Exh. DCG-22
Dockets UE-190529/UG-190530 and
UE-190274/UG-190275 (*consolidated*)
Witness: David C. Gomez

BEFORE THE WASHINGTON
UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION, **Complainant,** **v.** **PUGET SOUND ENERGY,** **Respondent.**	**DOCKETS UE-190529 and UG-190530 *(consolidated)***
In the Matter of the Petition of **PUGET SOUND ENERGY** **For an Order Authorizing Deferral Accounting and Ratemaking Treatment for Short-life UT/Technology Investment**	**DOCKETS UE-190274 and UG-190275 (*consolidated*)**

EXHIBIT TO TESTIMONY OF

David C. Gomez

STAFF OF
WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION

PSE 2017 IRP, Chapter 7 Gas Analysis

November 22, 2019

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2017 PSE Integrated Resource Plan

Gas Analysis

This analysis enables PSE to develop valuable foresight about how resource decisions to serve our natural gas customers may unfold over the next 20 years in conditions that depict a wide range of futures.

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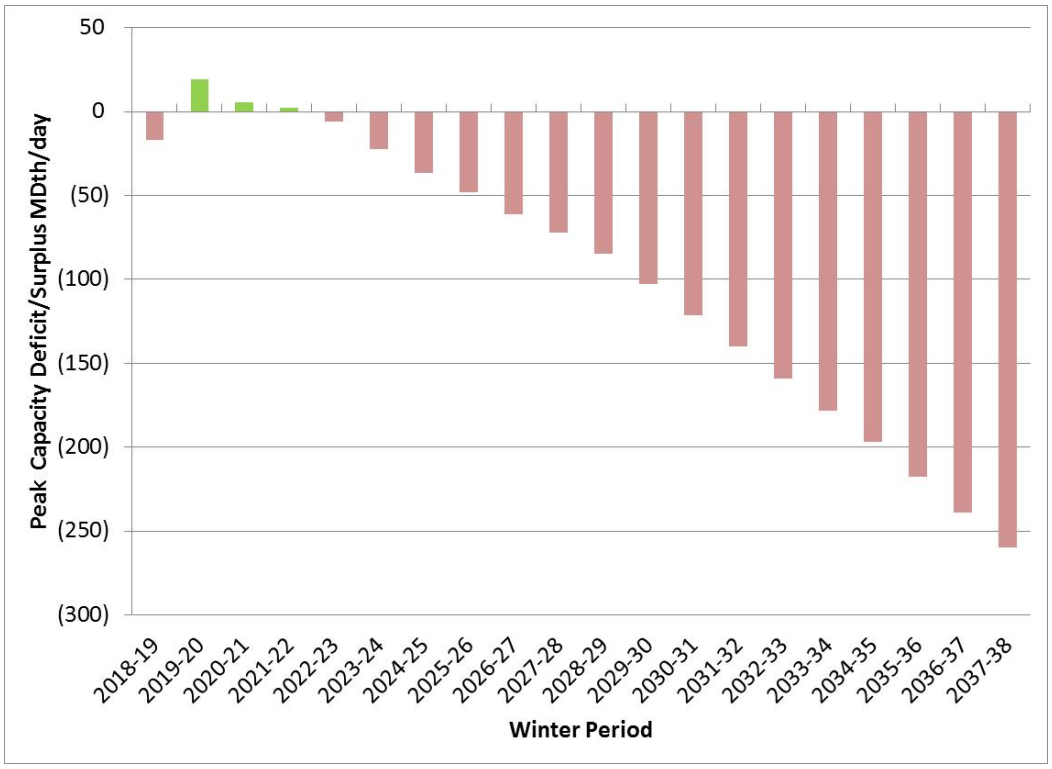
Figure 7-2: Gas Sales Peak Resource Need Surplus/Deficit in Base Demand Forecast before DSR



Gas Sales Key Issue

Adequacy of Sumas Market

The Sumas market (the Huntingdon, British Columbia / Sumas, Washington hub) is essentially an interconnection between the Enbridge/Westcoast Energy Pipeline (Westcoast) and Northwest Pipeline (NWP). Unlike other market hubs, there is no gas production and no convergence of several supply pipelines. PSE implemented a strategy to hold firm capacity on Westcoast for approximately 50 percent of its peak demand for gas from British Columbia (B.C.). This strategy provides a level of reliability (physical access to gas in the production basin) and an opportunity for pricing diversity, as often there is a significant pricing differential between Station 2 and Sumas that more than offsets the cost of holding the capacity.

Since its last major expansion in 2002, Westcoast has had capacity to transport adequate supplies to satisfy all firm demand relying on gas from northeast British Columbia (NE B.C.). Subsequent to the expansion, as Station 2 to Sumas price differentials decline, some shipper

contracts expired and were not renewed. This left much of the Westcoast system uncontracted on a firm basis. Then, at the very time the Pacific Northwest (PNW) demand for natural gas to serve gas customer growth and electric generation fuel needs was increasing, conventional production in B.C. began to decline and prices rose, leaving PNW demand to consider the less expensive supplies in the Rockies. The region and California considered new pipeline proposals from the Rockies, and ultimately Ruby Pipeline was built.

The shale revolution changed everything. As production costs fell and supply increased, the abundant and low-cost production of NE B.C. and the Montney region, in particular, is now trapped by a shortage of pipeline capacity leaving the basin. Westcoast is now fully contracted as NE B.C. 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 recently completed Westcoast capacity offering was fully subscribed and will drive construction of an additional 105,000 Dth/d of firm capacity on Westcoast and the availability of 94,000 Dth of capacity previously held back for maintenance and reliability reasons, but this is available only on a best-efforts basis. While these new contracts of 199,000 Dth/d will bring more firm gas reliably to the Sumas hub beginning in November 2020, two new large-volume firm demands of approximately 420,000 Dth/d are expected to come online between 2020 and 2023. Because these two new loads have acquired the firm Westcoast capacity necessary to serve their demand, they will control their own supply and destiny. The firm gas supply controlled by these new industrial loads will effectively remove the supply available at Sumas for other customers on most days.

PSE is comfortable with the notion that there will be adequate supplies at Sumas at most times of the year with the increased capacity on Westcoast beginning in 2020, and that PSE would be able to compete (on price) to obtain sufficient supplies in peak periods, even with the new loads.

The table in Figure 7-3 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 new large-volume firm loads – each of which holds their own capacity on Westcoast and thus controls 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. When the second of the new large-volume firm loads is added, 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.

Figure 7-3: Projected Supply and Demand at Sumas

Projected Supply & Demand at Sumas	Current 2017-18		Expected 2020-21		Expected 2023-24	
	Winter	**Summer**	**Winter**	**Summer**	**Winter**	**Summer**
	MDth/d	MDth/d	MDth/d	MDth/d	MDth/d	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**

Because there is an equilibrium of supply and firm demand in peak winter periods and a surplus in summer periods, PSE does not believe it is necessary to secure additional firm Westcoast capacity beyond the current level, which is approximately 50 percent of PSE's peak period demand. However, we do believe that there is a potential for inadequate capacity to bring sufficient supply to Sumas in peak periods beyond 2023, assuming the two new large-volume loads materialize. Therefore, in this IRP, we are continuing to assume that any new NWP capacity from Sumas that PSE would consider using to serve incremental PSE firm loads would need to be coupled with additional firm capacity on Westcoast from the supply source in NE B.C., in order to be deemed a reliable new resource. PSE will continue to monitor developments in the NE B.C. supply and capacity market and to analyze the implications on an ongoing basis.