

Variations in PSE Purchased Gas Costs (October, 2018 – February, 2019)

PSE's natural gas commodity costs for the October 2018 – February 2019 period were higher than projected in the 2018 PGA filing. Higher costs were primarily driven by three factors: a) the October Westcoast pipeline rupture, b) a colder than normal February, and c) the failure of a compressor at the Jackson Prairie Storage Facility (Jackson Prairie) in February. These conditions are explained in detail below.

Westcoast Pipeline Rupture

On October 9th, Westcoast Pipeline's 36 inch pipeline from Station 2 to Sumas ruptured. This pipeline transports natural gas from supply sources in northern Canada to the trading hub at Sumas. The rupture resulted in reduced capacity over the October through February period as the pipeline's owner, Enbridge Inc., performed repairs and testing. Since the rupture, capacity ranged from 0% to 92% as shown in Figure 1.

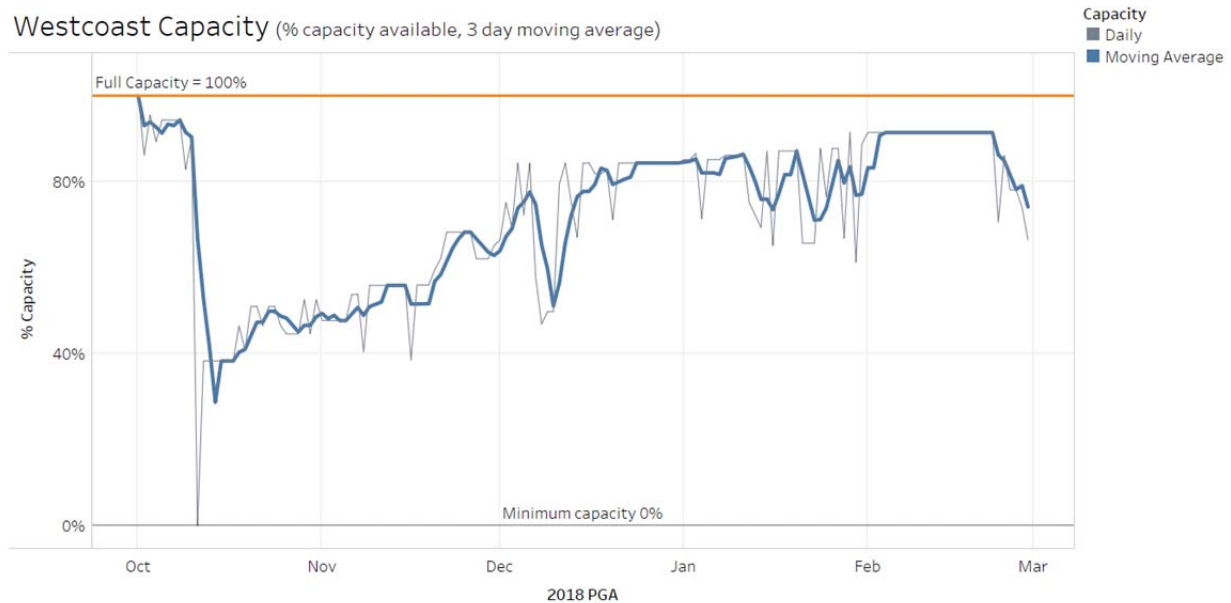


Figure 1

Reduced supplies flowing from the Westcoast pipeline resulted in higher Sumas prices: October spot prices averaged \$2.63/Dth before the rupture and rose to \$7.63/Dth after the rupture. From November to February, the first of month indexes at Sumas averaged \$10.24/Dth compared to \$2.71/Dth in the PGA. In the least-cost dispatch plan in the PGA, PSE assumed that PSE's full contracted Westcoast capacity of 135,795 Dth/day would be used to meet loads every day during the October through February period. The capacity reduction therefore led to an increase in exposure to the Sumas market for both volume and price.

Redacted Version

Colder than Normal February

Colder than normal temperatures in February led to increased loads and higher market prices relative to levels assumed in the PGA filing. Near the end of January, major weather services forecasted February temperatures to be near normal. [REDACTED]

[REDACTED]

Once in February, temperatures quickly turned colder. The month of February averaged 6 degrees below normal and included a week of temperatures more than 10 degrees below normal. This was the coldest February since 1989 for PSE's service territory. The lower temperatures resulted in average loads of 559,000 Dth/day, 27% above the levels assumed in the PGA filing. This increase in demand once again exposed PSE to higher volumes and prices at Sumas. Figure 2 illustrates load and temperature variances from normal, and Figure 3 illustrates Sumas price variances from the levels assumed in the PGA filing.

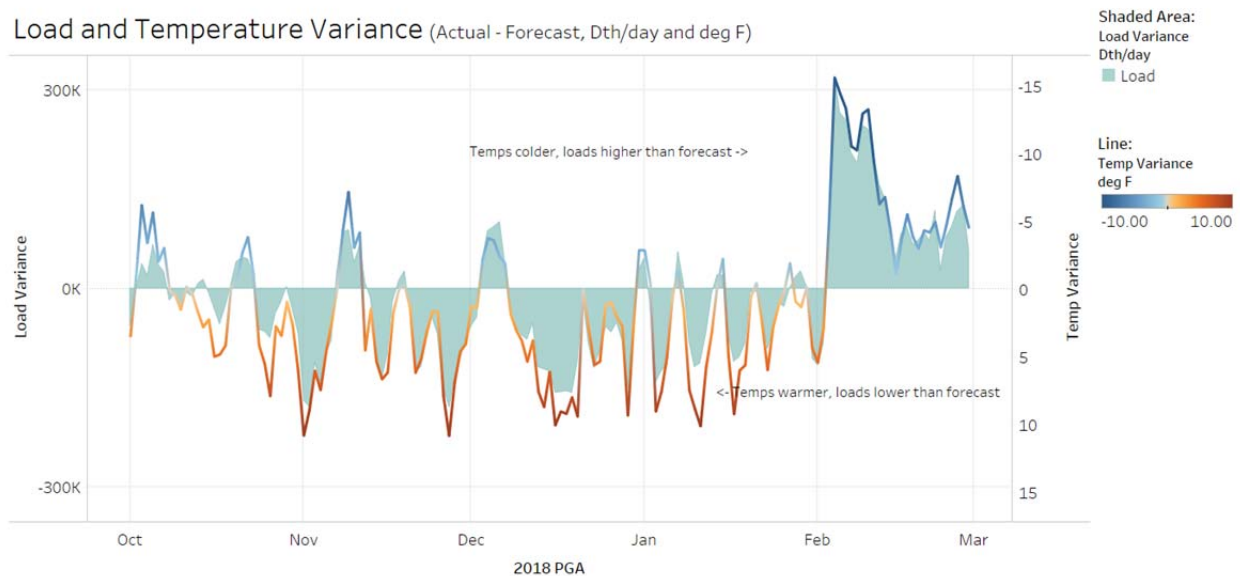


Figure 2

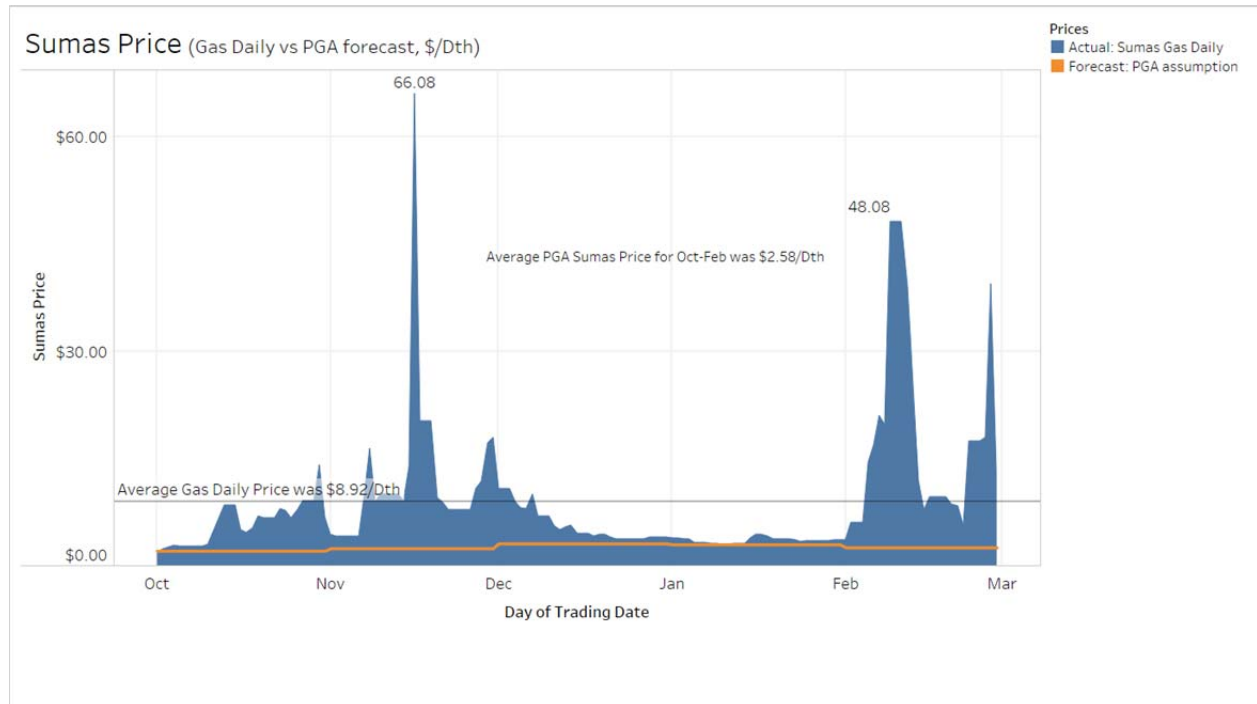


Figure 3

Jackson Prairie Storage Facility Compressor Failure

A compressor at Jackson Prairie failed On February 9th and was out of service until March 8th. PSE relies on Jackson Prairie to meet high loads, reduce market purchases during high priced events and seasons, and to manage load forecast errors. Deliverability from Jackson Prairie is dependent on storage inventory; the withdrawal capability of the facility decreases as inventory decreases. When the Jackson Prairie compressor failed, PSE’s withdrawal capability decreased from [REDACTED], see Figure 4. Combined with the colder than normal temperatures throughout the month, the decreased Jackson Prairie withdrawal rights for PSE and other owners and right holders further tightened the Sumas supply demand balance and supported high prices. With less withdrawal capability to meet high loads and account for load forecast errors, the Jackson Prairie compressor failure further increased PSE’s Sumas spot purchases during a period of elevated prices.

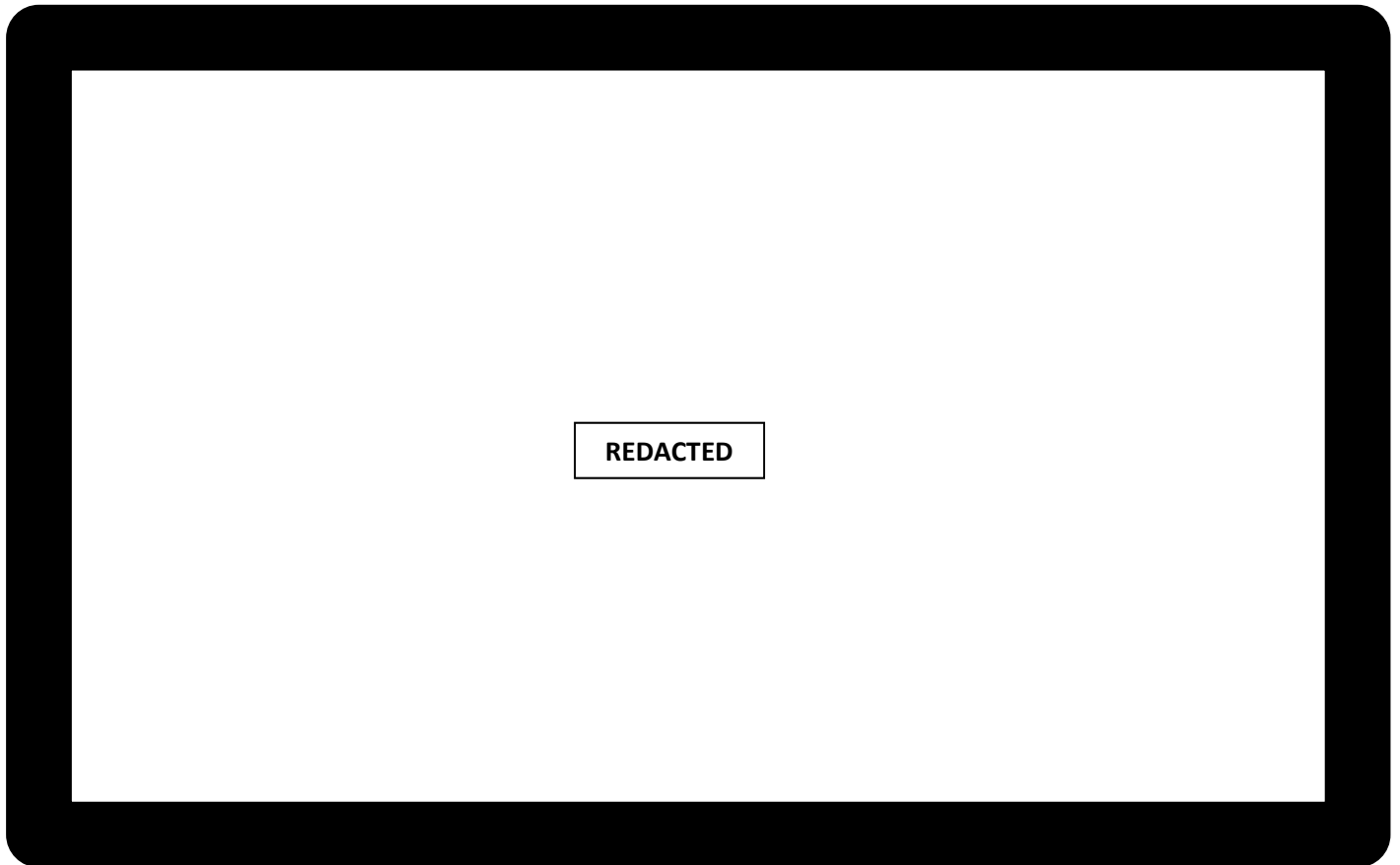


Figure 4

Summary

Supply disruptions because of the Westcoast rupture and Jackson Prairie compressor failure put upward pressure on Sumas prices. Cold weather drove load above forecasted levels and put additional upward pressure on prices. These factors combined to cause higher Sumas purchases at higher prices than assumed in the PGA filing, resulting in a sharp increase in commodity cost deferrals.