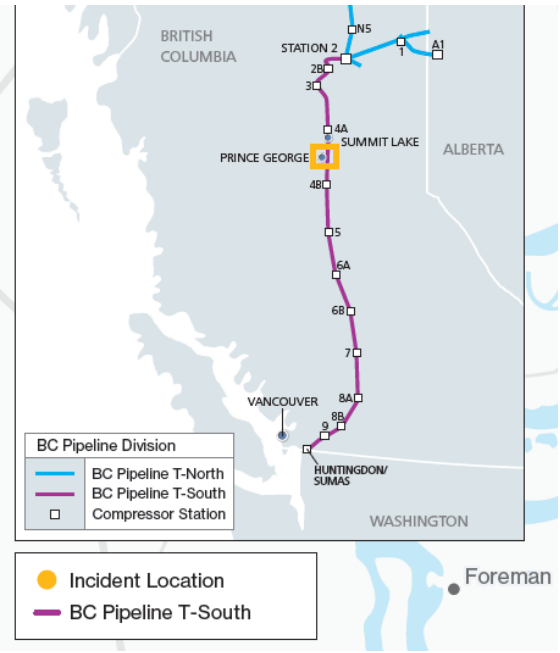
The Enbridge Event

Figure 1: Map of the Enbridge Event

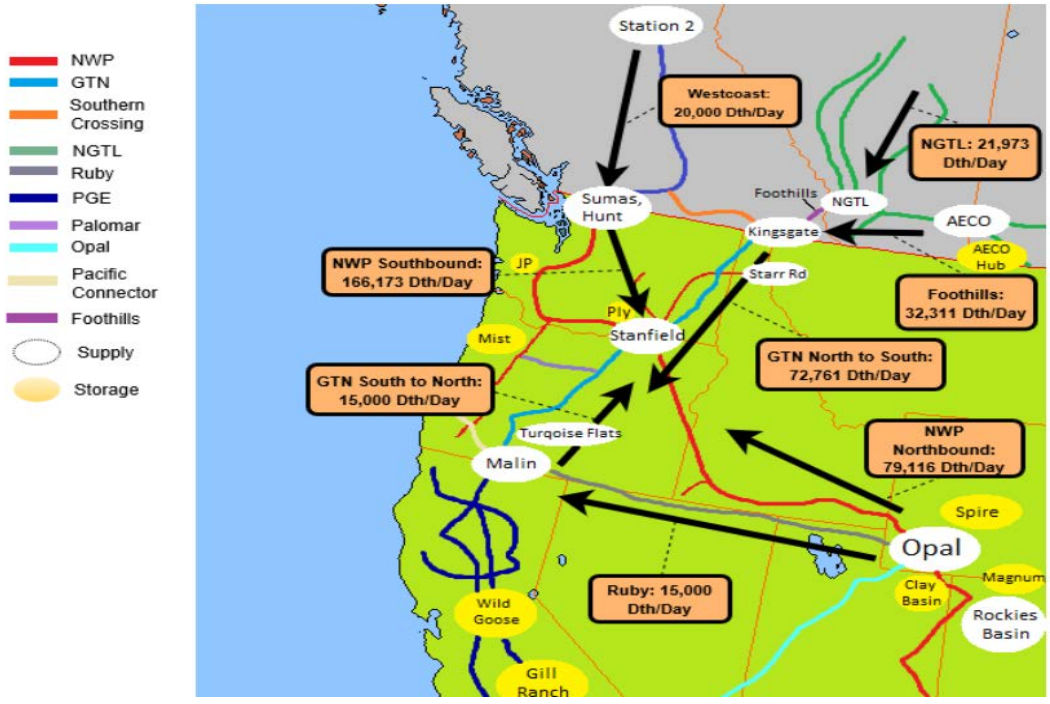


Enbridge experienced a major pipeline rupture and disruption of service on the evening of 10/09/2018 at approximately 6:00PM PST (see Figure 1 for the location of the disruption). The Northwest Mutual Assistance Association (NWMAA) was put into action and conferences were held with all affected parties to make plans for the supply reduction at Huntingdon/Sumas to zero flow by the early morning hours of 10/10/2018. For gas day 10/10/2018 Cascade had initially scheduled 54,000 dths from Huntingdon/Sumas. This was reduced to zero because of the Enbridge pipeline rupture. During the NWMAA call the affected parties agreed to curtail customers for Gas Day 10/10/2018 to preserve the integrity of the pipeline. Cascade notified customers that curtailment would be lifted as of late afternoon 10/12/2018.

<u>Impact to Huntingdon/Sumas Loss to Gas Supply Portfolio</u>

Cascade's portfolio consists of volumes at Huntingdon/Sumas, AECO and Rockies that is consistent with the amount of transport available to Cascade (see Figure 2) and conforms to the current Cascade Gas Supply Oversight Committee (GSOC) guidelines.

Figure 2: Cascade Pipeline Transport Flows



Typically, approximately 50% of Cascade winter volumes come from Huntingdon/Sumas. Of that 50%, approximately 40% of those volumes are fixed price physical hedges. Cascade does not currently participate in a financial hedging program but is working towards adding financial hedges as part of the Company's overall portfolio consistent with moving to a more risk responsive hedging program. Cascade typically contracts for 80-90% of the needed demand for any given month in the forward portfolio.

Pricing for the forward curve began to immediately increase as the risk in the forward market and uncertainty of when Enbridge service would be restored to full service was priced into the market.

Pipeline Entitlements Exacerbated the Volume of Replacement Supplies Needed

An entitlement functions as a penalty associated with having too much, or too little supply on the system. An overrun entitlement is when usage exceeds the amount of a downstream party's (e.g., Cascade) pipeline nomination by a specified percentage. These entitlements are in 3 stages. Stage I is a 3% requirement, Stage II is an 8% requirement and Stage III is a 13% requirement. Northwest Pipeline (NWP) has mostly been under a Stage III entitlement for parties north of the Roosevelt compressor station since the Enbridge event. NWP has adjusted the entitlement stage and location to support pipeline pressures and storage inventories needed for continued operations.

For gas day 10/09/2018 Northwest Pipeline issued a same day entitlement to hold customers to their nominations. Cascade passed along the entitlement to its customers and began to notify customers that the Company would also be curtailing certain classes of customers until further notice.

In response to the Enbridge event and the NWP entitlement, NWP shippers turned to other basins to replace the lost Sumas supplies. This resulted in creating a capacity constraint at the Roosevelt compressor station for flows going north (see the map provided in Figure 3). Cascade has been ordered to comply with the NWP issued Operational Flow Orders (OFO) for much of the heating season since the Enbridge incident. At times the Company has been required to move as much as 20,000 dths from north to south to provide displacement at Roosevelt.

OFOs Triggered Pipeline Mandated Realignment of Supplies, Requiring Additional Supply Purchases

An OFO directs affected parties to flow gas to a specific point or zone based upon proprietary calculations made by upstream pipelines--in this case, NWP. The amount can vary greatly dependent upon overall NWP system nominations, overall pipeline corridor rights of the parties affected, and amount of displacement NWP needs. An OFO is a tool used by the pipeline to alleviate contract capacity throughput constraints on the pipeline. It forces parties to provide displacement to meet contractual constraints. Cascade has attached the official language from the NWP Tariff[1] below.

> *Operational Flow Order ("OFO"): "An operational flow order is an order issued to alleviate conditions, inter alia, which threaten or could threaten the safe operations or system integrity, of the transportation service provider's system or to maintain operations required to provide efficient and reliable firm service. Whenever a Transportation Service Provider experiences these conditions, any pertinent order should be referred to as an Operational Flow Order." NAESB WGQ Standard 1.2.6.*

[1] NWP Tariff 5th Revised, Vol No. 1, Second Revised Sheet No. 202 C

Figure 3: Pacific NW Map

As mentioned earlier, Cascade has been hit with OFOs almost daily since the 10/9/2018 event at Enbridge. Recent OFOs in place at the Roosevelt compressor station required Cascade to have sufficient supply placed at Huntingdon/Sumas to meet the requirements of the OFOs. At the same time, Cascade had to place supply at Huntingdon/Sumas to meet the requirements of the entitlement for parties north of the Roosevelt compressor station. Cascade serves customers in Zones 26 and 30 and needed to meet the entitlement requirements for those zones, requiring the Company to secure expensive Huntingdon/Sumas supplies in order to meet this obligation.

OFOs were put in place due to the supply moving from south to north to reach the Pacific Northwest. Cascade is a key factor in NWP's OFO calculations since Cascade has end-users on both sides of NWP historical system constraints, such as Roosevelt compressor. Because Cascade had to place volumes at Huntingdon/Sumas to cover entitlements while simultaneously being required to fill its corridor rights at Huntingdon/Sumas to comply with the OFO, Cascade had no other option than to purchase additional supplies at Huntingdon/Sumas. Since October, Cascade has had to comply with mandatory OFOs in excess of 736,000 dths. Figure 4 provides a summary of the pipeline mandated OFO obligations directed at Cascade.

Figure 4: OFO Obligation Dths Since Enbridge Event

MONTH	OFO Days	LOW DAILY OFO OBLIGATION DTHS	HIGH DAILY OFO OBLIGATION DTHS	AVERAGE OFO OBLIGATION DTHS	TOTAL MONTHLY OFO OBLIGATION DTHS
October 2018	1	560	560	560	560
November 2018	25	534	51,893	9,330	223,927
December 2018	21	610	13,567	7,838	164,591
January 2019	4	5,576	8,549	7,358	22,073
February 2019 (through 2/24/2019)	20	986	30,075	13,112	324,984

Actions Taken to Address these Impacts

For gas day 10/10/2018 Cascade had initially scheduled 54,000 dths of supply at Huntingdon/Sumas. This volume was cut to zero. The immediate shortfall during the Enbridge event was handled by storage withdrawals from Plymouth and later by Jackson Prairie. For gas day 10/11/2018, the Company requested another 50,000 dths from Plymouth, but only 26,674 dths was pulled and the remainder was cut, likely due to NWP's Roosevelt compressor constraint. For gas day 10/12/2018, Cascade withdrew 25,000 dths from Jackson Prairie. For gas days 10/13/2018 through 10/15/2018 Cascade pulled 10,000 dths/day to cover supply cuts and to ensure the Company had sufficient supplies to comply with the entitlement.

Storage was nearly 100% full prior to the Enbridge event as the Company was completing storage injections in preparation for the winter. Any shortfalls after the event were handled with day gas purchases to limit creating large imbalances. Demand was still low during October and the limited supply coming from Huntingdon/Sumas was enough to meet market demands (October 2018 was 10% warmer than normal). It is important to note that in late October there was no indication from Enbridge to determine how long the repairs would take or the what the expected reduction in capacity would be over the winter. As a result, Cascade was forced to make supply decisions for the remainder of the

winter without the benefit of knowing what the duration or size of the reduction of Enbridge capacity would be.

On 10/31/2018, Enbridge reported that the 36" pipeline segment was repaired, and service was returned on that segment of the pipeline. However, there continued to be limited capacity available (less than 80%) and Enbridge didn't issue a schedule of gains in the capacity until much later. The news about the partial restoration was not announced in time to impact the November 2018 Huntingdon/Sumas index. Also, the duration and size of the capacity reductions were still not clear. Consequently, November saw an increase in the Huntingdon/Sumas index to $13.32 per dth. Figure 5 shows the progression of the November Huntingdon/Sumas index during the bidweek (last week of the month prior to flow).

Figure 5: Bidweek Runup to November 2018 Huntingdon/Sumas Index Price

November 2018 was approximately 4% colder than normal. Market pricing for December kept rising and Cascade needed additional supply to meet cuts that were taking place (due to entitlement and OFOs) as well as normal contracting that is necessary at the front of the month. At the time, Cascade's suppliers had difficulty in determining how much of the Company's supply would be cut on a daily basis on Enbridge and NWP systems. Since most suppliers were somewhat uncertain if they could meet 100% of their obligations Cascade made several attempts to contract additional supply through its RFP platform (Comet) and via direct contact with marketers.

An RFP was sent to over 25 parties looking for a proposed index priced deal. No bids were received. After several direct contacts with marketers, none that were contacted had any additional supply available. One additional RFP attempt was made at a longer-term fixed and or index priced deal to possibly attract any additional suppliers that may have gas available. Only one bid was received on the fixed price deal and that bid at $14.99 from Citadel was accepted. With concerns about the market rising

further, colder weather on the horizon, lack of supply and no reliable capacity schedule available from Enbridge, the Citadel deal was executed to protect from possible extremely high day pricing over the remainder of winter, as well as the continued threat of OFOs and entitlements. The Citadel deal and two additional supply contracts were considered as the best available method to smooth some of the swings in price over the winter.

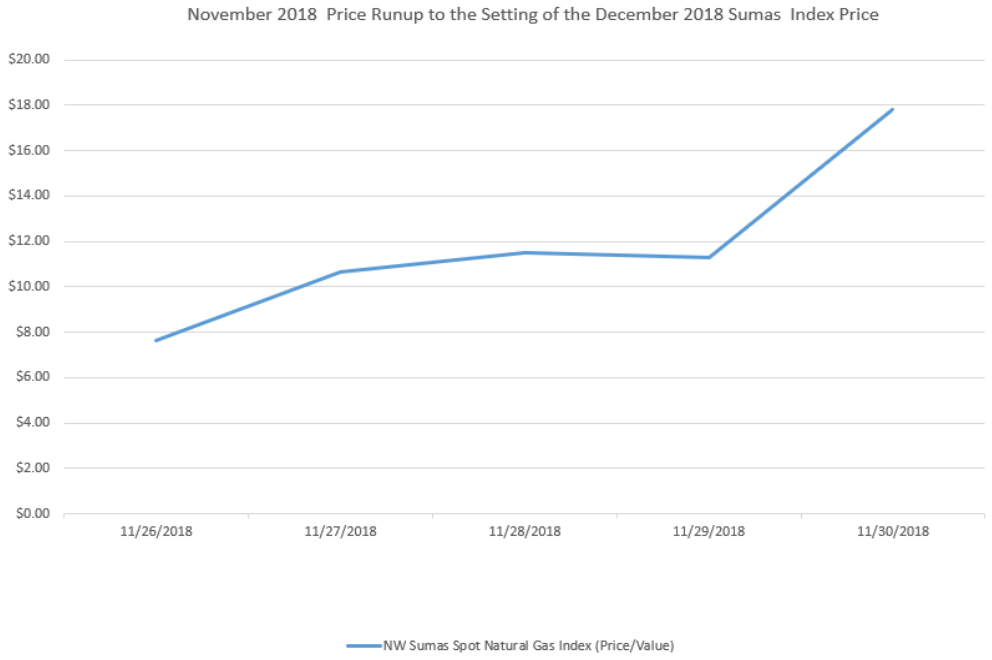
The three contracts in Figure 6 were secured to meet 100% of normal demand for December but also to conserve storage for any extreme weather event that would surely and dramatically spike pricing.

Figure 6: Mid-November Supply Deals for December 2018 Forward

SUPPLIER	LOC	PERIOD	PRICE TYPE	MONTH DTHS	DAILY DTHS	INDEX	ADDER	LOW BID	HIGH BID	NUMBER OF BIDDERS	NUMBER OF PARTIES RFP WAS SENT	TRADE DATE
TENASKA MARKETING CANADA	HUNT	12/01/2018-12/31/2018	INDEX	310,000	10,000	IF SUMAS	$2.90	I FERC SUMAS plus $2.90	I FERC SUMAS plus $2.99	2	>25	11/15/2018
CITADEL ENERGY MARKETING	HUNT	12/01/2018-03/31/2019	FIXED	310,000	10,000	N/A	N/A	$14.99	$14.99	1	>25	11/16/2018
TENASKA MARKETING CANADA	HUNT	12/01/2018-12/31/2018	INDEX	310,000	10,000	IF SUMAS	$2.50	I FERC SUMAS plus $2.50	I FERC SUMAS plus $2.50	N/A	N/A	11/21/2018

With forward prices continuing to climb, much uncertainty about Enbridge capacity for the remainder of winter, and constant exposure to OFOs and entitlements the Company had to decide to take the Citadel winter deal at a fixed price $14.99 or risk having no supply or paying spot prices. It's important to note that on the day the Citadel was executed, the Sumas spot price was higher than $60.00 per dth. There were also concerns that gas prices could rise even higher. At least with the winter term Citadel deal the customers would have some protection from paying as much as $100 per dth. Cascade made the most prudent supply choice possible given the information available to us at the time. It's also worth noting that ultimately the Citadel deal was lower priced than the two index deals, which had a final unit price of over $20.00 per dth. Figure 7 shows the progression of the Huntingdon/Sumas index during the November run up to December 2018.

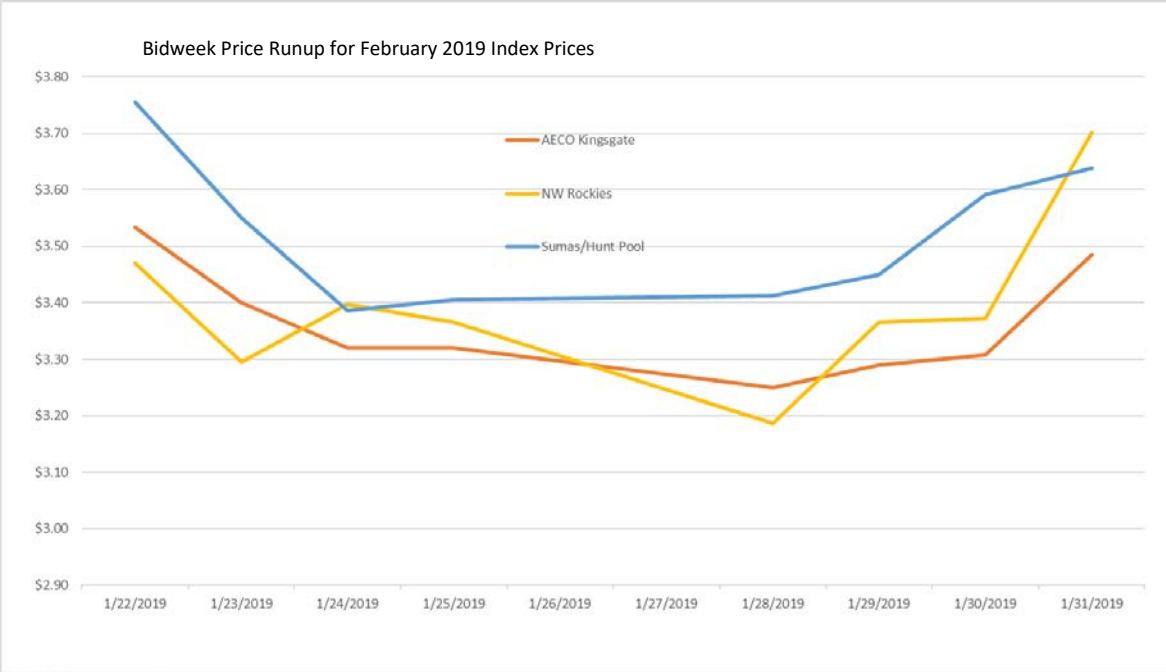
Figure 7: Bidweek Price Runup to December 2018 Huntingdon/Sumas Index Price



December 2018 saw a very high Huntingdon/Sumas index at $17.69. With very high index adders, day gas costs rose dramatically even with the Company's small amount of index supply exposure at Huntingdon/Sumas. Later in December, Enbridge did submit a schedule of capacity increases, and the weather was very mild over December (December 2018 was 7% warmer than normal) and throughout January 2019. The market somewhat settled back to normal levels over the course of the two-month period. Cascade experienced higher than normal temperatures and had to use only a small amount of storage and day gas to meet the needs for the system. As a result, the Company was well above its storage withdrawal targets going into February 2019.

With the very mild January (January 2019 was approximately 7.5% warmer than normal) and looking similarly into February, the Company was long on storage, as it looked like the weather would be mild for the remainder of winter. In the January runup to February 2019, Cascade contracted less for February to have the ability to use more storage. At the time, the Company appeared well within the normal ranges of demand considering the planned storage withdrawals. Figure 8 shows the progression of the regional indices during the run up to February 2019.

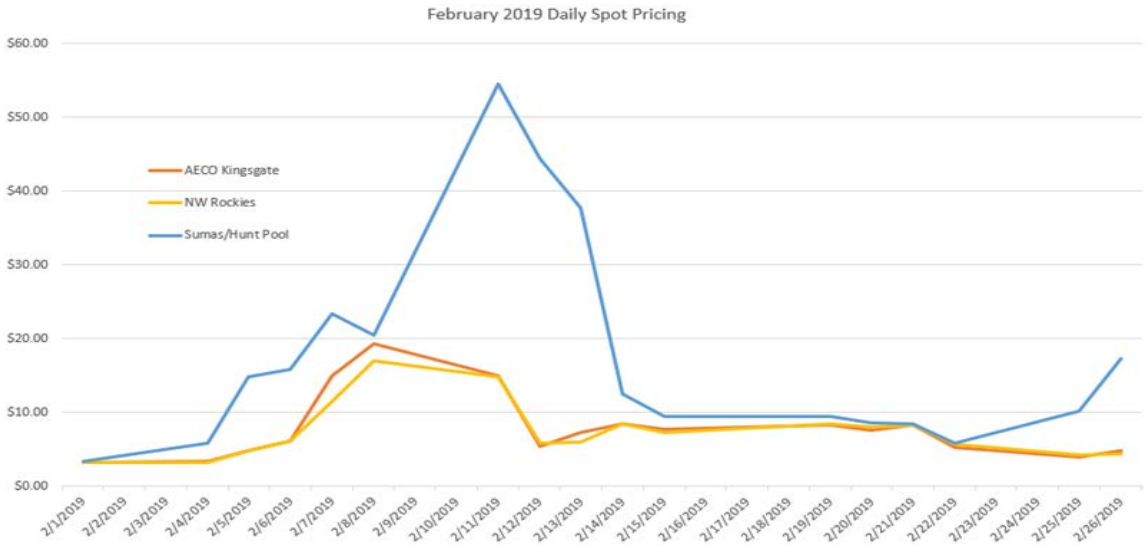
Figure 8: Bidweek Price Runup to February 2019 Index Prices



However, approximately five days into the month, the weather suddenly shifted dramatically, and prices almost immediately increased at all basins.

The spread between the indices tend to equalize once the market comes back in balance and the OFO has an impact on the ability to flow gas from South to North. Even with larger than expected storage withdrawals, the Company is having to buy large amounts of daily gas to cover the demand. This has been a record-breaking February and there appears to be no letup in the weather (as of 02/24/2019, February 2019 is 31% colder than February 2018 and 40% colder than normal.) The weather alone is the biggest impact on pricing for February. More than half of the contracts during this month have been day pricing due to the unprecedented weather event across the service territory. Figure 9 shows the high day gas prices during the month of February 2019.

Figure 9: February 2019 Daily Spot Pricing



Conclusions

- The NW Mutual Assistance Agreement worked successfully.
- The Enbridge event created challenges for the entire Pacific Northwest region.
- Cascade responded to the initial supply loss utilizing storage.
- The Enbridge event complicated the supply and pipeline flows, leading to multiple entitlements and OFOs.
- Suppliers had very limited available gas to sell.
- Cascade's RFPs to over 25 supplies received no, or little response.
- An anomalous winter event in February 2019 further exacerbated an already challenging heating season.
- Considering the complications of volatile pricing, supply shortfalls, limited storage, entitlements, OFOs, increased demand and uncertain Enbridge capacity, Cascade made the most prudent supply decisions possible with the information available at the time. Cascade's goal, as always, is to safely meet its customers' demand with the most reasonable priced and operationally viable resources possible.