EXHIBIT NO. ___(MM-4HC)
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_____**

THIRD EXHIBIT (HIGHLY CONFIDENTIAL) TO THE PREFILED DIRECT TESTIMONY OF MICHAEL MULLALLY ON BEHALF OF PUGET SOUND ENERGY, INC.

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APRIL 25, 2013

July 2012 memo: Reevaluation of revised offers

I. Executive Summary

In mid-June 2012, the RFP evaluation team, was prepared to recommend pursuing three resource proposals based on the results of PSE's 2011 RFP analysis:

- the Coal Transition Power PPA (#11102),
- the [redacted] (#11117), [redacted] MW PPA beginning in 2016; and
- the [redacted] (#11124), a 10-year PPA for [redacted] MW from an existing [redacted] system.

The analysis indicated that the three selected resources represented the lowest cost portfolio with the lowest risk compared to other alternatives in the 2011 RFP. See the 2011 RFP Evaluation Document for a description of PSE's RFP results and decisions.

On or about June 13, 2012, PSE notified bidders of their selection status in the RFP. By June 22, 2012, PSE received revised offers from the following three counterparties not selected in the 2011 RFP:

- [redacted] (#11103-r) – reduced purchase price from $[redacted] million to $[redacted] million.
- Ferndale Ownership (#11118-r) –offered an ownership option for the Ferndale Cogeneration Station at a purchase price of $84 million; the previous bid in the 2011 RFP was [redacted].
- [redacted] (#11117-r) – restructured the not selected [redacted] offer to a November-February product, reduced fixed charges, increased variable costs, and changed the fuel index to [redacted]

Additionally, the RFP evaluation team identified a new transmission risk for the Coal Transition Power PPA (#11102) that could potentially limit PSE's ability to purchase contract volumes in excess of 380 MW.

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Before recommending to the Energy Management Committee ("EMC") and the Board of Directors ("BOD") that PSE enter into the Coal Transition Power PPA (#11102), the RFP evaluation team

- reevaluated all revised offers received after completing and identifying the 2011 RFP short list to determine if the short list should be updated; and
- considered the impacts of limited PSE transmission transfer capability for the Coal Transition Power PPA (#11102).

The reevaluation showed that the Coal Transition Power PPA (#11102) at the original volumes was no longer least cost in 4 of 5 scenarios. On June 27, 2012, PSE discontinued its pursuit of the Coal Transition Power PPA (#11102) at the original volumes.

On July 5, 2012, TransAlta revised the commercial structure of the Coal Transition Power PPA (#11102-r) to a smaller volume and later start.

Of the multiple combinations of options available, the Coal Transition Power PPA (#11102-r) offer at the lower volumes, when combined with the Ferndale Ownership (#11118-r) offer, appears to be the most attractive option from a portfolio perspective.

II. Description of reevaluation process

For the reevaluation, PSE considered both the quantitative and qualitative merits of each proposal offer. The reevaluation was conducted in the PSM III Optimization model both by optimizing and constructing manual portfolios.

The following steps were taken to perform the analysis:

- Perform optimization analysis with revised offers in five scenarios to reexamine short-list
  - Offers as of June 22, 2012
  - Offers as of July 5, 2012
- Perform a qualitative review of the offers
- Test manually constructed portfolios to compare
  - Ferndale Ownership (#11118-r)
  - Coal Transition Power PPA (Original Volumes) (#11102)
  - Ferndale Ownership (#11118-r) combined with Coal Transition Power PPA (New Volumes) (#11102-r)
- Perform risk analysis on manually constructed portfolios

III. Description of proposals received

Figure 1 below summarizes the four revised offers received near the end and shortly after the conclusion of the 2011 RFP. The purchase price of the [redacted]

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(#11103-r) offer was reduced from $[redacted] million to [redacted] million ($[redacted]/kW)[1]. Tenaska proposed the Ferndale Ownership (#11118-r) offer at a purchase price of $84 million ($315/kW)[2]; the original 2011 RFP offer was a 10-year tolling option (#11118). [redacted] restructured the [redacted] 10 Year Winter Only (#11117-r) offer to a November-February product, reduced fixed charges, increased variable costs, and changed the fuel index to [redacted]. TransAlta revised the Coal Transition Power PPA (#11102-r) offer to include a later start —2014 rather than 2012—and a reduced volume of up to 380 MW.

Figure 1. Revised RFP offers[3]

Price refresh date	Type	Project / Owner	State	Capacity (MW)	Term	New price
5/30/2012	NatG-CCCT	[redacted] (#11117-r) [redacted]	OR	[redacted]	2/1/13-2/28/22	**(see note)***
5/17/2012	NatG-CCCT	[redacted] (#11103-r) [redacted]	WA	[redacted]	Dec 2012	**$[redacted] million**
6/22/2012	NatG-CCCT	**Ferndale Ownership** (#11118-r) *Tenaska*	WA	280	Dec 2012	**$84 million**
7/5/2012	Coal Transition Power	**Coal Transition Power PPA (New Volumes)** (#11102-r) *TransAlta*	WA	Up to 380	12/1/14-12/31/25	**No Change**

Note: [redacted] restructured their offer to a Nov-Feb product, reduced fixed charges, increased variable costs, and changed the fuel index to [redacted].

[1] Based on ISO capacity estimated for analysis at [redacted] MW.

[2] Based on ISO capacity estimated for analysis at [redacted] MW.

[3] PSE screened offers as received, see Appendix A in this memo for screening model results.

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IV. Analysis Results

2011 RFP Optimization Analysis

In the 2011 RFP, PSE identified a short-list based on the qualitative and quantitative evaluation of the proposals. Figure 2 identifies the original optimization results from the 2011 RFP for comparison.

Figure 2. 2011 RFP Scenario Optimization Results

	Scenario					
	Base	Base + CO2	Base w/ New Gas	High Prices	Low Growth	Selected in X of 5 Scenarios
[redacted] (#11103)						0
PSE Self Build Peaker					X	1
[redacted] (#11124)		X		X	X	3
[redacted] (#11110)	X	X	X			3
Coal Transition (Centralia) PPA (#11102)	X	X	X	X		4
[redacted] (#11123)				X		1
[redacted] (#11123)					X	1
[redacted] (#11123)	X		X			2
[redacted] (#11118)					X	1
[redacted] (#11117)	X	X	X	X		4
Portfolio Cost ($000)	10,151,274	13,491,908	9,858,326	11,097,217	7,966,006	

Notes:
(1) Selection in more scenarios is considered favorable; however, scenarios are not equally weighted
(2) "Base w/ New Gas" scenario reflects most current gas price forecast; proposed Base scenario for 2013 IRP
(3) In "Base + CO2" scenario, Coal Transition Power PPA (#11102) is tested with a higher PPA price to reflect the increase in market prices between "Base" and "Base + CO2"
(4) Coal Transition Power PPA (#11102) analysis includes equity component based on PSE's self build peaker [redacted]

Reevaluation Optimization Analysis conducted after June 22, 2012

Since PSE received revised proposals after completing the analysis provided above, PSE evaluated these revised proposals to see how they might impact the 2011 RFP decisions. Figure 3 shows the results of the optimization analysis with the revised offers.

Although PSE previously eliminated [redacted] (#11117) due to qualitative risks, it was decided to reevaluate the new offer with the lowered prices in order to see if the revised pricing would warrant accepting the additional risks associated with the proposal.

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Figure 3. Optimization runs of the revised proposals received as of June 22, 2012

	Scenario					
	Base	Base + CO2	Base w/ New Gas	High Prices	Low Growth	Selected in X of 5 Scenarios
[redacted] (#11103-r) (1)	-	-	-	-	-	0
Ferndale Own (#11118-r) (1)	X	X	X	-	X	4
PSE Self Build Peaker	-	-	-	-	-	0
[redacted] (#11124)	-	X	-	X	-	2
[redacted] (#11110)	X	X	-	-	-	2
Coal Transition (Centralia) PPA-Original Volumes (#11102)(2)	-	-	-	X	-	1
[redacted] (#11123)	-	-	-	X	-	1
[redacted] (#11123)	-	-	X	-	-	1
[redacted] (#11123)	X	-	-	-	X	2
[redacted] l (#11118) (1)	-	-	-	X	-	1
[redacted] (#11117)	X	X	X	X	X	5
[redacted] (#11117-r) (3)	X	X	X	-	X	4
Portfolio Cost ($000)	**10,162,133**	**13,515,892**	**9,791,584**	**11,087,783**	**7,913,627**	

Notes:

(1) Includes cost of West Coast pipeline capacity consistent with PSE's gas hedging strategy for combined cycle plants. During the 2011 RFP evaluation, PSE did not include firm pipeline gas transportation charges for gas plants with oil backup, such as the Ferndale plant.

(2) Coal Transition Power PPA (Original Volumes) (#11102) includes additional BPA transmission costs to reflect the additional transmission PSE would need to acquire to achieve 498 MW of firm transmission rights; does not reflect risk of obtaining an additional 118MW of BPA transmission; analysis includes equity component based on PSE's self build peaker at [redacted]/kW.

(3) [redacted] revised term sheet did not identify the transmission capacity available to PSE's system; PSE modeled based on potential capacity identified by [redacted] in discussions; however, this capacity doesn't match the unit output.

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On July 5, 2012, TransAlta revised the commercial structure of the Coal Transition Power PPA (#11102-r) to a smaller volume and later start. Figure 4 shows the reevaluation of offers, as of July 5, 2012, after PSE received the revised offer from TransAlta; however this result does not take into account the qualitative review. When the [redacted] (#11117-r) offer is eliminated as a result of the qualitative risks summarized in Figure 6, the Coal Transition Power PPA (#11102-r) is lowest cost in 4 out of 5 scenarios, as shown in Figure 5. The difference in portfolio cost with the Coal Transition Power PPA (#11102-r) in the "Base w/ New Gas" scenario is only $9.28 million dollars (or approximately 0.09%) more than the portfolio with the [redacted] (#11117-r); not enough cost difference to accept the additional risks associated with the proposal.

Figure 4. Optimization runs of the revised proposals received as of July 5, 2012

	Scenario					
	Base	Base + CO2	Base w/ New Gas	High Prices	Low Growth	Selected in X of 5 Scenarios
[redacted] (#11103) (1)	-	-	-	-	-	0
Ferndale Own (#11118-r)(1)	X	X	X	-	X	4
PSE Self Build Peaker	-	-	-	-	-	0
[redacted] (#11124)	X	X	-	X	-	3
[redacted] (#11110)	-	X	-	-	-	1
Coal Transition (Centralia) PPA – July 5 Volumes (#11102-r) (2)	X	X	-	X	-	3
[redacted] (#11123)	-	-	-	X	-	1
[redacted] (#11123)	-	-	X	-	-	1
[redacted] (#11123)	X	X	-	-	X	3
[redacted] (#11118) (1)	-	-	-	X	-	1
[redacted] (#11117)	X	X	X	X	X	5
[redacted] (#11117-r) (3)	-	-	X	-	X	2
Portfolio Cost ($000)	**10,126,098**	**13,455,720**	**9,791,584**	**11,139,586**	**7,913,627**	

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Notes:

(1) Includes cost of West Coast pipeline capacity consistent with PSE's gas hedging strategy for combined cycle plants. During the 2011 RFP evaluation, PSE did not include firm pipeline gas transportation charges for gas plants with oil backup, such as the Ferndale plant.

(2) Analysis includes equity component based on PSE's self build peaker at [redacted]/kW.

(3) [redacted] revised term sheet did not identify the transmission capacity available to PSE's system; PSE modeled based on potential capacity identified by [redacted] in prior discussion; however, this capacity doesn't match the unit output.

Figure 5. Optimization runs of the revised proposals received as of July 5, 2012 excluding [redacted] (#11118), [redacted] (#11103-r), and [redacted] (#11117-r)

	Scenario					
	Base	Base + CO2	Base w/ New Gas	High Prices	Low Growth	Selected
Ferndale Own (#11118-r) (1)	X	X	X	X	X	5
PSE Self Build Peaker	-	-	-	-	X	1
[redacted] (#11124)	X	X	X	X	-	4
[redacted] (#11110)	-	X	-	-	X	2
Coal Transition PPA- New Volumes (2)	X	X	X	X	-	4
[redacted] (#11123)	-	-	-	X	-	1
[redacted] (#11123)	-	-	-	-	X	1
[redacted] (#11123)	X	X	X	-	-	3
[redacted] (#11117)	X	X	X	X	-	4
Portfolio Cost ($000)	10,126,098	13,455,720	9,800,864	11,168,954	7,959,626	

Notes:

(1) Includes cost of West Coast pipeline capacity consistent with PSE's gas hedging strategy for combined cycle plants. During the 2011 RFP evaluation, PSE did not include firm pipeline gas transportation charges for gas plants with oil backup, such as the Ferndale plant.

(2) Analysis includes equity component based on PSE's self build peaker at [redacted].

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Qualitative Review

In addition to the quantitative analysis, PSE considers the merits of each proposal as identified in the 2011 RFP's Evaluation Criteria, presented in Appendix B of the 2011 RFP Evaluation Document. Important considerations include:

- Is the project viable as proposed?
- Are there unacceptable risks associated with counterparty, commercial terms, technology, permitting, fuel supply, etc.?
- Is there a clear transmission solution?
- Are project costs competitive with other alternatives?

As shown in Figure 6 below, evaluation of the revised proposals continues to show significant qualitative risks for both the [redacted] (#11117-r) offer and [redacted] (#11103-r) offer. PSE has identified significant advantages for both the Coal Transition Power PPA (revised volume) (#11102-r) offer and the Ferndale Ownership (#11118-r) offer; however, both of these offers require quick action or these opportunities may be at risk.

Figure 6. Qualitative evaluation of revised offers

Project	Qualitative Advantages (+)	Qualitative Risks (-)
11102-r **Coal Transition Power PPA (Centralia)** TransAlta *11-yr PPA,* *Operating Transition Coal* *Up to 380 MW* *COD: 1971* *Term: 12/1/14-12/31/25*	• PPA economic benefits are favorable compared to alternatives • Physical, long-term flat firm power PPA delivered to PSE's system • Fixed price structure provides a hedge against rising power costs and stability compared to variability and uncertainty of natural gas tolling resource alternatives • Firm power backed by physical asset, [redacted] • Existing resource with demonstrated reliable operating history avoids development risk and operational performance of new resources • Capacity quantity ramps up over the term to match PSE's updated capacity need (in addition, capacity quantity begins to ramp down at end of term to allow PSE to better manage replacement of capacity • 380 MW of long-term firm transmission is held by PSE for contract term; 280 MW directly interconnected to PSE's system, which avoids 3rd party transmission costs, and 100 MW BPA firm point-to-point transmission from C.W. Paul; [redacted] • [redacted] • New state law recognizes coal transition power as a public policy resource preference, which allows and provides incentives for long-term contracts • Entering into PPA helps the State of Washington to achieve it's greenhouse gas emission reduction goals • Entering into PPA helps provide financial assistance to host communities • Coal transition power has strong public, local community,	• If market power prices drop over the long term compared to current market power price forecasts, then the PPA economics are not as attractive • [redacted] • If the WUTC does not approve PPA petition filing, then PPA does not become effective and terminates

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Project	Qualitative Advantages (+)	Qualitative Risks (-)
	environmental groups and government support • Strong counterparty (BBB S&P credit rating) with long history of international owner/operator performance • PPA requires pre-approval by WUTC before it becomes effective • PSE is allowed to earn its authorized rate of return on the PPA and avoids putting capital at risk	
11117-r [redacted]	• PPA economic benefits are favorable when PSE assumes firm transmission capacity is available to PSE' system with costs escalating at a typical inflation rate. • Existing resource avoids development risk. • Counterparty is well-known; successfully executed [redacted] other transactions with counterparty • Risks of pass-through gas costs and transportation minimized by abundant supply and pipeline rate settlement.	• [redacted] offer does not include clear transmission solution for the [redacted] transmission that must be secured; compared to other offers there is a greater exposure to increases in transmission costs [redacted] • Current analysis assumes 234 MW of BPA network transmission can be secured which is less than full output of the PPA offer • Cycling charges have not been clearly identified within the proposed tolling agreement indicating that portfolio benefits may be lower if PSE takes only 234 MW • [redacted] creating a change in control risk • Gas supply is expected to be readily available; however it is a more expensive location • Winter-only dispatchable unit with no real-time flexibility for wind integration or load changes • [redacted]
11118-r **Ferndale** Tenaska *Ownership* *Operating Nat-G-CCCT* *280 MW* *COD: 4/8/94* *Modeled start: 2013*	• Project economics are favorable • Existing resource avoids development risks. • PSE is familiar with this facility and its operations; recent 20-yr PPA expired 12/31/2011. • Counterparty is well known. PSE has an excellent relationship with the counterparty, although additional negotiations will be required to complete the agreement. • Facility is interconnected to PSE's system providing load management and wind integration benefits, and no exposure to cost increases from other transmission providers. • Firm gas transport on Cascade would be transferred to PSE as part of the purchase. Cost reduction may be possible through negotiation and extension of agreement. • Facility uses proven, reliable GE 7EA gas turbines; plant has a solid operating history and has been well maintained • Facility has dual-fuel capability (backup fuel delivered by truck); the availability of the oil backup system may allow greater flexibility with this plant and may provide opportunities to modify gas transportation plans resulting in lower costs • Counterparty is well-known and low risk • Dispatchable unit • Remaining economic plant life in analysis is assumed to be 19 years, while PSE expects to plant to be economically viable for many years beyond that date	• Full due diligence for an owned asset has not been conducted, but would be prior to purchase. • The State of Washington is considering amending and lowering the Emissions Performance Standard from 1,100 lbs CO2e/MWh to between 700 to 900 lbs CO2e/MWh. Lowering the standard to the proposed levels may restrict PSE from acquiring the facility if the facility is unable to meet the new standard. • Costs to bring plant up to PSE's operating standards may vary from estimate (estimated at $3M based on PSE's acquisition of Sumas.)

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Project	Qualitative Advantages (+)	Qualitative Risks (-)
11103-r [redacted]	• Existing resource avoids development risk • Facility uses efficient [redacted] gas turbines with [redacted] • Very good heat rate [redacted] • Duct firing and turndown capability to 145 MW improves dispatch flexibility • Ownership provides PSE with control and offers stability in secured capacity; asset life is [redacted] reducing the need for PSE to return to the marketplace in the [redacted].	• Project economics less favorable than alternatives • Project is not offered with firm transmission to PSE's system, but there does appear to be a strategy to obtain BPA long-term firm transmission. [redacted] however, compared to other offers there is a greater exposure to increases in transmission costs as BPA has proposed a significant increase in transmission costs • PSE can supply pipeline capacity from gas book 2013-2015; however, after 2015, would require a pipeline expansion. There is some risk that an expansion by 2016 may be more expensive than existing capacity • Condition of major equipment ([redacted]) may have been adversely affected by [redacted] • [redacted] • [redacted] • [redacted] • Current off-take contracts on the facility do not expire until end of [redacted] • The State of Washington is considering amending and lowering the Emissions Performance Standard from 1,100 lbs CO2e/MWh to between 700 to 900 lbs CO2e/MWh. Lowering the standard to the proposed levels would limit the sale of power to less than 5 years; efficiency upgrades to achieve the standard are extremely unlikely to be economical • Offer as proposed is conditioned on closing Dec. 2012

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Manual Portfolio Construction

The evaluation team also constructed manual portfolios to demonstrate the quantitative merits of potential portfolios while minimizing surpluses created by the model.[4] Manual portfolios were constructed in the PSM III optimization model—with PSE's qualitative and quantitative review in mind—to better identify the costs and risks of specific portfolios:

- Ferndale Ownership (#11118-r),
- Combined Coal Transition Power PPA (revised volumes) (#11102-r) and Ferndale Ownership (#11118-r)
- Coal Transition Power PPA (Original volumes) (#11102)

After manually constructing portfolios, the team considered each portfolio's costs in the five scenarios and in the risk analysis in a manner consistent with the 2011 RFP analysis. Appendix B to this memo identifies the resources included in the manually constructed portfolios and their surpluses.

[4] The optimization model is designed to build portfolios that must meet capacity and renewable energy requirements. It is not able to easily minimize surpluses or consider any adjustments in timing of other potential options. The RFP team used its judgment and experience to construct manual portfolios by creating portfolios using the [redacted] (#11123), [redacted] (#11110), [redacted] (#11124), and [redacted] (#11117) offers to fill in need from a least cost perspective. It was concluded in the 2011 RFP that both the [redacted] and [redacted] offers were better evaluated by PSE's trade floor as short-term decisions.

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Scenario Analysis

Figure 7. Portfolio cost comparison of manually constructed portfolios

Portfolio	Scenario: Base	Base + CO2	Base w/ New Gas	High Prices	Low Growth
Portfolio Cost ($000) Ferndale Ownership (#11118-r) & Coal Transition PPA (New Volumes) (#11102-r)	10,099,967	13,485,087	9,760,813	11,199,548	8,061,042
Portfolio Cost ($000) w Ferndale Ownership (#11118-r) Only	10,21т,тро	13,54у,у00	9,8пн,усу	11,51т,8сс	7,9пн,мфо
Portfolio Cost ($000) w Coal Transition PPA (Original Volumes) (#11102) Only	10,170,918	13,600,610	9,877,969	11,201,975	8,159,288

Difference to Ferndale Ownership (#11118-r) & Coal Transition PPA (New Volumes) (#11102-r) – (Benefit)/Cost

Portfolio Cost ($000) w Ferndale Ownership (#11118-r) Only	11т,тур	со,тмо	ун,лрп	31у,омф	(1му,урл)
Portfolio Cost ($000) w Coal Transition PPA (Original Volumes) (#11102) Only	70,950	115,524	117,156	2,428	98,246

Figure 7 shows that the combined Ferndale Ownership (#11118-r) and Coal Transition Power PPA (New Volumes) (#11102-r) offers provide the lowest cost portfolio in all five scenarios compared to the Coal Transition Power PPA (Original Volumes) (#11102). The combined Ferndale Ownership (#11118-r) and Coal Transition Power PPA (New Volumes) (#11102-r) offers provide the lowest cost portfolio in four of five scenarios.

Risk Analysis

PSE performed risk analysis consistent with the approach in the 2011 RFP. PSE analyzed the range of the portfolio costs varying natural gas prices, power prices, hydro generation, wind generation, and peak and energy loads to assess the cost and risk of the manually constructed portfolios. Figures 8 to 10 demonstrate that the combined Ferndale Ownership (#11118-r) and Coal Transition Power PPA (New Volumes) (#11102-r) offers provide a least cost and risk portfolio compared to either the Coal Transition Power PPA (Original Volumes) (#11102-r) offer or the new Ferndale Ownership (#11118-r) option alone.

Figure 8. Stochastic Risk Analysis in RFP Phase 2 Base Scenario

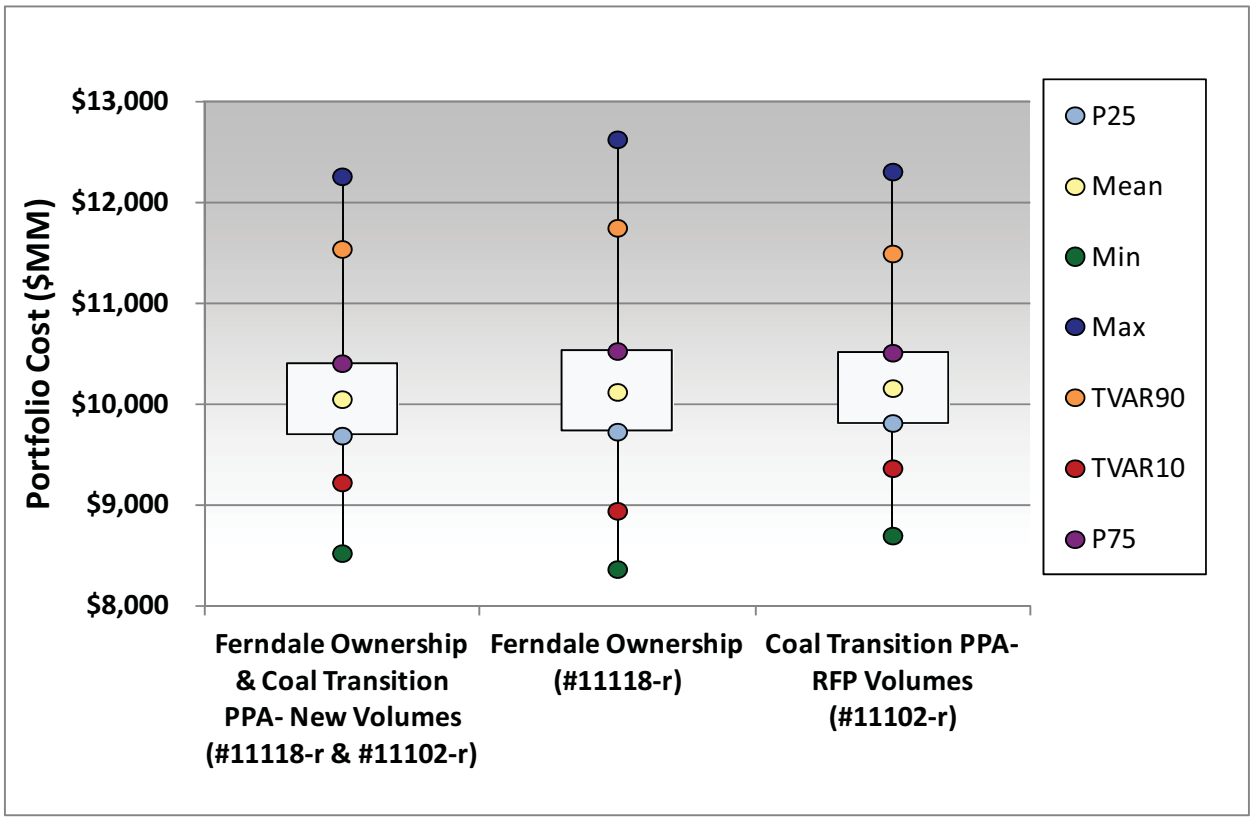

Figure 9. Risk analysis comparison of the Ferndale Ownership (#11118-r) offer and the Coal Transition Power PPA (New Volumes) (#11102-r) offer to the Coal Transition Power PPA (Original Volumes) (#11102)

Portfolio Cost (Revenue Requirement) $MM

	Ferndale Ownership & Coal Transition PPA- New Volumes (#11118-r & #11102-r)	Coal Transition PPA- Original Volumes (#11102)	(Benefit)/Cost of Ferndale Own & Coal Transition PPA- New Volumes (#11118-r & #11102-r)
Max	12,264	12,311	(47)
TVAR90	11,543	11,498	45
P75	10,409	10,513	(104)
Median	9,885	10,140	(255)
Mean	10,052	10,161	(110)
P25	9,690	9,816	(125)
TVAR10	9,225	9,367	(141)
Min	8,524	8,698	(174)
Annual Volatility (%)	10.5%	9.9%	0.6%
Cost at Risk	1,491	1,336	154

Figure 10. Risk analysis comparison of the Ferndale Ownership (#11118-r) offer and the Coal Transition Power PPA (New Volumes) (#11102-r) to the Ferndale Ownership (#11118-r) Offer

Portfolio Cost (Revenue Requirement) $MM

	Ferndale Ownership & Coal Transition PPA (New Volumes) (#11118-r & #11102-r)	Ferndale Ownership (#11118-r)	(Benefit)/Cost of Ferndale Own & Coal Transition PPA- New Volumes (#11118-r & #11102-r)
Max	12,264	12,631	(367)
TVAR90	11,543	11,753	(210)
P75	10,409	10,530	(121)
Median	9,885	10,040	(156)
Mean	10,052	10,124	(72)
P25	9,690	9,729	(39)
TVAR10	9,225	8,944	281
Min	8,524	8,366	158
Annual Volatility (%)	10.5%	11.3%	-0.9%
Cost at Risk	1,491	1,629	(138)

V. Key Findings

Taking into consideration the quantitative and qualitative analysis, the 2011 RFP July 2012 re-evaluation finds that the Ferndale Ownership (#11118-r) offer and the Coal Transition Power PPA (New Volumes) (#11102-r) offers are least cost and least risk. The Ferndale Ownership (#11118-r) offer is a low cost existing resource that is well-known to PSE and provides system benefits. At the new volumes, the Coal Transition Power PPA (New Volumes) (#11102-r) offer is another least-cost resource that provides PSE customers a hedge against higher prices that no other resource has been able to offer for the duration and at the price offered by TransAlta.

Although the revised [redacted] (#11117-r) offer is competitive from a cost perspective with the least-cost offers identified, there are numerous risks to reaching a binding agreement and the project does not have the ability to provide system benefits such as load management and wind-integration. The [redacted] (#11103-r), although offered at a seemingly attractive price exceeds PSE's current need, making it less cost-competitive.

The following table shows the new selected resources from the reevaluation. Since a combination of the Ferndale Ownership (#11118-r) and Coal Transition Power PPA (New Volumes) (#11102-r) offers fit closely with PSE's near-term need, the [redacted] (#11124) is no longer needed until 2017. Additionally, PSE believes it is better to first pursue the two near-term projects prior to beginning negotiations for the [redacted] (#11117-r).

Figure 11. Meeting PSE's identified capacity need

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Capacity (Deficit) / Surplus in MW:	(226)	(430)	(517)	(681)	(809)	(824)	(846)	(841)	(854)	(918)	(1,000)	(1,095)	(1,198)
Coal Transition PPA (#11102-r)	[redacted]												
Ferndale Ownership (#11118-r)													
[redacted] (#11123)													
[redacted] (#11117)													
Remaining Capacity (Deficit) / Surplus in MW:	**38**	**15**	**27**	**64**	**10**	**(5)**	**(27)**	**(22)**	**(135)**	**(199)**	**(356)**	**(450)**	**(634)**

VI. Next Steps

As described in this memo, the results of PSE's July 2012 re-evaluation of revised offers led the RFP evaluation team to recommend pursuing both the Coal Transition Power PPA (New Volumes) (#11102-r) and the Ferndale ownership offer (#11118-r). Next steps for each of these offers are described below.

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Pursue Coal Transition Power PPA (New Volumes) (#11102-r) offer. PSE staff expects to request from its EMC approval to recommend that PSE's BOD approve resolutions allowing PSE to enter into the Coal Transition Power PPA (New Volumes) (#11102-r). If the BOD adopt the resolutions, PSE will seek approval of the Coal Transition Power PPA (New Volumes) (#11102-r) in a filing with the Washington Utilities and Transportation Commission ("WUTC") in mid-August 2012. To be effective, the Coal Transition Power PPA (New Volumes) (#11102-r) requires approval from the WUTC, which is a 180-day process.

Pursue Ferndale Ownership (#11118-r) offer. Over the next few months, PSE expects to actively engage in negotiations and discussions with Tenaska regarding the Ferndale Ownership (#11118-r) offer. At the same time, PSE has assembled a cross-functional team of evaluators to take a more in-depth look at the plant from the perspective of a potential owner and possible operator—rather than a PPA off-taker, as originally proposed. This team will perform a critical due diligence review designed to identify any potential risks, advantages or costs associated with the plant and integrating the plant into PSE's existing fleet of resources. Assuming that the due diligence review results in favorable findings and negotiations with the counterparty are successful, the evaluation team anticipates that it will recommend the Ferndale Ownership (#11118-r) offer to the EMC and the BOD at the conclusion of these proceedings.

Appendix A. New proposal screening results

As PSE received the revised and new offers, staff screened the results quantitatively in the PSM I screening model. The following shows how the screening results compared. While the screening model shows relative rankings, it represents the results of only one scenario—Base w/ New Gas, uses the PSM I simple dispatch logic and includes additional transmission costs on market purchases that the PSM III and IRP did not include. More in depth evaluation is performed in the PSM III Optimization model.

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Capacity Proposals	PPA or Ownership	Project Start	Book Life / Contract Term	Levelized Cost $/MWh	Portfolio Benefit $000	Levelized PB / kW	Levelized PB / kW Ranking	Portfolio Benefit Ratio	Levelized Net Cost / kW	Levelized Net Cost / kW Ranking
[redacted] (#11117)	Tolling	2016	6	[redacted]	$ 29,878	[redacted]	1	2.48	[redacted]	1
[redacted] (#11123)	Index Price	2016	11	[redacted]	$ 17,876	[redacted]	2	0.34	[redacted]	5
Coal Transition PPA (#11102-r) New Volumes	PPA	2014	12	[redacted]	$ 114,488	[redacted]	3	0.11	[redacted]	9
[redacted] (#11123)	Index Price	2014	11	[redacted]	$ 15,174	[redacted]	4	0.27	[redacted]	4
Ferndale Purchase (#11118-r) Reprice	Ownership	2013	19	[redacted]	$ 96,126	[redacted]	5	0.25	[redacted]	6
[redacted] (#11117-r) [redacted]	Tolling	2013	10	[redacted]	$ 41,203	[redacted]	6	0.38	[redacted]	3
Ferndale Purchase (#11118-r) w/ West Coast costs	Ownership	2013	19	[redacted]	$ 65,680	[redacted]	7	0.16	[redacted]	8
Coal Transition PPA (#11102) RFP Volumes	PPA	2012	14	[redacted]	$ 75,367	[redacted]	8	0.05	[redacted]	10
[redacted] (#11118) [redacted]	Tolling	2012	11	[redacted]	$ 15,005	[redacted]	9	0.08	[redacted]	7
[redacted] (#11117)	Tolling	2013	6	[redacted]	$ 6,758	[redacted]	10	0.06	[redacted]	2
[redacted]	Ownership	2015	35	[redacted]	$ 13,580	[redacted]	11	0.05	[redacted]	15
[redacted] (#11124)	Fixed Price	2013	10	[redacted]	$ (1,485)	[redacted]	12	(0.01)	[redacted]	11
[redacted] (#11103-r) [redacted]	Ownership	2014	29	[redacted]	$ (62,439)	[redacted]	13	(0.03)	[redacted]	16
[redacted] (#11124) [redacted]	Fixed Price	2013	10	[redacted]	$ (5,387)	[redacted]	14	(0.02)	[redacted]	12
[redacted] (#11103) [redacted]	Ownership	2014	29	[redacted]	$ (78,209)	[redacted]	15	(0.03)	[redacted]	17
[redacted] (#11123)	Fixed Price	2014	5	[redacted]	$ (5,013)	[redacted]	16	(0.09)	[redacted]	14
[redacted] (#11110)	Fixed Price	2013	5	[redacted]	$ (7,307)	[redacted]	17	(0.10)	[redacted]	13
[redacted] (#11116)	Fixed Price	2014	25	[redacted]	$ (19,022)	[redacted]	18	(0.13)	[redacted]	18
[redacted] (#11112)	Fatal Flaw									

Notes:

(1) Includes cost of West Coast pipeline capacity consistent with PSE's gas hedging strategy for combined cycle plants. During the 2011 RFP evaluation, PSE did not include firm pipeline gas transportation charges for gas plants with oil backup, such as the Ferndale plant (#11118).

(2) Coal Transition Power PPA (#11102) (RFP Volumes) includes additional BPA transmission costs to reflect PSE's 280 MW of firm transmission rights, but does not reflect risk of obtaining additional BPA transmission. Analysis includes equity component based on PSE's self build peaker.

(3) [redacted] revised term sheet did not identify the transmission capacity available to PSE's system. PSE modeled based on potential capacity identified by [redacted] in prior discussion; however, this capacity doesn't match the unit output.

(4) After another review of the models, PSE staff found the [redacted] (#11123), [redacted] (#11110), [redacted] (#11117), [redacted] (#11103) offers were not reported in the RFP Document on page 35 based on the latest model revisions. The revisions corrected an overstatement of market purchase costs which includes the doubling up of transmission costs. Results shown here reflect the latest model revisions. These revisions were minor and would not have made an impact on the RFP decisions because more weight was placed on the PSM III optimization analysis results.

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Appendix B. Manual Portfolios

Ferndale Own & Coal Transition PPA (#11118-r & #11102-r) (New Volumes)

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Capacity Need	(129)	(226)	(430)	(517)	(681)	(809)	(824)	(846)	(841)	(854)	(918)	(1,000)	(1,095)	(1,198)
Ferndale Own (#11118-r)														
[redacted] (#11124)														
Coal Transition PPA (#11102-r) (New Volumes)														
[redacted]e (#11123)														
[redacted] (#11117)														
Peakers														
Transmission														
Wind														
Biomass														
Remaining Capacity (Deficit) / Surplus in MW:														

Ferndale Ownership (#11118-r)

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Capacity Need	(129)	(226)	(430)	(517)	(681)	(809)	(824)	(846)	(841)	(854)	(918)	(1,000)	(1,095)	(1,198)
Ferndale Own (#11118-r)														
[redacted] (#11124)														
[redacted] (#11110)														
Coal Transition PPA (#11102-r) (New Volumes)														
[redacted] (#11123)														
[redacted] (#11117)														
Peakers														
Transmission														
Wind														
Biomass														
Remaining Capacity (Deficit) / Surplus in MW:														

Coal Transition PPA (#11102) (RFP Volumes)

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Capacity Need	(129)	(226)	(430)	(517)	(681)	(809)	(824)	(846)	(841)	(854)	(918)	(1,000)	(1,095)	(1,198)
Ferndale Own (#11118-r)														
[redacted] (#11124)														
[redacted] (#11110)														
Coal Transition PPA (#11102) (RFP Volumes)														
[redacted]e (#11123)														
[redacted] (#11117)														
Peakers														
Transmission														
Wind														
Biomass														
Remaining Capacity (Deficit) / Surplus in MW:														

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Ferndale Own & Coal Transition PPA (#11118-r & #11102-r) (New Volumes)

	2026	2027	2028	2029	2030	2031
Capacity Need	(1,286)	(1,380)	(1,479)	(1,580)	(1,681)	(1,777)
Ferndale Own (#11118-r)						
[redacted] (#11124)						
Coal Transition PPA (#11102-r) (New Volumes)						
[redacted] (#11123)						
[redacted] (#11117)						
Peakers						
Transmission						
Wind						
Biomass						
Remaining Capacity (Deficit) / Surplus in MW:						

Ferndale Ownership (#11118-r)

	2026	2027	2028	2029	2030	2031
Capacity Need	(1,286)	(1,380)	(1,479)	(1,580)	(1,681)	(1,777)
Ferndale Own (#11118-r)						
[redacted] (#11124)						
[redacted] #11110)						
Coal Transition PPA (#11102-r) (New Volumes)						
[redacted] (#11123)						
[redacted] (#11117)						
Peakers						
Transmission						
Wind						
Biomass						
Remaining Capacity (Deficit) / Surplus in MW:						

Coal Transition PPA (#11102) (RFP Volumes)

	2026	2027	2028	2029	2030	2031
Capacity Need	(1,286)	(1,380)	(1,479)	(1,580)	(1,681)	(1,777)
Ferndale Own (#11118-r)						
[redacted] (#11124)						
[redacted] (#11110)						
Coal Transition PPA (#11102) (RFP Volumes)						
[redacted] (#11123)						
[redacted] (#11117)						
Peakers						
Transmission						
Wind						
Biomass						
Remaining Capacity (Deficit) / Surplus in MW:						

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September 2012: Ferndale Re-Evaluation Results

The Re-Evaluation of Ferndale compared to current viable alternatives as described in the final 2011 RFP results reaffirms that Ferndale is a least cost and least risk resource alternative. PSE has not received any competitive new or revised offers since the *July 2012 memo: Re-evaluation of revised offers* presented to PSE's Board of Directors on July 24, 2012. Since that time, PSE has conducted further due diligence for Ferndale and PSE has updated its analysis based on the due diligence findings and current price forecasts. The key changes to the Ferndale assumptions for the updated analysis are:

- The facility's winter capacity is evaluated at 290 MW compared to 284 MW based on performance testing in August 2012 and a new interconnection study that accommodates the maxmimum generation output of the facility up to 300 MW.

- The useful life of the facility was determined to be 27 years compared to the RFP assumption of 19 years based on techncal due diligence and the expected plan and budget from the Energy Operations group.

- O&M cost projections were higher compared to the RFP assumptions. Further, the operation costs included in the analysis are based on PSE operating the faciltiy; however, PSE is considering a third-party operator.

Since the 2013 IRP process began, PSE evaluated Ferndale 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). As shown in Figure 1, 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 $[redacted]/kW capacity cost equivalent to calculate the equity return for the Coal Transition PPA compared to the $[redacted]/kW used in the RFP analysis.

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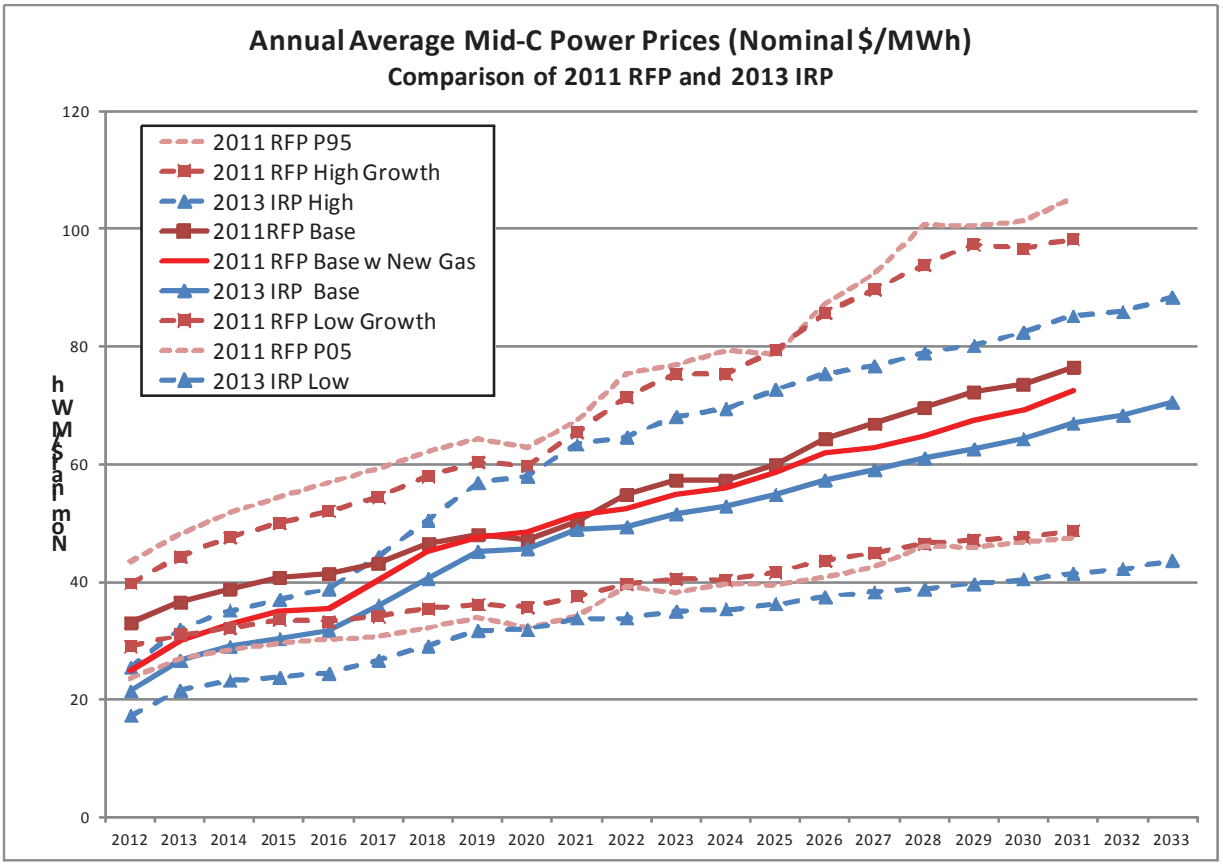
Another key update to the analysis includes the recently updated self-build peaker cost from PSE's engineering consultant, Black and Veatch ("B&V"), which are approximately $[redacted]/kW (in 2015 dollars) for a 2015 build compared to $[redacted]/kW used in the RFP.

Figure 1. Comparison of 2011 RFP Phase II scenarios to 2013 IRP scenarios



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In the "2013 IRP Base" gas and power price scenario, Ferndale is selected as lowest cost in the optimal portfolio when all viable options were available, as was also the case in the "2011 RFP Base w/ New gas" scenario analysis. These results are shown in Figure 2.

Figure 2. 2013 IRP Base power and gas prices scenario results

	2013 IRP Base Scenario		
	All Optimized	**No Ferndale Own**	**No Centralia**
Ferndale Own	X		X
Coal Transition (Centralia) PPA	X		
[redacted] (#11117)	X	X	X
PSE Self Build Peaker			X
[redacted] (#11124)			X
[redacted] (#11110)			X
[redacted] (#11123)			
[redacted] (#11123)			X
[redacted] (#11123)	X	X	
[redacted] (#11103)		X	
Portfolio Cost ($000)	**$ 9,493,027**	**$ 9,868,097**	**$ 9,536,635**
Increase from Optimized ($000)	**$ -**	**$ 375,070**	**$ 43,608**

Notes:

- Ferndale costs and operational characteristics updated for due diligence findings
- Coal Transition PPA equity return based on $[redacted]/kW capacity cost equivalent compared to $[redacted]/kW used in the RFP.

Reevaluation in the "2011 RFP Phase II Base with New Gas" scenario continues to show the selection of the Ferndale Ownership offer and the Coal Transition PPA as the lowest cost portfolio as illustrated in Figure 3. Both the "2011 RFP Phase II Base with New Gas" scenario and the "2013 IRP Base" scenario show

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the same selections in the optimization and the two sensitivities performed[1]. The Ferndale Ownership is attractive under both higher and lower price scenarios; however, the new results do not show selection of the [redacted] (#11124) anymore. Qualitative evaluation of alternatives other than Ferndale did not change and qualitative benefits of Ferndale were reaffirmed (see *RFP executive summary* and July *2012 memo: Re-evaluation of revised offers* as presented in Coal Transition PPA Report to the Board of Directors dated July 24, 2012 for details).

Figure 3. 2011 RFP Phase II Base with new gas price scenario results

	Base w/ New Gas Scenario		
	All Optimized	**No Ferndale Own**	**No Centralia**
Ferndale Own	X		X
Coal Transition (Centralia) PPA	X		
[redacted] (#11117)	X	X	X
PSE Self Build Peaker			X
[redacted] (#11124)			X
[redacted] (#11110)			X
[redacted] (#11123)			
[redacted] (#11123)			X
[redacted] (#11123)	X	X	
[redacted] (#11103)		X	
Portfolio Cost ($000)	**$ 9,752,629**	**$ 10,144,885**	**$ 9,855,476**
Increase from all Optimized ($000)	$ -	$ 392,256	$ 102,847

Notes:

- Ferndale costs and operational characteristics updated for due diligence findings
- Coal Transition PPA equity return based on $[redacted]/kW capacity cost equivalent compared to $[redacted]/kW used in the RFP.

[1] Sensitivities were performed by removing an identified resource from the resource options and optimizing the model.

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