

Hedge Execution Plan Recommendation to GSOC

July 9, 2019

Hedge Execution Roles

ROLE	ASSIGNED TO	TITLE
Corporate Authority to Hedge	Policy Management Committee	President MDUR President MDUG VP, Treasurer & Controller MDUR
Oversight and authorization of Cascade's Hedge Program	Gas Supply Oversight Committee	
Final Transaction Approval (upon receipt of signed agreement from counterparty)	Scott Madison	EVP, Business Development & Gas Supply
Hedge Execution Director	Kevin Connell	Director, Gas Supply
Delegated Execution Primary	Eric Wood	Supervisor, Gas Supply
Delegated Execution Secondary	Chris Robbins	Manager, Gas Supply & Controls
Deal Capture	Carolyn Stone	Gas Supply Analyst III
Confirmation Review	Mark Sellers-Vaughn	Manager, Supply Resource Planning

Previous Year Hedged Percentages Results



- Savings estimate based upon hedge compared to monthly indexed prices.

-  The 2018 Hedge plan is part of the 2018 Integrated Resource Plan: UG-160453.

Market Outlook

- NYMEX Henry Hub benchmark prices have tumbled to three-year lows this summer due to record production and quickly rising storage inventories.
 - Demand growth (LNG, Industrial, Mexican exports, Power) not far behind; price risk remains.
- Historically, the Pacific Northwest (PNW) basins have had a strong correlation to prices in the rest of the country, namely NYMEX Henry Hub.
 - Correlation has weakened in recent years due to falling Northwest prices, especially at the AECO hub.
 - The Enbridge incident further broke the pricing relationship with the rest of the country as Sumas prices skyrocketed this past winter.
 - Market expects Enbridge to be fully repaired by November 2019, although Sumas will remain the most expensive basin for winter 2019/2020.
- Gelber & Associates (G&A) expects a strong correlation to return, although PNW locations will often trade at a discount to NYMEX during non-peak periods.
- Years two and years three remain the best value

Gelber & Associates' Hedge Recommendation

- The transition to the new Hedge Program continues.
- Mechanisms to handle financial transactions should be fully tested and implemented in 3rd quarter.
- G&A recommends that Cascade continue to hedge primarily with fixed-price physicals until financial mechanisms are in place.
 - [REDACTED]
- G&A recommends the implementing financial instruments, *when economically appropriate*, to increase the offering of hedge tools.
- In general, G&A believes there is value in all forward purchases, particularly years two and three.
- G&A's end of season hedge volume recommendations are as follows:
 - Year 1 (November 2019 through October 2020) - **40%** (from 20% start)
 - Year 2 (November 2020 through October 2021) - **40%** (from 5% start)
 - Year 3 (November 2021 through October 2022) - **20%** (from 0% start)

Other Important Notices

- GSOC will be informed (via email and return receipt) prior to notable deviations from the HEP. An example of a deviation would be actions that would change the end of year hedge percentage target by more than 500 basis points.
 - *Example: A purchase that changes the end of year hedge percentage from 20% to 26% would be deemed a notable deviation to the HEP while a purchase that changed the end of year hedge percentage from 20% to 24% would not.*
- Unwinding financial derivatives requires authorization from the Policy Management Committee
- GSOC reserves all other hedging authority subject to MDUR Corporate Derivative Policy 21.14.