liquidity to  
7 effectively trade fixed financial natural gas contracts for the next two to three  
8 years forward, based on the probabilistic run assumptions. Since the facility is an  
9 efficient power generator with a medium heat rate vis-à-vis other power plants in  
10 the region, the plant is likely to be dispatched predominately from July through  
11 February annually when market heat rates tend to be highest. PSE would expect  
12 to see an increase in its natural gas short position in these months that will be  
13 managed through a combination of financial and physical gas purchases.

14 With the volatility of market heat rates, a flexible gas management strategy is  
15 required to manage the cross-commodity risk. In the case where heat rates rise,  
16 PSE will keep and exercise the financial and physical hedges. In the case where  
17 heat rates fall, rendering the Ferndale Generating Station uneconomic, PSE would  
18 sell the financial gas contract and purchase power at Mid-C. These hedges reduce  
19 the uncertainty of both the financial cost and physical supply. Purchasing the  
20 financial gas hedge and the underlying physical natural gas supply at an index  
21 (floating) price may force PSE to not only sell off the financial gas hedge, when  
22 heat rates collapse, but also the physical supply. This adds operational risk,

1 particularly if heat rates are highly volatile in a particular month and the financial  
2 hedge is taken on and off numerous times.

3 To further mitigate gas price risk, PSE will obtain firm capacity on the Westcoast  
4 system for approximately 50 percent of the Facility's gas supply demand. This  
5 capacity will give PSE access to gas at the "Station 2" trading hub in northern  
6 British Columbia as an alternative to exclusive reliance on supplies transported by  
7 third parties to the Sumas hub. This approach of purchasing financial gas hedges  
8 and diversifying gas source is consistent with current PSE portfolio management  
9 practices.

10 **5. Operations and Maintenance Due Diligence**

11 **Q. Please describe the operations and maintenance due diligence conducted by**  
12 **PSE.**

13 A. The Ferndale Generating Station staff consists of four management positions, two  
14 administrative support workers, fourteen craft workers, and one technician. The  
15 four management positions were exempt salaried employees, the seventeen other  
16 employees were non-exempt, compensated at an hourly rate. The labor force at  
17 Ferndale was nonunion.

18 The PSE thermal operations group evaluated multiple options to staff the plant in  
19 a manner similar to Tenaska Washington and ultimately opted to hire North  
20 American Energy Services on a short term basis to operate and maintain the  
21 facility.

1                   **6. NERC/WECC Compliance Due Diligence**

2           **Q. Please describe the compliance due diligence conducted by PSE.**

3           A. The Ferndale Generating Station is subject to the North American Electric  
4           Reliability Corporation (“NERC”)/Western Electricity Coordinating Council  
5           (“WECC”) Reliability Standards applicable to Generator Owners and Generator  
6           Operators. Derived from Federal Energy Regulatory Commission (“FERC”)  
7           Orders 693 and 706, these reliability standards have been in effect since  
8           June 2007. Tenaska Washington registered as a Generator Owner and Generator  
9           Operator in the NERC Registry (NCR # 05418) and was subject to applicable  
10          regional standards within the WECC Region. In April 2007, WECC audited  
11          Tenaska Washington and found the facility to be compliant with all 38 NERC  
12          requirements and two WECC regional requirements applicable to it at that time  
13          (Order 693 standards only). The next WECC audit is anticipated to occur in  
14          2016.

15           **C. Board Approval of the Acquisition**

16           **Q. Was PSE able to finalize contracts for acquisition of the Ferndale Generating**  
17           **Station?**

18           A. Yes. Negotiations with Tenaska Washington produced definitive agreements for  
19           PSE’s acquisition of the Station. At the September 27, 2012, meeting of PSE’s  
20           Board of Directors, PSE management recommended that the Board approve the  
21           acquisition as set forth in the summary documentation to the Board of Directors.  
22           Please see Exhibit No. \_\_\_(RG-6HC) for a copy of the presentation to the PSE

1 Board of Directors, dated September 27, 2012 regarding the Ferndale Generating  
2 Station. The Board approved the recommendation, and PSE executed the  
3 necessary agreements and closed on the transaction on November 15, 2012.

4 **D. Project Acquisition Process**

5 **Q. Please describe the process resulting in PSE's acquisition of the Ferndale**  
6 **Generating Station.**

7 A. PSE and Tenaska Washington entered into a non-binding Letter of Intent and  
8 Term Sheet. Please see Exhibit No. \_\_\_(MM-5) for copies of the non-binding  
9 Letter of Intent and Term Sheet for the Ferndale Generating Station. This Letter  
10 of Intent and Term Sheet formed the basic terms upon which PSE would be  
11 willing to proceed to negotiate Definitive Agreements.

12 PSE and Tenaska Washington executed the Asset Acquisition Agreement, dated  
13 as of October 3, 2012, following approval from PSE's Board of Directors. Please  
14 see Exhibit No. \_\_\_(MM-6C) for a copy of the Asset Acquisition Agreement,  
15 dated as of October 3, 2012, between PSE and Tenaska Washington.

16 **Q. Has FERC approved the acquisition of the Ferndale Generating Station?**

17 A. Yes. On November 8, 2012, FERC issued its "Order Authorizing Disposition of  
18 Jurisdictional Facilities and Acquisition of Generating Facilities." Please see  
19 Exhibit No. \_\_\_(MM-7) for a copy of such FERC order.

1 **Q. Have PSE and Tenaska Washington closed the sale of the Ferndale**  
2 **Generating Station?**

3 A. Yes. The transaction closed on November 15, 2012.

4 **E. Principal Agreements**

5 **1. Asset Acquisition Agreement**

6 **Q. Please describe the structure of the Asset Acquisition Agreement.**

7 A. Pursuant to the terms and conditions of the Asset Acquisition Agreement,  
8 Tenaska Washington sold, and PSE purchased, all assets relating to the operation  
9 of the Ferndale Generating Station at the closing on November 15, 2012. Please  
10 see Exhibit No. \_\_\_(MM-6C) for a copy of the Asset Acquisition Agreement.

11 **Q. What was the purchase price under the Asset Acquisition Agreement?**

12 A. PSE paid a purchase price of \$84,000,000 at closing. Tenaska Washington placed  
13 \$8,400,000 of the purchase price in an escrow account at closing to secure  
14 Tenaska Washington's indemnification obligations to PSE. The escrowed amount  
15 will be reduced to \$1,680,000 upon the conclusion of the survival of certain of  
16 such obligations and will be fully released after 36 months.

17 **Q. What representations and warranties are contained within the Asset**  
18 **Acquisition Agreement?**

19 A. The Asset Acquisition Agreement contains representations and warranties typical  
20 for transactions of this type. Among other things, the representations and  
21 warranties in the Asset Acquisition Agreement relate to:

- 1 (i) organizational and authority matters;
- 2 (ii) matters requiring third party consents;
- 3 (iii) absence of brokers;
- 4 (iv) solvency;
- 5 (v) condition and sufficiency of the purchased assets;
- 6 (vi) certain matters related to the acquired real property and the
- 7 acquired contracts;
- 8 (vii) compliance with law and permits;
- 9 (viii) environmental matters;
- 10 (ix) litigation, tax, insurance, intellectual property and
- 11 employments matters;
- 12 (x) historical financial information; and
- 13 (xi) credit support obligations.

14 Please see Exhibit No. \_\_\_(MM-6C).

15 **Q. What covenants are contained within the Asset Acquisition Agreement?**

16 A. The Asset Acquisition Agreement contains various covenants agreed to by PSE  
17 and Tenaska and Washington, including, among other things, covenants related  
18 to:

- 19 (i) efforts to obtain regulatory approvals and third party
- 20 consents necessary to consummate the transaction;
- 21 (ii) conduct and operation of the Ferndale Generating Station
- 22 and activities related to the acquired assets prior to closing;
- 23 (iii) PSE’s access to the Ferndale Generating Station site and
- 24 books and records prior to closing;



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- (iv) furnishing financial and plant accounting data sufficient to meet FERC accounting requirements;
- (v) risk of loss in the event of casualty or condemnation prior to closing; and
- (vi) provision of transitional services if required by PSE.

Please see Exhibit No. \_\_\_(MM-6C).

**Q. Please describe the tax provisions of the Asset Acquisition Agreement.**

A. The Asset Acquisition Agreement provides that any real estate excise tax imposed on the sale of the acquired assets shall be shared equally between PSE and Tenaska Washington. Tenaska Washington was responsible for any sales and use tax imposed on the transaction. Please see Exhibit No. \_\_\_(MM-6C).

**Q. Were there any conditions to closing of the Asset Acquisition Agreement?**

A. Yes. The Asset Acquisition Agreement contained mutual conditions to closing, including the following:

- (i) no laws or injunctions prohibiting the transaction;
- (ii) receipt of FERC approval;
- (iii) expiration of the Hart-Scott-Rodino waiting period; and
- (iv) all third party consents and approvals being obtained.

Please see Exhibit No. \_\_\_(MM-6C).

In addition, the Asset Acquisition Agreement contains conditions to closing that ran in favor of PSE, including the following:

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- (i) Tenaska Washington’s representations and warranties remain true and correct, except as would constitute a material adverse effect;
- (ii) no greenhouse gas standard shall have been implemented that establishes an emissions rate that is less than the Ferndale Generating Station can meet utilizing reasonable assumptions regarding dispatch under PSE ownership;
- (iii) receipt by PSE of a Commission order declaring that the Ferndale Generating Station and the transaction are in compliance with the greenhouse gas standard;
- (iv) counterparties to certain project documents, including the Lease, Steam Agreement, and gas transportation agreement, shall have agreed to amendments and/or new agreements; and
- (v) PSE shall have received a title policy or irrevocable title commitment.

Please see Exhibit No. \_\_\_(MM-6C).

**Q. What indemnification provisions are included in the Asset Acquisition Agreement?**

A. The Asset Acquisition Agreement provides a right of indemnification to all parties with respect to claims arising out of the transaction. All claims for indemnification arising out of breaches of representations and warranties must be made within a period anticipated to be no more than fifteen months after closing, except for claims relating to tax and environmental representations and warranties which may be made within 36 months after the closing. Please see Exhibit No. \_\_\_(MM-6C).

1 **Q. Does the Asset Acquisition Agreement include limitations of liability?**

2 A. Yes. The Asset Acquisition Agreement provides that a party seeking  
3 indemnification will have no reimbursable claim for indemnification until having  
4 incurred losses exceeding \$525,000, but indemnification is from the first dollar  
5 after the threshold is reached. Further, PSE's recovery for breaches of Tenaska  
6 Washington's representations and warranties is limited exclusively to the  
7 escrowed amount on deposit. Please see Exhibit No. \_\_\_(MM-6C).

8 **Q. Please describe the termination provisions of the Asset Acquisition**  
9 **Agreement.**

10 A. In addition to voluntary termination provisions, the Asset Acquisition Agreement  
11 provides that it may be terminated under certain circumstances, including the  
12 following:

- 13 (i) by either party, if the closing has not occurred by  
14 December 31, 2012, which date shall be extended by  
15 60 days if closing has not occurred due to the failure to  
16 obtain certain regulatory approval or third party consents;
- 17 (2) by a party in the event of a material breach by the other  
18 party; and
- 19 (3) by either party in the event of a material adverse effect on  
20 Tenaska Washington or the assets to be acquired.

21 Please see Exhibit No. \_\_\_(MM-6C).

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**2. Steam Agreement**

**Q. What is the Steam Agreement?**

A. Prior to its acquisition by PSE, the Ferndale Generating Station provided steam to the Phillips 66 Refinery pursuant to the Steam Agreement (the “Steam Agreement”) between Tenaska Washington and the Phillips 66 Company (“Phillips 66”). Phillips 66 agreed to certain amendments to the Steam Agreement that became effective upon closing of the Asset Acquisition Agreement. Please see pages 137-144 of Exhibit No. \_\_\_(MM-6C) for a copy of the Consent and Amendment Agreement, which amends the Steam Agreement.

**Q. When does the amended Steam Agreement terminate?**

A. The Steam Agreement expires in 2041, coterminous with the expiration of the Lease described below.

**Q. What are the terms of steam deliveries under the amended Steam Agreement?**

A. [REDACTED]

1 **Q. What are the payment terms under the amended Steam Agreement?**

2 A. [REDACTED]  
3 [REDACTED].

4 **Q. Does the amended Steam Agreement contain a buyout option?**

5 A. Yes. [REDACTED]  
6 [REDACTED]  
7 [REDACTED]  
8 [REDACTED].

9 **3. Lease and Easement**

10 **Q. Please describe the Lease for the Ferndale Generating Station?**

11 A, As described above, the Ferndale Generating Station is located on an  
12 approximately 16-acre site wholly within the boundaries of the approximately  
13 850-acre site of the Phillips 66 Refinery. Prior to PSE’s acquisition of the  
14 Ferndale Generating Station, Tenaska Washington leased the facility site pursuant  
15 to a Lease (“Lease”), between TWP and Phillips 66. Phillips 66 agreed to certain  
16 amendments to the Lease that became effective upon the closing. Please see  
17 pages 95-136 of Exhibit No. \_\_\_(MM-6C) for a copy of the Consent and  
18 Amendment Agreement, which amends the Lease.

19 **Q. What is the term of the Lease?**

20 A. The Lease expires in 2041, coterminous with the expiration of the Steam  
21 Agreement (described above).

1 Q. What is the rent under the Lease?

2 A. [REDACTED]  
3 [REDACTED].

4 Q. Does the the Lease contain provisions for facility removal and remediation of  
5 the facility site?

6 A. Yes. [REDACTED]  
7 [REDACTED]  
8 [REDACTED]  
9 [REDACTED]  
10 [REDACTED]  
11 [REDACTED]  
12 [REDACTED].

13 PSE was responsible for funding an escrow account at closing to secure PSE’s  
14 removal and remediation obligations discussed above. The amount placed in  
15 escrow was approximately \$1.6 million, subject to change from time to time  
16 based upon updated estimates of the cost to perform PSE’s removal and  
17 remediation obligations.

18 **4. Agreement for Industrial Water Purchase**

19 Q. Please describe the Agreement for Industrial Water Purchase.

20 A. Prior to PSE’s acquisition of the Ferndale Generating Station, Whatcom County  
21 PUD provided the facility with industrial water pursuant to the Agreement for

1 Industrial Water Purchase (“Industrial Water Purchase Agreement”) between  
2 Tenaska Washington and Whatcom County PUD. PSE assumed Tenaska  
3 Washington’s obligations under the Industrial Water Purchase Agreement at  
4 closing.

5 **Q. What is the term of the Industrial Water Purchase Agreement?**

6 A. The Industrial Water Purchase Agreement expires December 31, 2014. Whatcom  
7 County PUD has expressed an interest in extending the agreement on a long-term  
8 basis.

9 **Q. What are the key commercial terms of the Industrial Water Purchase**  
10 **Agreement.**

11 A. Under the Industrial Water Purchase Agreement, Whatcom County PUD must  
12 provide the Ferndale Generating Station up to two million gallons per day of  
13 industrial water pursuant to standard utility rates. PSE can change delivery  
14 quantity with consent of Whatcom County PUD.

15 **5. Agreement for Natural Gas Service**

16 **Q. Please describe the Agreement for Natural Gas Service.**

17 A. Cascade provides the Ferndale Generating Station with firm natural gas  
18 transportation pursuant to the Agreement for Natural Gas Service Firm  
19 Transportation. PSE took assignment of this agreement (a special contract  
20 requiring Commission approval when implemented in 1991) to reserve the firm

1 capacity. PSE entered into a new Agreement for Natural Gas Service (“Gas  
2 Service Agreement”) at closing that superseded and replaced the prior agreement.

3 **Q. What is the term of the Gas Service Agreement?**

4 A. The Gas Service Agreement expires on September 30, 2037, with additional year-  
5 to-year renewals until terminated by either party.

6 **Q. What are the key commercial terms of the Gas Service Agreement?**

7 A. Under the terms of the Gas Service Agreement, Cascade must provide firm gas  
8 transportation for up to 52,000 MMBtu/day. [REDACTED]

9 [REDACTED]

10 [REDACTED]

11 [REDACTED].

12 Cascade will charge standard rate schedule 663 pricing under the Gas Service  
13 Agreement. Variable costs would total from \$0.05 to 0.15 per MMBtu depending  
14 on monthly usage and fixed costs total \$78,500/month.

15 **6. O&M Agreement**

16 **Q. Please describe the O&M Agreement.**

17 A. PSE and NAES Corporation (“NAES”) entered into an O&M Services  
18 Agreement, dated as of October 12, 2012 (the “O&M Agreement”). The term of  
19 the O&M Agreement is [REDACTED].

20 Under the O&M Agreement, PSE has retained NAES to provide certain O&M  
21 services as more particularly described in the O&M Agreement. PSE pays NAES



1 a fee of [REDACTED] for these services, and PSE will reimburse NAES for  
2 certain “Home Office Costs” reasonably incurred by NAES in performing the  
3 services under the O&M Agreement.

4 **7. Interconnection Agreement**

5 **Q. Please describe the Interconnection Agreement for the Ferndale Generating**  
6 **Station.**

7 A. The Ferndale Generating Station interconnects to the PSE transmission system  
8 pursuant to the LGIA. Upon purchase of the Ferndale Generating Station, the  
9 then-existing LGIA between Tenaska Washington and PSE was terminated and a  
10 new LGIA between PSE Marketing and PSE Transmission Contracts was  
11 executed.

12 Based on the results of a recent System Impact Study, the new LGIA will allow  
13 the Ferndale Generating Station to operate with an increase of the maximum  
14 output limits to 300 MW winter and 285 MW summer.

15 **F. Project Acquisition Costs**

16 **Q. Please describe the acquisition costs for the Ferndale Generating Station.**

17 A. PSE’s purchase price for the Ferndale Generating Station was \$84,000,000 or  
18 approximately \$290 per kW. There were additional acquisition costs as indicated  
19 in Table 4 below, which resulted in a total acquisition cost of approximately  
20 \$87,993,973.

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**Table 4. Ferndale Generating Station Acquisition Costs**

<b>Ferndale Generating Station</b>	<b>Project Costs</b>
<b>Facility Purchase Price</b>	<b>\$84,000,000</b>
<b>Real Estate Excise Tax (REET) 50%</b>	[REDACTED]
<b>Facility Improvements</b>	[REDACTED]
IT	[REDACTED]
Security	[REDACTED]
Interconnection & Transmission	[REDACTED]
NERC/WECC Testing	[REDACTED]
Signage	[REDACTED]
<b>Operating Standards Upgrades</b>	[REDACTED]
<b>Transaction &amp; Due Diligence</b>	[REDACTED]
Documentation	[REDACTED]
Due Diligence	[REDACTED]
Hart-Scott-Rodino filing	[REDACTED]
Alta Survey	[REDACTED]
Title Insurance	[REDACTED]
<b>Total Acquisition Costs</b>	<b>\$87,993,973</b>

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**Q. Please describe the line item Additional Acquisition Costs.**

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A. Additional Acquisition Costs contains costs PSE incurred to complete the transaction, bring the Ferndale Generating Station up to PSE’s operating standards and pay a portion of the Real Estate Excise Tax (“REET”). The REET is a Washington State tax levied on the portion of property classified as “real” in which a controlling interest of the property is transferred. The combined tax rate for Whatcom County and Washington State is 1.78%. PSE and Tenaska Washington agreed that PSE would bear a portion of the REET.

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When PSE purchases or constructs a generating facility and before the facility is placed into service for operation by PSE, PSE ensures that the plant meets PSE’s Operating Standard. The Operating Standard defines PSE’s policy for continued

1 safe and reliable operations of PSE's generating facilities. PSE identified some  
2 necessary upgrades.

3 Transaction and due diligence costs are PSE's internal costs for due diligence and  
4 negotiations, title insurance, third party expert consultants and legal fees  
5 associated with the transaction. Please see the discussion above regarding the due  
6 diligence efforts undertaken by PSE.

7 The category "Transaction & Due Diligence Costs" reflects (i) the costs paid by  
8 PSE to third parties who assisted in PSE's due diligence efforts for the acquisition  
9 and (ii) the legal fees paid to the law firm Bracewell & Giuliani for negotiating,  
10 drafting and documenting the definitive agreements for the acquisition.

11 **Q. What does PSE project its production O&M expenses will be for the**  
12 **Ferndale Generating Station during the rate year?**

13 A. PSE anticipates total O&M costs of \$6.9 million for the Ferndale Generating  
14 Station during the rate year. The projected O&M costs during the rate year are  
15 provided in the workpapers in support of Exhibit No. \_\_\_(LEO-1T).

16 **Q. Did PSE prepare a projected balance sheet, income statement, and statement**  
17 **of cash flows associated with the Ferndale Generating Station?**

18 A. Yes. Please see pages 72-96 of Exhibit No. \_\_\_(RG-6HC) for the projected  
19 balance sheet, income statement, and statement of cash flows associated with the  
20 Ferndale Generating Station.

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VI. [REDACTED]

A. [REDACTED]

Q. [REDACTED]

A. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Q. [REDACTED]

A. [REDACTED]

Q. [REDACTED]

[REDACTED]

A. [REDACTED]

[REDACTED]

[REDACTED]

**Table 5.** [REDACTED]

[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

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[REDACTED]

**B.**

[REDACTED]

**Q.**

[REDACTED]

**A.**

[REDACTED]

**Q.**

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**A.**

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**Table 6.** [REDACTED]

[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

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**Q.** [REDACTED]

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**A.** [REDACTED]

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[REDACTED]

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[REDACTED]

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[REDACTED]

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[REDACTED]

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**Q.** [REDACTED]

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[REDACTED]

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**A.** [REDACTED]

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Figure 2. [REDACTED]

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Q. [REDACTED]

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Q.

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C. [REDACTED]

Q. [REDACTED]

A. [REDACTED]

Q. [REDACTED]

A. [REDACTED]

Table 7. [REDACTED]

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**Q.** [REDACTED]

**A.** [REDACTED]

[REDACTED]

**VII. CONCLUSION**

**Q.** Please summarize your conclusions.

**A.** PSE conducted the 2011 RFP to address resource deficiencies outlined in PSE’s 2011 IRP. A wide variety of resources were made available to PSE both during and after this process to help address the projected need. Ultimately, the Ferndale

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Generating Station [REDACTED] were the only resources meeting PSE's  
criteria to address need at lowest reasonable cost available.

**Q. Does that conclude your prefiled direct testimony?**

A. Yes, it does.