EXHIBIT NO. ___(TAD-8C)
DOCKET NO. UE-130617
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-130617**

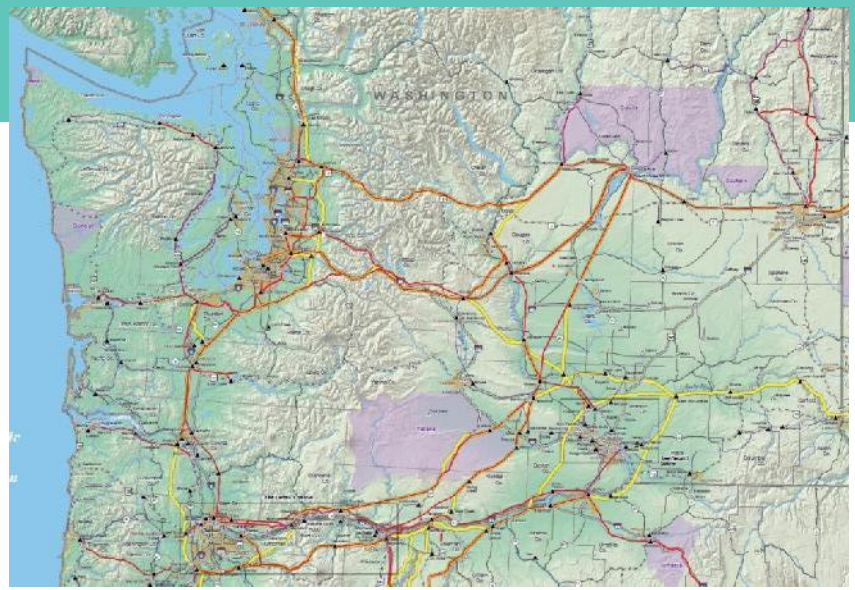
SECOND EXHIBIT (CONFIDENTIAL) TO THE PREFILED SUPPLEMENTAL DIRECT TESTIMONY OF TOM A. DEBOER ON BEHALF OF PUGET SOUND ENERGY, INC.

REDACTED VERSION

JULY 29, 2013

BPA Mid-C 115 MW Transmission Contract Renewal

EMC Decision Presentation



Alex Berres
Engineer, Energy Delivery
July 18, 2013

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Recommendation

- **Renew 115 MW BPA Mid-C contract for 5-yr term (10/1/13 - 9/30/18)**
  - Benefit to Customers: ~$44M - $56M in portfolio benefit NPV (see appendix)
  - Annual cost of $2.5M is included in the 2013 PCORC filing
  - 115 MW renewal will result in a short-term resource surplus, but is a low cost, long-term alternative to fill capacity need starting in 2017

Overview

- Background
- Key Considerations
- Analysis Results
- Decision Item

Background

- 2011 WUTC GRC Final Order: PSE is expected to provide for any renewal or 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*."
- Transmission contract prudence is determined with qualitative and quantitative analysis consistent with IRP and RFP processes
- BPA transmission contracts are generally renewed for the minimum term of 5 years to retain renewal rights and allow flexibility to reevaluate transmission need
- Mid-C transmission in excess of PSE's Mid-C resource capacity is considered from a portfolio approach as it is not tied to specific projects

Background

- February 2013, EMC approved staff recommendation to renew the following BPA transmission contracts:
  - Goldendale 27 MW
  - Colstrip 663 MW
  - Clymer Load 4 MW
  - PG&E Exchange Transmission – 300 MW renewal, 300 MW new contract
  - 35 MW Mid-C Transmission
- Staff recommended deferral of renewal decision for the115 MW Mid-C Transmission contract to allow time for continued analysis and evaluation

Key Considerations

- PSE has a capacity need beginning in 2017. Renewal of the 115 MW Mid-C transmission will meet this need but create a near-term capacity surplus through 2018
- If PSE was assured of a means to obtain BPA transmission and fill the need beginning 2017, PSE would have recommended to not renew 115 MW transmission. However, recent information from BPA suggests PSE's ability to obtain Mid-C transmission in the future is **very limited and uncertain**
- PSE can manage near-term Mid-C transmission surpluses through upcoming transmission renewals in that transmission can be renewed for an equal or lesser capacity to reduce surplus
  - PSE has an opportunity to renew up to 514 MW of Mid-C transmission contracts in Fall 2013 with contract terms beginning Fall 2014 (see appendix)
- PSE can manage near-term Mid-C transmission surpluses by remarketing/reselling transmission on a long-term or short-term basis
- Mid-C transmission is shown to be a cost competitive resource as compared to other resources evaluated in the 2011 RFP
- Northwest Planning and Conservation Council forecast indicates the region may not have adequate winter capacity starting 2020. PSE has opportunities to reduce BPA transmission in the future to shape its reliance on the Mid-C market

Key Considerations

- Currently, there are several significant BPA-related barriers to PSE obtaining future Mid-C transmission service:
  - The primary constraint in a new request for transmission service sourcing at the Mid-C and sinking at PSE's westside system is the West of Cascades North (WOCN) transmission flowgate. Currently, there are thousands of MW of queued requests for WOCN capacity that exceed the flowgate's capacity.
  - Planned transmission improvements could relieve some of these constraints on West of Cascades North, and provide approximately 500 MW capacity in the 2018 timeframe, but any additional improvements beyond this are not planned until mid-2020s (new 500kV transmission line)
  - BPA has recently revealed new constraints on federal and non-federal transmission facilities in the Mid-C area, with no clear method to address these constraints within the 2013 Network Open Season Process
  - In the last few weeks, BPA has revealed that there is no long-term capacity on the new North of Echo Lake flowgate (PSANI constraint) in the Puget Sound Area. PSANI projects that PSE is a partner in are not primarily meant to provide additional capacity in the Puget Sound Area – rather, they are designed to help mitigate current congestion issues that already exist

Analysis Results

- PSE has a capacity need by 2017 without 115 MW BPA renewal, with a capacity need starting 2019 with 115 MW BPA renewal
- Renewing now avoids significant risk of not being able to secure additional BPA transmission when needed
- Low capacity cost and minimizes risk in meeting capacity need in 2017
- PSM results indicate that renewal of BPA Mid-C 115 MW transmission is the least cost portfolio as it allows deferral of peaker build from 2017 to 2021 (see appendix)

Total Surplus/(Need) Base (December)	2014	2015	2016	2017	2018	2019	2020	2021	2022
2013 IRP + Post IRP Adjustments*	209	224	186	70	25	(17)	(12)	(61)	(127)
2013 IRP + Post IRP Adjustments* - without 115 MW	94	109	71	(48)	(97)	(140)	(135)	(184)	(250)

***See Appendix for summary of Post 2013 IRP Adjustments**

Note: Assumes BPA transmission renewals in future years

Decision Items

- **Renew 115 MW BPA Mid-C contract for 5-yr term (10/1/13 - 9/30/18)**

Appendix

Post 2013 IRP Adjustments ("Base Adjusted")

- There have been several changes since the 2013 IRP was released that have changed PSE's forecast resource need/surplus:
  - PSE Merchant (PSEM) has implemented a change in the way that it returns contractual losses for energy delivered on its BPA transmission contracts. Contractual losses must functionally be delivered to BPA at the Mid-C.
  - This change allows PSEM to buy energy from the market (Mid-C), and schedule this return directly to BPA at the Mid-C. While this change doesn't change the total system load obligation of PSE, it allows this loss return load obligation ("Eastside Load") to be met without having to use PSE's existing BPA transmission contracts to deliver resources to the Westside PSE system, to only schedule losses back to the Mid-C. In effect, this change has freed up additional Mid-C transmission resource for PSE to serve its peak Westside load, an approximate 70 MW of additional transmission available to wheel market from the Mid-C to the Westside at peak load conditions.
  - PSE redirected a small portion of its existing BPA transmission used for Hopkins Ridge to the Mid-C on a long-term basis. This resulted in 3 MW additional Mid-C transmission.

Mid-C Transmission Renewal Analysis

- Case Descriptions:
  - Case 1: No 115 MW Mid-C transmission renewal, no 100 MW toll extension
  - Case 2: No 115 MW Mid-C transmission renewal, 100 MW toll extension
  - Case 3: 115 MW Mid-C transmission renewal, no 100 MW toll extension
  - Case 4: 115 MW Mid-C transmission renewal, 100 MW toll extension

	2013 IRP Base Adjusted			
Resource Options	Case 1	Case 2	Case 3	Case 4
2014 115 MW Tx Renewal	-	-	X	X
Potential 5-yr 100 MW seasonal toll in 2016	-	X	-	X
206MW Peaker Build	Built for 45 MW Need (2017)	Built for 38 MW Need (2019)	Built for 57 MW Need (2021)	Built for 57 MW Need (2021)
Portfolio Cost ($000)	$ 11,788,154	$ 11,759,977	$ 11,731,817	$ 11,744,073
Cost / (Benefit) compared to Case 1	$ -	$ (28,177)	$ (56,337)	$ (44,081)

- Transmission renewal allows PSE to defer need to build peaker
- Low capacity cost and minimizes risk in meeting capacity need in 2017
- NWPPC forecast says the region may not have adequate winter capacity starting 2020 – peaker build in this scenario is in line with that timing

Fall 2013 Transmission Renewals

- PSE has the opportunity to manage near-term Mid-C transmission surpluses in Fall 2013 when 514MW of Mid-C transmission contracts come up for renewal
- These contracts can be renewed for an equal or lesser capacity to reduce surplus effective Fall 2014

Project	Renewal Deadline	Start Date	Capacity
Rocky Reach	10/31/2013	11/1/2014	40
Rocky Reach	10/31/2013	11/1/2014	40
Rocky Reach	10/31/2013	11/1/2014	40
Rocky Reach	10/31/2013	11/1/2014	5
Rocky Reach	10/31/2013	11/1/2014	55
Vantage	10/31/2013	11/1/2014	27
Vantage	10/31/2013	11/1/2014	27
Vantage	10/31/2013	11/1/2014	27
Vantage	10/31/2013	11/1/2014	3
Vantage	10/31/2013	11/1/2014	36
Vantage	10/31/2013	11/1/2014	5
Vantage	11/30/2013	12/1/2014	209
Total Fall 2013 Transmission Renewals			**514**

Transmission and 2011 RFP cost comparison

- Transmission contracts are relatively cost-effective compared to 2011 RFP resources and have potential long-term benefits if PSE can rely on 1,600 MW of market power available @ the Mid-C

REDACTED VERSION

2011 RFP Resource Annual Capacity Costs ($/kW-yr) [1]

	2014	2015	2016	2017	2018	2019	2020	2021
115 MW BPA Transmission	[redacted]							
PG&E Exchange (2 wheels tx) [2]								
Coal Transition PPA[3]								
Ferndale Ownership								
100MW Toll Extension[4]								
Generic Peaker - 2017								

Notes:

1) Capacity cost is the same as the net cost metric; results presented are based on 2013 IRP Base scenario only for full year's cost
2) Excludes ~ $11/kW-yr PSE Southern Intertie opportunity cost; includes 2 transmission wheels
3) Equity return based on PSE's as filed request in UE-121373
4) Assumes PSE would rely upon [redacted] by making this assumption the cost is $5 to $6 / kW-year lower than previous analyses

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BPA Transmission Risks

BPA Queue:

There are thousands of MWs of queued transmission requests that consume all available flowgate capacity (AFC) in BPA's long-term ATC/AFC inventory through 2022. In particular, all queued requests impacting West of Cascades North require 2148 MW more capacity than currently exists in BPA's inventory of available capacity shown below:

Long-Term Firm Available Flowgate Capability Less Pending Queued Requests Inventory: The figures below represent the Long Term ATC less Requests pending in the Long Term Queue. The values reflect Transmission Availability as Customers enter the bottom of the queue. Negative numbers indicate the amount of pending capacity requests in excess of Available Flowgate Capacity. The values in the spreadsheet are approximations and will be updated on a monthly basis to reflect new requests and system changes.

POSTED: 05/31/13										
		Dec-14	Dec-15	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22
CROSS CASCADES NORTH E>W	Remaining ATC	-1571	-1728	-1825	-1882	-2034	-2049	-2066	-2132	-2148

Source: http://transmission.bpa.gov/tx_availability/atc_less_pending.xls

BPA Transmission Risks

BPA Transmission Projects on West of Cascades North

- There are two transmission projects planned between 2014 and 2018 that could increase capacity on the West of Cascades North flowgate:
  - Shunt capacitors planned for a 2014 energization at BPA's Monroe 500kV substation are expected to provide approximately 300 – 400MW of additional capacity to WOCN.
  - Series capacitors on BPA's Schultz – Raver 500kV #3 & #4 lines are expected to bring between 200 – 300MW additional AFC to WOCN by a stated 2017/2018 timeframe.
- The dates listed above are based on planned BPA transmission projects in-service dates; there is a possibility that these projects could be delayed, reducing the amount of capacity available to grant new transmission requests

BPA Transmission Risks

BPA Transmission Limitations at the Mid-Columbia

- Very recently, BPA has indicated that there is a little or no remaining capacity on its transmission system facilities located in and around the Mid-Columbia to accommodate new requests
- BPA's transmission system operates in parallel with the Mid-C Project owners (Grant County PUD, Chelan County PUD, Douglas County PUD)
- Because of the parallel nature of the system, upgrades to accommodate new requests may require upgrades on non-BPA systems. Ability for BPA to upgrade **both** its transmission system **and** address neighboring owner facilities through the Network Open Season 2013 process is very uncertain
- Timeline for upgrades to Mid-Columbia system is very uncertain

BPA Transmission Risks

BPA Transmission Limitations at the North of Echo Lake flowgate

- Very recently, BPA has introduced a new flowgate into the Puget Sound Area which is meant to be a better indicator of congestion in the Puget Sound Area ("PSANI" issue monitored at the Northern Intertie in the past)
- New transmission requests sinking to PSE's service territory have a positive MW impact on the flowgate
- As of 6/13/2013, there is no long-term capacity on the North of Echo Lake flowgate, and limited projects that will grant new ATC on the flowgate for new requests (see http://transmission.bpa.gov/Business/ATC_Methodology/LTATCBaseCaseRelease_061413.pdf)

FINAL 2015 BASE CASE NUMBERS:

ATCfor Posting	TBL TTC (MW)	2014	2015	2016	2017	2018	2019	2020	2021	2022
ATC for South of Allston	1,991	0	128	135	137	141	138	136	129	120
ATC for WOC North E>W	10,350	322	240	234	189	13	0	0	0	0
ATC for WOC South E>W	7,200	561	491	487	462	437	417	395	381	373
ATC for NOHanford N>S	4,400	574	163	178	167	156	146	134	115	99
ATC for NOJD N>S	7,800	1,077	454	478	462	463	445	424	385	359
ATC for Paul to Allston	2,250	674	527	531	526	529	524	518	509	501
ATC for Raver to Paul	1,450	352	0	0	0	0	0	0	0	0
ATC for WOMcNary E>W	4,500	1,484	990	1,009	1,009	1,021	1,015	1,010	1,002	1,013
ATC for WOSlatt E>W	4,100	1,016	657	675	677	674	675	671	664	658
ATC for WOJD E>W	3,750	955	1,233	1,244	1,237	1,240	1,235	1,231	1,226	1,228
ATC for West of LOMO E>W	3,750	2,109	1,521	1,635	1,325	1,617	1,603	1,395	1,587	1,580
ATC for North of Echo Lake S>N	2,800	0	0	0	0	0	0	0	0	0
ATC for South of Custer N>S	1,800	1,762	680	681	675	674	701	701	701	701

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