

**EXHIBIT NO. \_\_ (TAD-3HC)  
DOCKET NO. UE-13 \_\_\_\_  
2013 PSE PCORC  
WITNESS: TOM A. DEBOER**

**BEFORE THE  
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

**WASHINGTON UTILITIES AND  
TRANSPORTATION COMMISSION,**

**Complainant,**

**v.**

**PUGET SOUND ENERGY, INC.,**

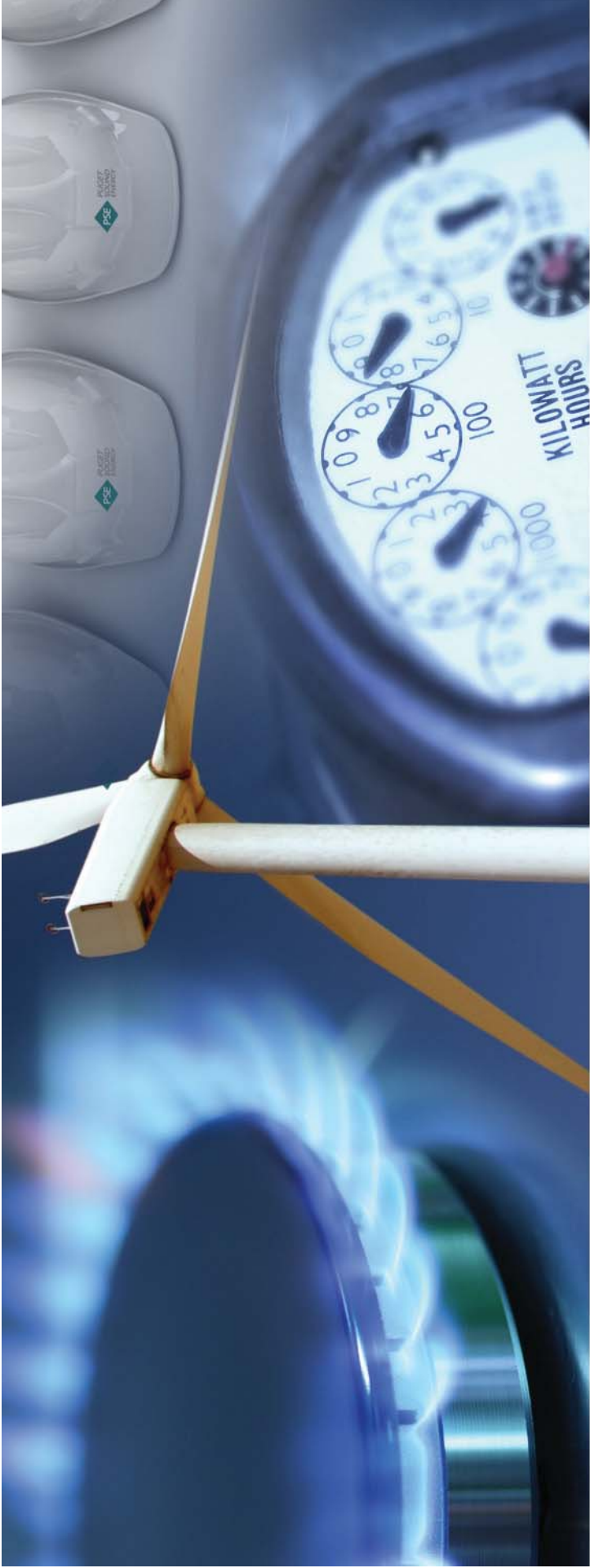
**Respondent.**

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

**SECOND EXHIBIT (HIGHLY CONFIDENTIAL) TO THE  
PREFILED DIRECT TESTIMONY OF  
TOM A. DEBOER  
ON BEHALF OF PUGET SOUND ENERGY, INC.**

**REDACTED  
VERSION**

**APRIL 25, 2013**



# **BPA Transmission Contract Acquisition & Renewal Process: EMC Informational Presentation**



**Jason Yedinak  
Sr. Engineer, Energy Delivery  
August 16, 2012**

# Overview



1. 2011 WUTC GRC Order
2. BPA Transmission Contracts
3. Transmission Acquisition & Renewal Process
4. 2012 Transmission Renewals – 400 MW
5. 2012 Transmission Acquisition – 8 MW

# 2011 WUTC GRC Final Order



- WUTC Staff argued against renewal of 23 MW BPA transmission from expiring Spokane Municipal Steam Waste project, attesting that PSE neither:
  1. Showed sufficient margins from sales or reduced costs related to the acquisition
  2. Provide a meaningful cost/benefit analysis justifying inclusion of the renewed contract
- Commission ruled in favor of PSE allowing recovery due to current constraints on acquiring new BPA long term firm transmission capacity. However, PSE is expected to provide for any acquisition of firm transmission “*a full and detailed justification showing the prudence of this expense if the Company expects to continue to recover it in rates.*”

# BPA Transmission Contracts



- Nearly all electric generation resources remote to PSE's transmission system, including power purchase agreements, utilize contractual BPA long term firm transmission capacity
- 47 contracts totaling 4328 MW:
  1. Remote Thermal and Wind Resources – 2290 MW
  2. Mid-C Contracted Resources and Market Purchases – 2038 MW
- **Benefits of 5 year BPA transmission contracts:**
  - Retain renewal rights - must exercise one year prior to expiration
  - Minimum term allows flexibility to reevaluate transmission need
  - Transmission rates vary regardless of term

# Transmission Acquisition & Renewal Process

- Transmission contract prudence will be justified with financial analysis using IRP and RFP models comparing alternatives
- Existing Wind and Thermal resource transmission will be renewed to allow for continued delivery of the resource through the estimated resource life or term of purchase agreement
- Mid-C transmission prudence is considered from a portfolio approach not tied to specific projects
- Future RFP's will include Mid-C transmission acquisitions and renewals as resource alternatives

# 2012 Transmission Renewals – 400 MW



- 4 x 100 MW Mid-C transmission contracts expire November 1, 2012
- Renewal request to BPA must be submitted by August 31, 2012 (60 day notice requirement)
- Estimated cost of 5 yr transmission renewal: \$40,927,808
- Benefits of renewing 400 MW:
  - Cost effective and reliable capacity to meet Winter Peak Planning needs
  - Selected in 5 of 5 2011 RFP scenarios – lowest cost alternative
  - Renewal compared to next lowest cost 2011 RFP alternatives:
    - 20 yr NPV benefit of 5 yr renewal: \$276,000,000
    - 20 yr NPV benefit of 20 yr renewal: \$417,000,000

# 2012 Transmission Acquisition – 8 MW



- New BPA 8MW transmission contract for Mint Farm Station Service Self-supply
- PSE requested and received 8MW of BPA long-term conditional firm transmission service to self-supply the station service load at Mint Farm from PSE resources
- Self-supply arrangement replaces Cowlitz PUD as provider of station service energy for Mint Farm
  - Transmission contract started August 1, 2012, terminates June 1, 2016 (3 yrs. 10 months)
  - PSE has option to automatically rollover transmission contract at end of contract
- Economic support for self-supply arrangement:
  - Past and expected station service costs under Cowlitz PUD: \$550,000/yr
  - Self-supply costs (BPA transmission + PSE energy): \$310,000/yr<sup>[1]</sup>
  - Expected savings: \$240,000/yr, \$920,000 term of transmission contract

<sup>[1]</sup> Cost of energy is \$52.29/MWh, which was PSE IRP October 2011 20-yr levelized cost of energy. Using 8/6/12 KIODEX Official Marks (Flat MidC 2012-2016) power prices, self-supply costs estimated at \$250,000/yr, savings estimated at \$300,000/yr and term savings \$1,150,000.



# BPA Transmission Contract Renewal



## Questions?

## WUTC DOCKETS UE-111048 and UG-111049 pages 85 & 86, par 254-258:

### e) Transmission Capacity

PSE elected to renew a 23MW firm capacity contract with BPA that was previously related to the transmission of power from a City of Spokane Municipal Steam Waste project. The contract with Spokane expired on December 31, 2011. Mr. Mills testifies that by renewing this transmission contract at a rate year cost of \$414,000, PSE increased its ability to purchase short-term resources at the Mid-C trading hub and reduced its transmission capacity need by 23 MW starting in 2012.<sup>[1]</sup> Staff would have us disallow the \$414,000 rate year costs of this transmission because, in Staff's view, PSE neither showed sufficient margins from sales or reduced costs related to the acquisition, nor provides a meaningful cost/benefit analysis justifying inclusion of the renewed contract.<sup>[2]</sup> Mr. Buckley testifies that the cost of this contract should be removed because there is no need for the Company to move power from the City of Spokane project, and no explicit showing of benefits, or reduced costs, related to the acquisition of this firm transmission capacity.<sup>[3]</sup>

Mr. Mills testifies that the extension of this transmission contract is a cost effective way to meet PSE's near-term capacity need on a portfolio benefit ratio basis as well as on a total portfolio cost basis as compared to the other resource alternatives in the 2010 Request for Proposal (RFP).<sup>[4]</sup> In addition, regional transmission constraints limit long-term firm transmission availability from resources east of the Cascades to load west of the Cascades. PSE's transmission system has no additional long-term firm transmission capacity across the Cascades and BPA's transmission evaluation process is on hold. The renewal of 23 MW of cross-Cascades transmission thus meets PSE's near-term needs for long-term firm capacity across the Cascades to the Mid-C market.<sup>[5]</sup>

*Commission Determination:* Any acquisition of firm transmission capacity by PSE, even a small one, should be supported by a showing of definite benefits that justify the annual cost of the expense. Other than in a most general sense, the Company failed in this instance to make such a showing. In addition, the Company provides only a cursory statement concerning its consideration of this contract vis-à-vis other options considered during the 2010 RFP process. Considering, however, current constraints on the availability of long-term firm transmission across the Cascades, we are disinclined to exclude these costs, which might encourage PSE to relinquish these rights. We accordingly will not disallow the \$414,000 in costs for the rate year. However, we expect PSE to provide in its next general rate case a full and detailed justification showing the prudence of this expense if the Company expects to continue to recover it in rates.

# Appendix



| Project                       | Renewal Deadline | Start Date        | Capacity    | 5 yr Renewal**       |
|-------------------------------|------------------|-------------------|-------------|----------------------|
| Mid-C*                        | 8/31/2012        | 11/1/2012         | 100         | \$10,231,952         |
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| Mid-C*                        | 8/31/2012        | 11/1/2012         | 100         | \$10,231,952         |
| Mid-C                         | 8/31/2012        | 11/1/2012         | 100         | \$10,231,952         |
| North Wasco Dalles Fishway*** | 10/31/2012       | N/A               | 6           | N/A                  |
|                               |                  | <b>2012 Total</b> | <b>406</b>  | <b>\$40,927,808</b>  |
| Mid-C                         | 2/28/2013        | 3/1/2014          | 35          | \$3,757,966          |
| Goldendale                    | 2/28/2013        | 3/1/2014          | 27          | \$2,899,003          |
| Colstrip                      | 7/31/2013        | 8/1/2014          | 663         | \$71,766,244         |
| PG&E Exchange                 | 7/31/2013        | 8/1/2014          | 300         | \$32,473,414         |
| PG&E Exchange Additional Tx   | N/A              | 8/1/2014          | 300         | \$32,473,414         |
| Anderson Hay                  | 7/31/2013        | 8/1/2014          | 4           | \$432,979            |
| Mid-C*                        | 7/31/2013        | 10/1/2013         | 115         | \$12,247,065         |
| Mid-C                         | 10/31/2013       | 11/1/2014         | 40          | \$4,354,532          |
| Mid-C                         | 10/31/2013       | 11/1/2014         | 40          | \$4,354,532          |
| Mid-C                         | 10/31/2013       | 11/1/2014         | 40          | \$4,354,532          |
| Mid-C                         | 10/31/2013       | 11/1/2014         | 5           | \$544,316            |
| Mid-C                         | 10/31/2013       | 11/1/2014         | 55          | \$5,987,481          |
| Mid-C                         | 10/31/2013       | 11/1/2014         | 27          | \$2,939,309          |
| Mid-C                         | 10/31/2013       | 11/1/2014         | 27          | \$2,939,309          |
| Mid-C                         | 10/31/2013       | 11/1/2014         | 27          | \$2,939,309          |
| Mid-C                         | 10/31/2013       | 11/1/2014         | 3           | \$326,590            |
| Mid-C                         | 10/31/2013       | 11/1/2014         | 36          | \$3,919,079          |
| Mid-C                         | 10/31/2013       | 11/1/2014         | 5           | \$544,316            |
| Mid-C                         | 11/30/2013       | 12/1/2014         | 209         | \$22,808,626         |
|                               |                  | <b>2013 Total</b> | <b>1958</b> | <b>\$212,062,016</b> |
| Frederickson I                | 2/28/2014        | 3/1/2015          | 137         | \$15,061,620         |
| Hopkins Ridge                 | 2/28/2014        | 3/1/2015          | 150         | \$16,490,825         |
| Mint Farm (CF)                | 11/30/2014       | 12/1/2015         | 12          | \$1,346,259          |
|                               |                  | <b>2014 Total</b> | <b>299</b>  | <b>\$32,898,704</b>  |
| Mid-C                         | 3/1/2015         | 3/1/2016          | 23          | \$2,592,997          |
| Mint Farm (CF)                | 6/1/2015         | 6/1/2016          | 8           | \$906,318            |
| NWE Purchase                  | 10/1/2015        | 10/1/2016         | 94          | \$10,718,268         |
| Centralla                     | 10/1/2015        | 10/1/2016         | 100         | \$11,402,413         |
|                               |                  | <b>2015 Total</b> | <b>225</b>  | <b>\$25,619,996</b>  |

\* 60 day renewal provision  
 \*\* Estimate with BPA rate increases  
 \*\*\* Transmission terminated with expiring power contract

# Appendix



- Manual portfolio analysis in 2011 RFP Base w/ New Gas scenario shows transmission renewals are least-cost under current assumptions
- Future IRP and RFP analysis should evaluate future renewal options

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|   | Portfolio Cost \$000s | Increase in cost from 400 MW Renewal \$000 |
|---|-----------------------|--|
| Portfolio 1- Renew 400 MW Tx  | 10,096,575            | N/A  |
| Portfolio 2- No renewal & [REDACTED]  | 10,598,810            | 502,236                                    |
| Portfolio 3- Renew 300 MW Tx & [REDACTED]   | 10,239,862            | 143,288                                    |
| Portfolio 4- 5 year renewal 400 MW Mid C tx   | 10,372,715            | 276,141                                    |
| Portfolio 5- Renew 200 MW Tx & Coal Transition PPA start in 2012 at 180 MW/max 380 MW | 10,343,131            | 246,556                                    |
| Portfolio 6- No renewal & Coal Transition PPA 2012 380 MW for term                    | 10,513,218            | 416,644                                    |

Notes:

- All Portfolios include Ferndale Ownership & Board Approved Coal Transition PPA unless noted otherwise.
- Portfolio 4 includes qualitatively eliminated resources because very few cost-effective alternatives are available to fill additional 400 MW need if renewals aren't extended.

# Appendix



## 2011 RFP optimization model selects 400 MW of Mid C transmission renewal assuming renewals for full 20 years

### Scenario

| Scenario  | Scenario |            |                 |             |            | Selected in X of 5 Scenarios |
|---|----------|------------|-----------------|-------------|------------|------------------------------|
|   | Base     | Base + CO2 | Base w/ New Gas | High Prices | Low Growth |                              |
| Ferndale Own- (#11118-r)  | X        | X          | X               | X           | X          | 5                            |
| PSE Self Build Peaker<br>[REDACTED] (#11124)<br>[REDACTED] (#11110)           | -        | -          | -               | -           | X          | 1                            |
| Coal Transition (Centralia) PPA<br>[REDACTED] (#11123)<br>[REDACTED] (#11123) | X        | X          | X               | X           | -          | 4                            |
| Mid C Transmission Renewal *<br>[REDACTED] (#11117)                           | X        | X          | X               | X           | X          | 4                            |
|   | -        | -          | -               | -           | -          | 1                            |
|   | -        | -          | -               | -           | X          | 1                            |
|   | X        | X          | X               | -           | -          | 3                            |
|   | X        | X          | X               | X           | X          | 5                            |
|   | X        | X          | X               | X           | -          | 4                            |

|            |            |            |            |           |
|------------|------------|------------|------------|-----------|
| 10,465,069 | 13,800,974 | 10,136,625 | 11,504,916 | 8,296,515 |
|------------|------------|------------|------------|-----------|

Portfolio Cost (\$000) 400 MW Mid C Tx Renewal

\* 20-year 400 MW Mid C Tx renewal chosen in all scenarios

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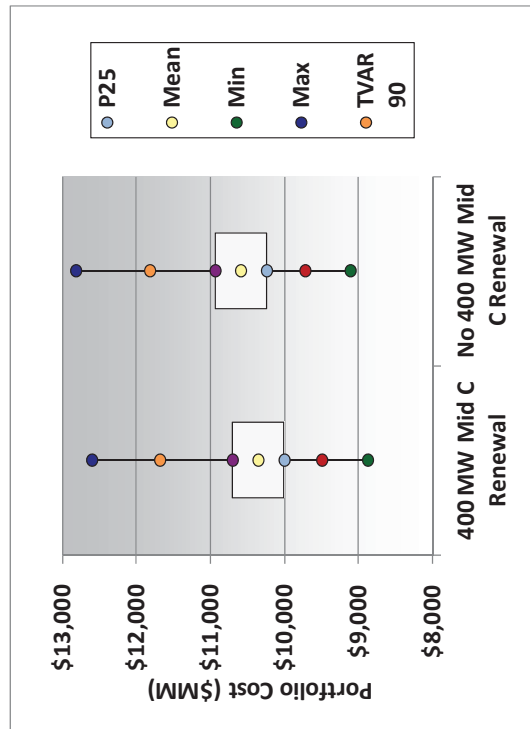
## 2011 RFP optimization model results without 400 MW of transmission renewable as an alternative

|   | Scenario       |                |                    |                |                | Selected in X of 5 Scenarios |
|---|----------------|----------------|--------------------|----------------|----------------|------------------------------|
|   | Base           | Base + CO2     | Base w/<br>New Gas | High Prices    | Low Growth     |                              |
| [REDACTED] (#111103)                              | -              | -              | -                  | X              | -              | 1                            |
| Ferndale Own (#11118-r)                           | X              | X              | X                  | -              | X              | 4                            |
| PSE Self Build Peaker                             | -              | -              | -                  | -              | -              | 0                            |
| [REDACTED] (#11124)                               | X              | X              | X                  | X              | -              | 4                            |
| [REDACTED] (#11110)                               | X              | X              | X                  | -              | X              | 4                            |
| Approved Coal Transition (Centralia) PPA          | X              | X              | X                  | X              | X              | 5                            |
| [REDACTED] (#11123)                               | -              | -              | -                  | X              | -              | 1                            |
| [REDACTED] (#11123)                               | -              | -              | -                  | -              | -              | 0                            |
| [REDACTED] (#11123)                               | -              | -              | -                  | -              | X              | 1                            |
| Mid C Transmission Renewal                        | -              | -              | -                  | -              | -              | 0                            |
| [REDACTED] (#11117)                               | X              | X              | X                  | X              | -              | 4                            |
| [REDACTED] (#11117)                               | X              | X              | X                  | -              | X              | 4                            |
| Portfolio Cost (\$000) w/ No Tx Renewal           | 10,726,818     | 14,028,980     | 10,417,554         | 11,954,356     | 8,680,358      |                              |
| Portfolio Cost (\$000) w/ 400 MW Mid C Tx Renewal | 10,465,069     | 13,800,974     | 10,136,625         | 11,504,916     | 8,296,515      |                              |
| <b>Portfolio Cost Increase w/ No Renewal</b>      | <b>261,750</b> | <b>228,006</b> | <b>280,929</b>     | <b>449,440</b> | <b>383,843</b> |                              |

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- Notes:
- Portfolios include qualitatively eliminated resources because very few cost-effective alternatives are available to fill additional 400 MW need if renewals aren't extended (these may not be feasible)
  - Optimization analysis does not include a choice to increase the early volumes of the currently executed Coal Transition PPA, but manual portfolio analysis shows that transmission renewal is more cost-effective.
  - 20-year 400 MW Mid C Tx renewal excluded from optimization in all scenarios.

## Risk Analysis using Optimized portfolios with and without renewal of 400 MW Mid-C transmission

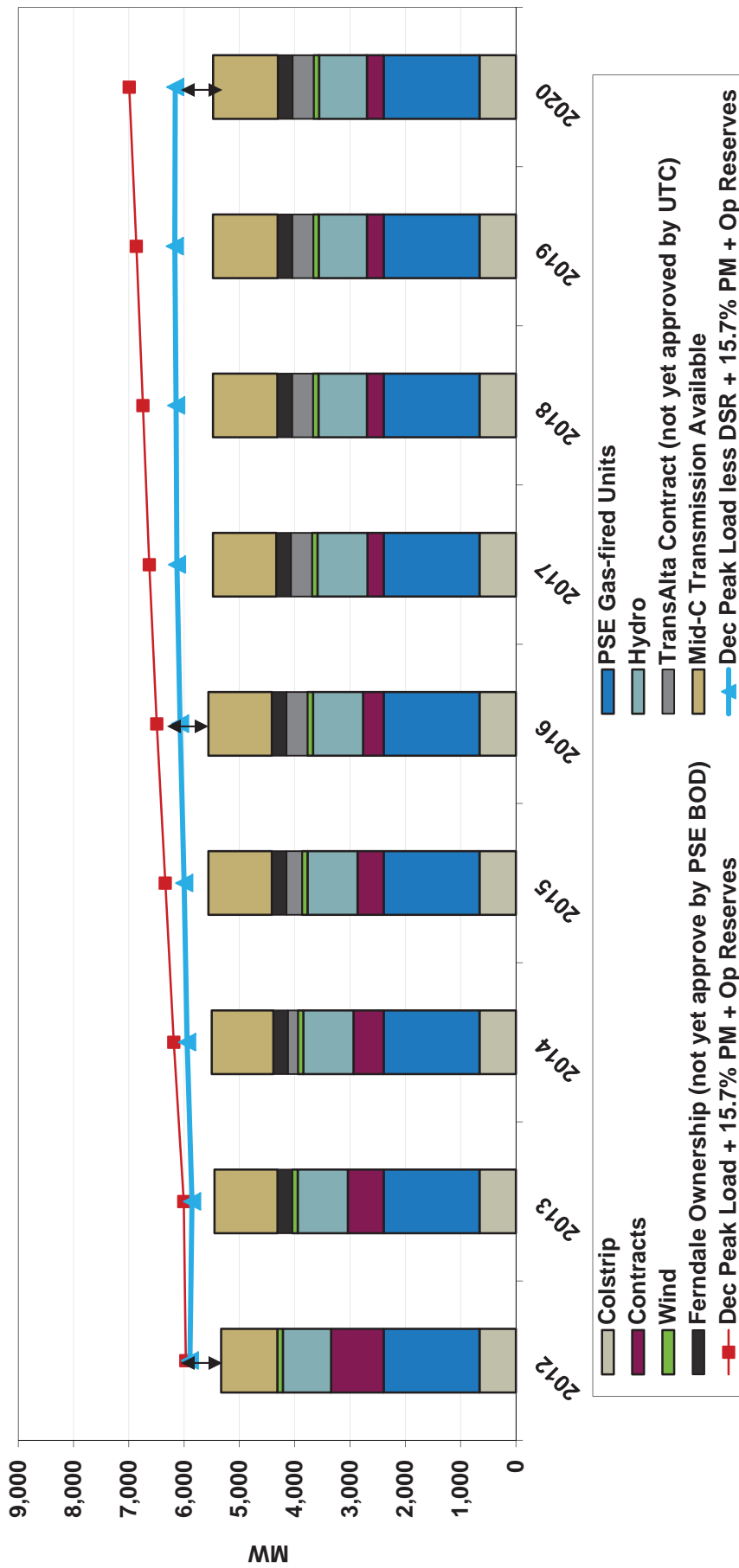


| Portfolio Cost (Revenue Requirement) \$MM |                      |                  | Increase in Cost of No Renewal |
|---|----------------------|------------------|--------------------------------|
|   | 400 MW Mid C Renewal | No Mid C Renewal |                                |
| Max                                       | 12,611               | 12,827           | 216                            |
| TVAR90                                    | 11,692               | 11,827           | 136                            |
| P75                                       | 10,709               | 10,942           | 233                            |
| Median                                    | 9,885                | 10,040           | 156                            |
| Mean                                      | 10,363               | 10,598           | 236                            |
| P25                                       | 10,009               | 10,248           | 239                            |
| TVAR10                                    | 9,501                | 9,727            | 226                            |
| Min                                       | 8,881                | 9,116            | 235                            |
| Annual Volatility (%)                     | 9.8%                 | 9.2%             | 0.6%                           |
| Cost at Risk                              | 1,329                | 1,229            | 100                            |

**Notes:**

- Uses 2011 RFP risk analysis model and resource options
- Both portfolios include Ferndale Ownership & Board Approved Coal Transition PPA.
- Assumes that 400 MW of renewable are made every five years through analysis period because manual portfolio analysis showed benefits to long-term renewals.

## December Peak Need including TransAlta & Ferndale without 400 MW Transmission Renewal



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Source: post-2011 RFP Need Assessment 08/10/2012

EMC Update // August 16, 2012