EXH. PKW-12C
DOCKETS UE-19___/UG-19___
2019 PSE GENERAL RATE CASE
WITNESS: PAUL K. WETHERBEE

BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION, **Complainant,** **v.** **PUGET SOUND ENERGY,** **Respondent.**	**Docket UE-19____** **Docket UG-19____**

ELEVENTH EXHIBIT (CONFIDENTIAL) TO THE PREFILED DIRECT TESTIMONY OF

PAUL K. WETHERBEE

ON BEHALF OF PUGET SOUND ENERGY

REDACTED VERSION

JUNE 20, 2019

Decisional:
5 year Term Renewal of Upstream Firm Pipeline Capacity on Westcoast Energy

Bill Donahue
Manager, Natural Gas Resources

September 21, 2017

Request for Approval

Authorize term renewal of 70 MDth/d of firm pipeline capacity on Westcoast for 5 years as follows:

- Approximately 52 MDth/day of Station 2 to Sumas, from Nov.1, 2018 through Oct.31, 2023 for the Power Book.
- Approximately 18 MDth/day of Station 2 to Sumas, from Nov.1, 2018 through Oct.31, 2023 for the Gas Book.

Westcoast Capacity Contracting

Proposed renewals:

- maintain the availability of upstream capacity at approximately 50% of Need at Sumas for both Gas and Power Books.
- maintains current level of access to gas supply at the source in NE BC. (All gas at Sumas originates from Station 2.)
- continues to provide pricing diversity (Station 2 vs Sumas).
- maintains the status-quo for regulatory cost recovery for Gas Book (PGA) and Power Book (PCA).

Westcoast Tariff:

- Requires13 month notice to extend or terminate contracts.
- requires term extension of 2 year minimum to retain future renewal rights.
- provides a rate discount of 3%, 4% and 5% for a 3 year, 4 year and 5 year term extension, respectively.

Proposed 5 year term:

- guarantees access through start-up of potential large new firm loads in region.
- preserves flexibility in managing total Westcoast capacity (an additional 77 MDth/d is up for renewal next year and 71 MDth/d the following year).
- maximizes available rate discount.

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Status of Westcoast capacity

	Gas Book Dth/d	Power Book Dth/d	Total Dth/d
Supply Need at Sumas			
Sumas take-away on NWP*	269,181	108,957	378,138
Sumas CCCT on PSE pipeline		26,000	26,000
Ferndale CCCT on Cascade line		58,600	58,600
estimated fuel on downstream pipes	3,822	1,547	5,369
100% Supply Need at Sumas	273,003	195,104	468,107
With proposed renewal			
Wescoast capacity held	132,400	86,143	218,542
percent of Need achieved (goal 50%)	**48%**	**44%**	**47%**
resulting reliance on Sumas market	52%	56%	53%
Without proposed renewal			
Wescoast capacity held	114,608	33,782	148,391
percent of Need achieved (goal 50%)	**42%**	**17%**	**32%**
resulting reliance on Sumas market	58%	83%	68%

* i.e.: to fully utilize all firm transport to serve load, this amount of gas must originate at Sumas, excludes 8,056 flex from JP and 10,000 to be dedicated to Puget LNG

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Westcoast capacity renewal provides benefits at acceptable cost

- Primary benefits of renewing the Westcoast capacity are:
  - mitigate physical access risk
  - achieve pricing diversity
- Modeled benefit reflects a declining Stn.2 to Sumas differential, resulting from increased capacity on Westcoast - both to Sumas and AECO.

70 MDth/d renewal	Present Value of Fixed Cost (1)	PV of Modeled Value (2)	Net (Cost)/ Benefit (3)
Nov. 2018 - Oct. 2019	($6,980,081)	$6,878,104	($101,976)
Nov. 2019 - Oct. 2020	($7,467,248)	$5,848,455	($1,618,792)
Nov. 2020 - Oct. 2021	($7,086,051)	$5,323,562	($1,762,489)
Nov. 2021- Oct. 2022	($6,575,161)	$4,939,744	($1,635,417)
Nov. 2022 - Oct. 2023	($6,101,105)	$4,583,598	($1,517,507)
			($6,636,181)

(1) Utilizing forecast Demand Charges as supplied by Westcoast through 2020, final year repeated, thereafter.

(2) Station 2 vs Sumas differential as forecast by 3rd Party, modeled by Mid-Office, with PowerSimm (Deterministic) through 2020, final year repeated, thereafter.

(3) Net (Cost)/Benefit excludes valuation of the reliability benefit of physical access.

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Appendix

Why supply at Sumas may become very "tight" in future winters:

-- excerpt from discussion in draft PSE 2017 IRP

- As production costs fall and supply increases, low cost production of NE BC has become trapped by a shortage of capacity leaving the basin. This supply had been developed to serve the planned, but now cancelled, large (2 Bcf/day) LNG export facilities. Westcoast in now fully contracted as NE BC producers have sought a market outlet for their growing production. In the last two years Westcoast has run at its maximum available capacity nearly year-round (limited by maintenance restrictions). This has resulted in adequate supply at Sumas in winter months and an excess in summer months.
- A recent Westcoast capacity offering was fully subscribed and will drive construction of an additional 105,000 Dth/d available in November 2020.
- However, two new large volume firm demands of approximately 420,000 Dth/d have a potential to come on-line in the 2020 to 2023 time-frame and draw upon the new supply. These 2 new firm loads have acquired the Westcoast firm capacity necessary to serve their demand, (and in part, due to their huge capital investments supported by commitments to a market) they will control their own supply and destiny.
- The firm gas supply controlled by these new industrial loads will be effectively removed from the available supply at Sumas on most days.
- PSE believes there will be adequate supplies at Sumas in summer and shoulder months. PSE would be able to compete (on price) to obtain half of needed supplies even in peak periods, even with the new loads.
- Winter is another matter. The following table illustrates an approximation of the supply and demand balance at Sumas, currently and in 2020 and 2023. Interruptible loads are shown in blue. The potential start-up of the first of the two potential new large volume firm loads- who each hold their own capacity on Westcoast and thus control their own supply- may fully absorb all remaining supply at Sumas in winter peak conditions, forcing a rationing of supply among interruptible loads, based on price. With the addition of the second of the new large volume firm loads, the shortfall in supply (307 MDth/d) is greater than the total interruptible loads (300 MDth/d), which may result in a lack of sufficient gas supply for some firm loads. This would suggest that any additional firm load would require an expansion of Westcoast in order to maintain reliability. **Because the supply market at Sumas is likely to get tighter in the next few years, PSE should maintain its "approximately 50 of Need" approach, at a minimum, to guarantee physical access to the supply at the source in NEBC.**

PUGET SOUND ENERGY

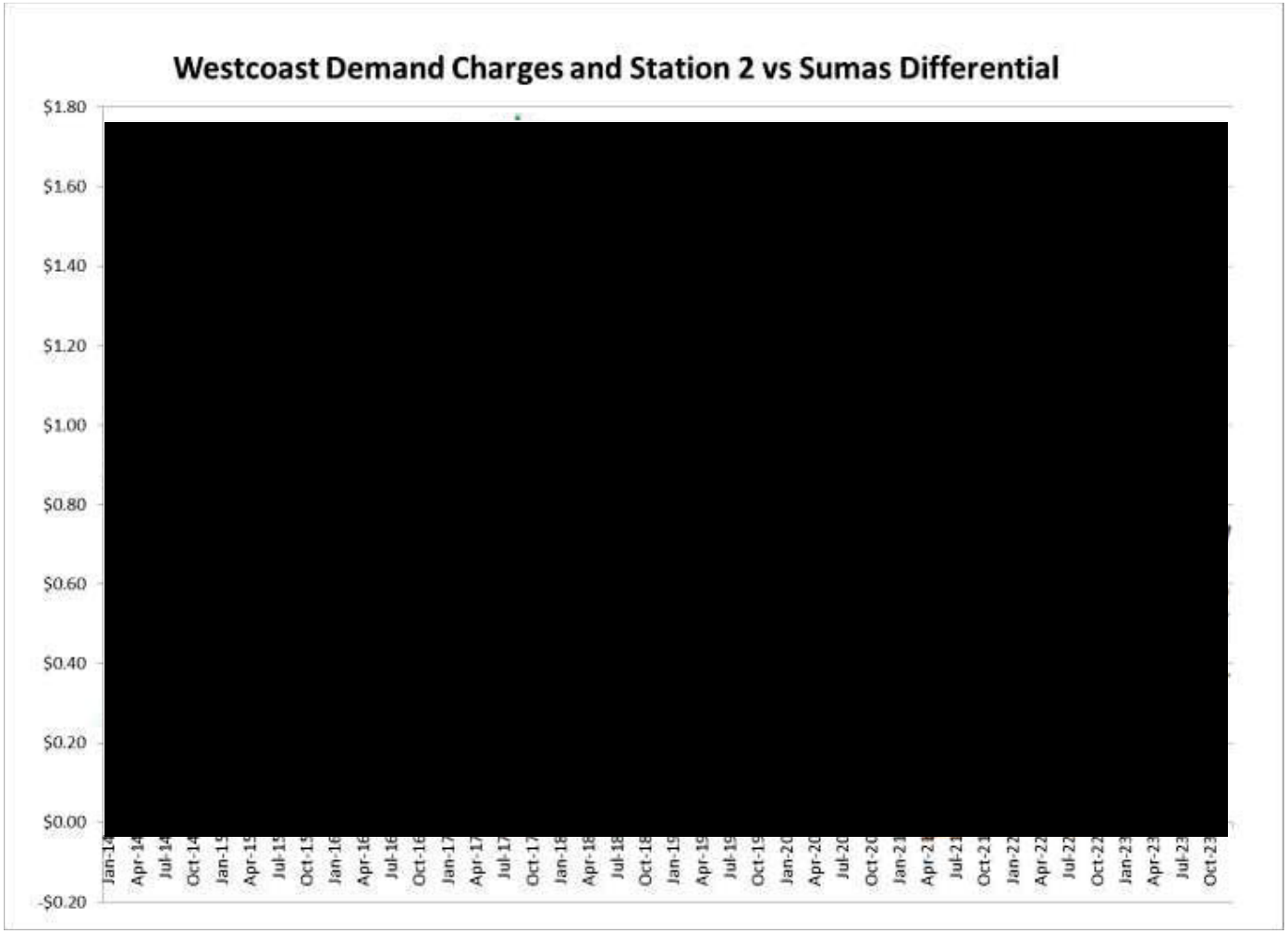
Why supply at Sumas may become very "tight" in future winters:

-- excerpt from discussion in draft PSE 2017 IRP

Projected Supply & Demand at Sumas	Current 2017-18		Expected 2020-21		Expected 2023-24	
	Winter MDth/d	**Summer** MDth/d	**Winter** MDth/d	**Summer** MDth/d	**Winter** MDth/d	**Summer** MDth/d
Max Westcoast capacity (pre-expansion)	1,518	1,518	1,518	1,518	1,518	1,518
Westcoast Winter Only Firm Service (WOFS)	168	-	168	-	168	-
Westcoast AOS capacity (absorbed by Expansion)	94	94	-	-	-	-
WEI Proposed Expansion (eff. 11/2020)	-	-	199	199	199	199
Max Westcoast capacity -total gas availailable at Sumas	1,780	1,612	1,885	1,717	1,885	1,717
PSE - Guaranteed Access-Firm T-South for Firm Reqmts	**219**	**219**	**219**	**219**	**219**	**219**
PSE -AOS T-South@ 50% for Firm Reqmts	**12**	**11**	**-**	**-**	**-**	**-**
Remaining Gas Supply available at Sumas	**1,550**	**1,383**	**1,666**	**1,498**	**1,666**	**1,498**
Other Demand						
PSE - Purchase at Sumas for Firm Reqmts	**247**	**123**	**259**	**123**	**259**	**123**
PSE - Purchase at Sumas -Peakers	***155***	***155***	***155***	***155***	***155***	***155***
Fortis BC Energy Firm load	525	275	525	275	525	275
Other Firm Gen. (PGE, Pac.,)	170	170	170	170	170	170
Other Firm LDC (NWN, CNGC, InterMtn, Sierra)	220	125	220	125	220	125
Other Firm Indust. Load (I-5 corridor)	80	70	80	70	80	70
Other Interruptible Gen. (Grays H)	*105*	*105*	*105*	*105*	*105*	*105*
Other Interruptible Indust. Load (I-5 corridor)	*40*	*35*	*40*	*35*	*40*	*35*
NWIW-Kalama from Sumas (eff. 11/2020)	-	-	180	180	180	180
WoodFibre LNG demand at Sumas (eff. 11/2023)	-	-	-	-	240	240
Total Demand	1,542	1,058	1,734	1,238	1,974	1,478
Uncommitted supply at Sumas	**8**	**325**	**(67)**	**261**	**(307)**	**21**
potential unserved	**-**	**-**	**3%**	**n/a**	**14%**	**n/a**
Percent of PSE Firm Requirements covered by T-South	**48.3%**	**65.2%**	**45.8%**	**64.1%**	**45.8%**	**64.1%**
Percent of PSE Total Requirements covered by T-South	**36.5%**	**45.2%**	**34.6%**	**44.0%**	**34.6%**	**44.0%**
PSE Pro-rata share of unserved volume (MDth/d)	**-**	**-**	**16**	**n/a**	**64**	**n/a**

Forecast Differential: declines due to new pipeline connectivity, but still covers cost during winters

REDACTED VERSION



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