Cascade Natural Gas Corporation

Revised Hedging Program

UG-180825

Gelber & Associates Corp.

December 14, 2018

Cascade’s Hedging Project Leadership Team

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Supervisor of Gas Supply

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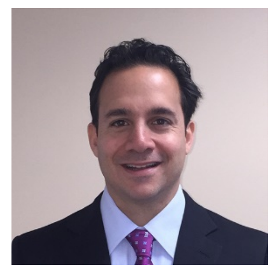


Kent Bayazitoglu,
Consultant

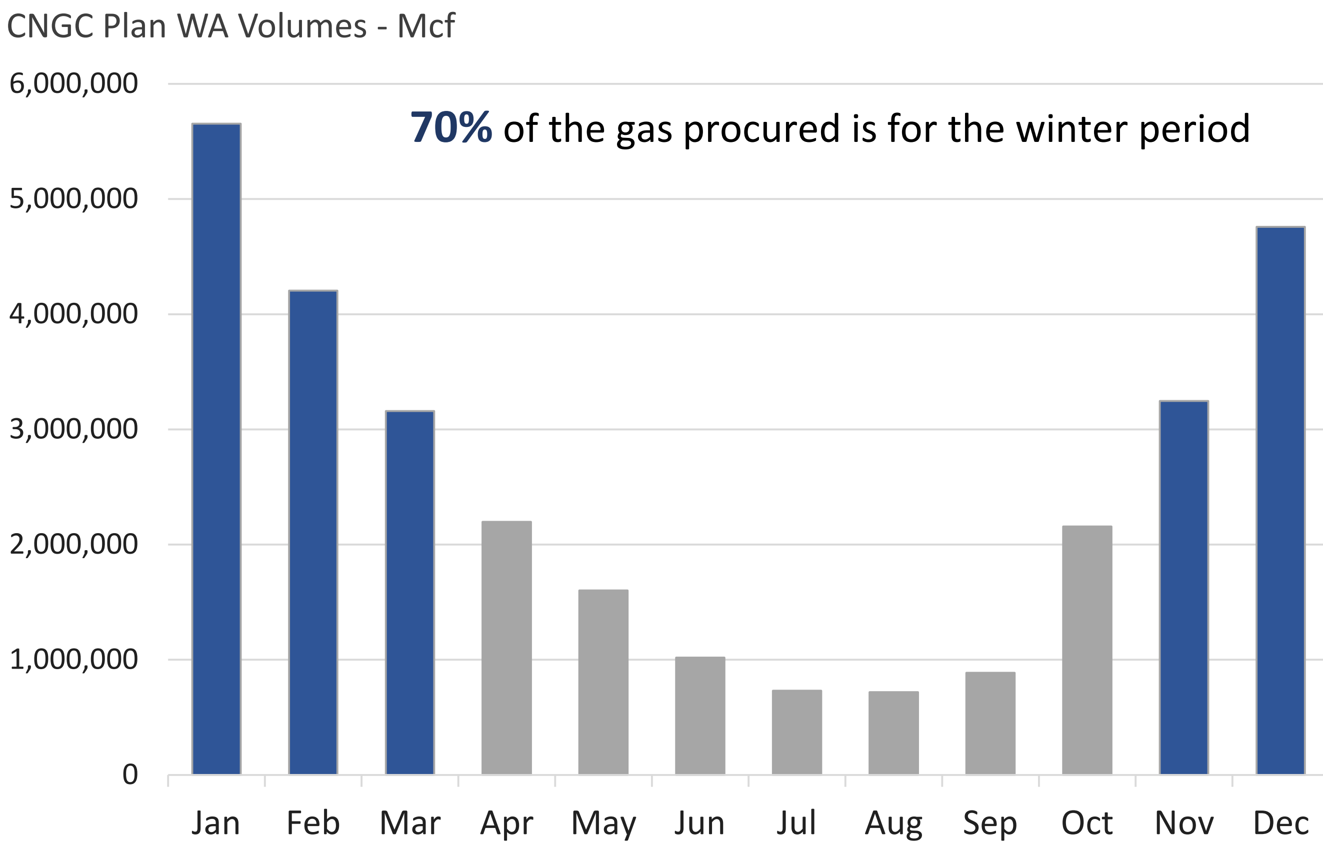
Gelber & Associates

- Based in Houston, TX
- Natural gas specialist since 1990
- Working with utilities since 2000
- We’ve worked in 35 states nationwide
- Design, implement and manage the natural gas hedging programs for utilities and large gas consumers
- First worked with Cascade on a portion of their IRP in 2014
- Recognized as utility hedging “Best in Class” by the Colorado PUC in 2017

Importance of the Winter

- Like most utilities Cascade, customers’ usage of natural gas is appreciably higher in the winter months
- Accordingly, a high percentage of market exposure is related to the winter cost of gas
- The winter costs of gas is often related to how cold the winter is…but other macro forces are also pertinent

Winter Drives Load Profile



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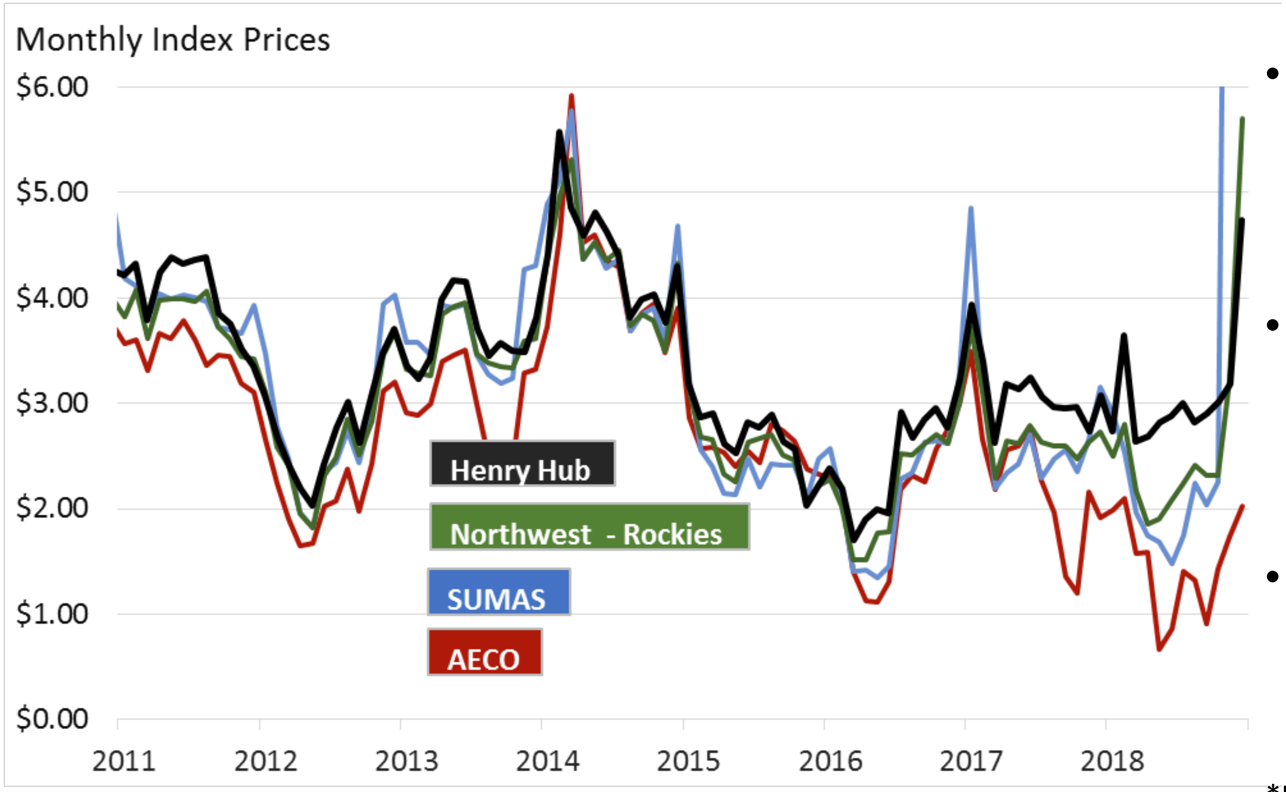
Location Matters as Northwest prices break from NYMEX (Henry Hub, Louisiana)



- At this time hedging only with Henry Hub NYMEX may not give adequate price protection
- Correlations have potentially distorted since the AECO supply glut and Enbridge outage
- NW Rockies has good historical correlation with NYMEX

*Latest two Sumas prices are above the range of chart.

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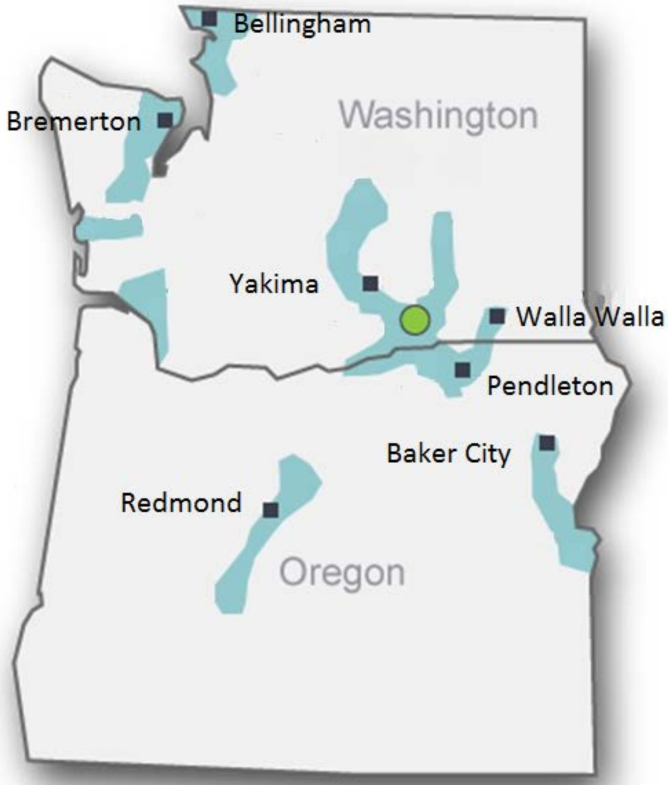
Current Cascade Hedging Plan

- Buy forward up to 80%, but hedge price up to 40%
- Physical supply design based on a three year ladder
  - Year 3 – 20% maximum
  - Year 2 – 25% maximum
  - Year 1 – 40% maximum
- Fixed priced physicals are primary tool
- GSOC oversight

The Cascade Utility Hedging Project

- Driven by UG-132019 Policy Statement
  - Designed to be risk responsive
  - Designed with constructed baseline quantitative metrics
- Risk responsive features
  - Variable annual hedging volume between 15% minimum and 60% maximum
  - Flexibility between call options, fixed price swaps, or fixed price physicals
  - Ability to delay or accelerate purchase volumes within the structural design to take advantage of price lows and avoid price highs
  - VaR_{up} and VaR_{down} calculations to measure risk exposure



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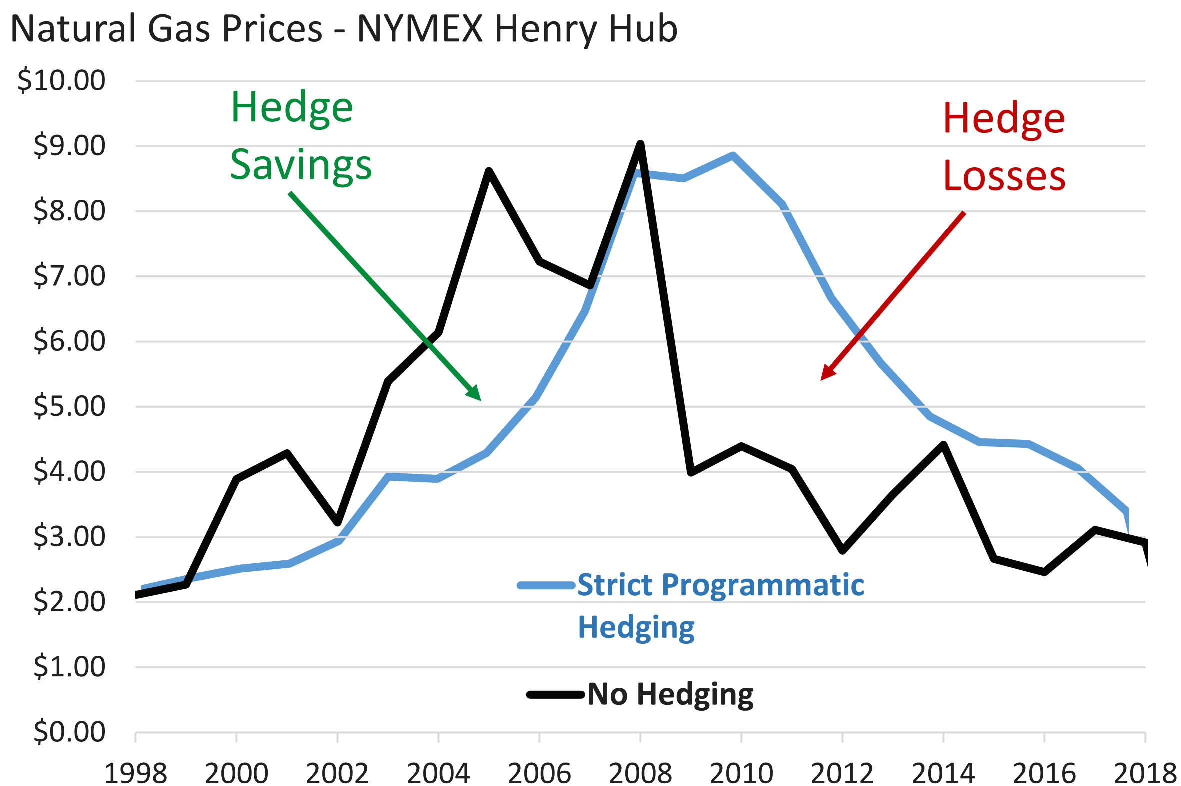
Hedging the last 20 years



*Hedging 100% of purchases, ratably daily from 2 to 3 years away reduces monthly change volatility appreciably when compared to unhedged position

- Strictly Programmatic Hedging lowers volatility*
- Hedging produces savings from 1998 to 2008 (hedge gains)
- Hedging creates losses from 2008 to 2018

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Balancing Upward and Downward Price Risk

- Price Goes Up – Unhedged gas costs imperil customers
- Prices Goes Down – Hedged gas purchases are higher than market
- VaR (Value at Risk) is a statistical way to measure price risk exposure – gives a dollar figure for what could be lost for a given probability
- VaR_{up} and a VaR_{down} can be measured and managed

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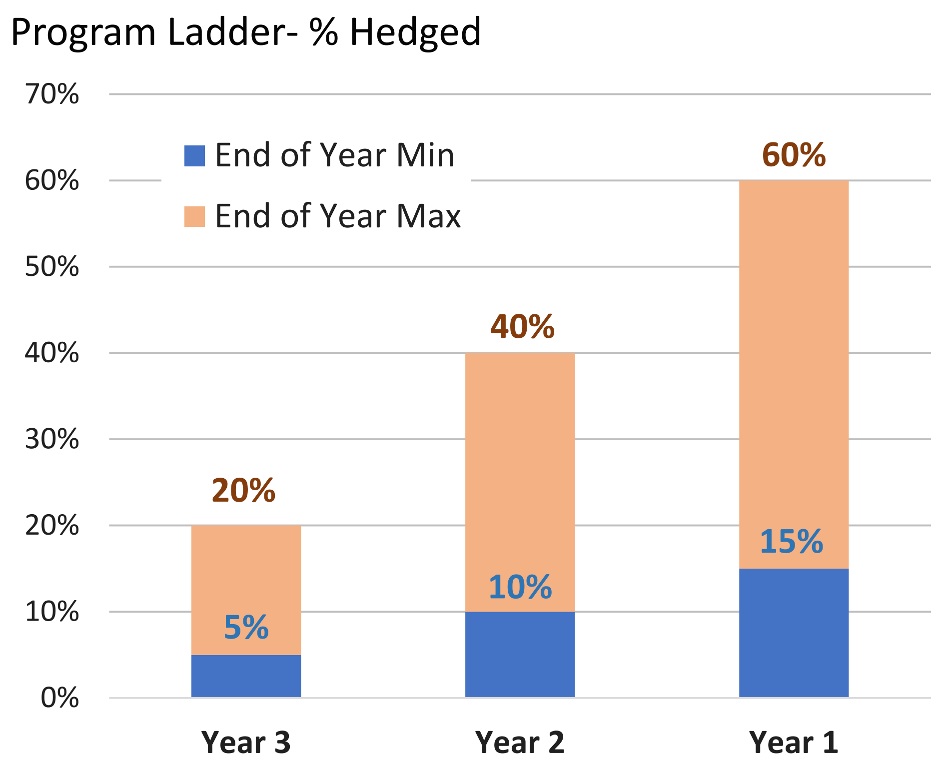
Plan Uses a Three Year Ladder

- Hedging is designed for three year forward ladder
- Hedge volume NOT rigid, flexibility is an element of risk responsiveness
- Annual Hedge Execution Plan (HEP) meeting with GSOC to set volume guidelines



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Risk Responsive Tools

Structural

- Annual Hedging Execution Plan (HEP)
- Monthly Guidance
- Approved exceptions
- Flexible hedge volumes with boundaries

Analytical

- CNGC Book Models – calculates hedged and unhedged volumes, mark to market, VaR_{up} and VaR_{down} Gelber Storage Model – residuals show over/under supplied market
- Production models
- Stochastic tools

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Why Effective

- Allows the utility to use their institutional knowledge of the natural gas market
- Allows professionals closest to the market to advise with key decisions
- Tactics are handled by the front-line personnel and the structure of the hedging program
- Senior management has to authorize annual hedge percentage & strategy
- Creates a structured framework to drive expectation and constrain activities
- Flexible hedge volumes to balance upward and downward price risk
- Proven effective over 20 years of developing use

Reporting

Retrospective reporting is performed yearly at the end of the winter period

Meeting with GSOC oversight committee to review the hedging program

Benchmarks for measurement include current hedge valuation

Narrative addressing the execution of the prior year hedging plan

Hedging plan appropriateness discussion

Prospective reporting is performed yearly before the beginning of the upcoming hedging period

Identification of changes in market conditions

Targets established for hedge percentages years 1, 2, and 3

Changes to the hedging program, if necessary

Prudence and Paper Trail

ALL RISK RESPONSIVE HEDGING WILL OCCUR WITHIN THE STRUCTURE OF THE DESIGNED HEDGING PROGRAM

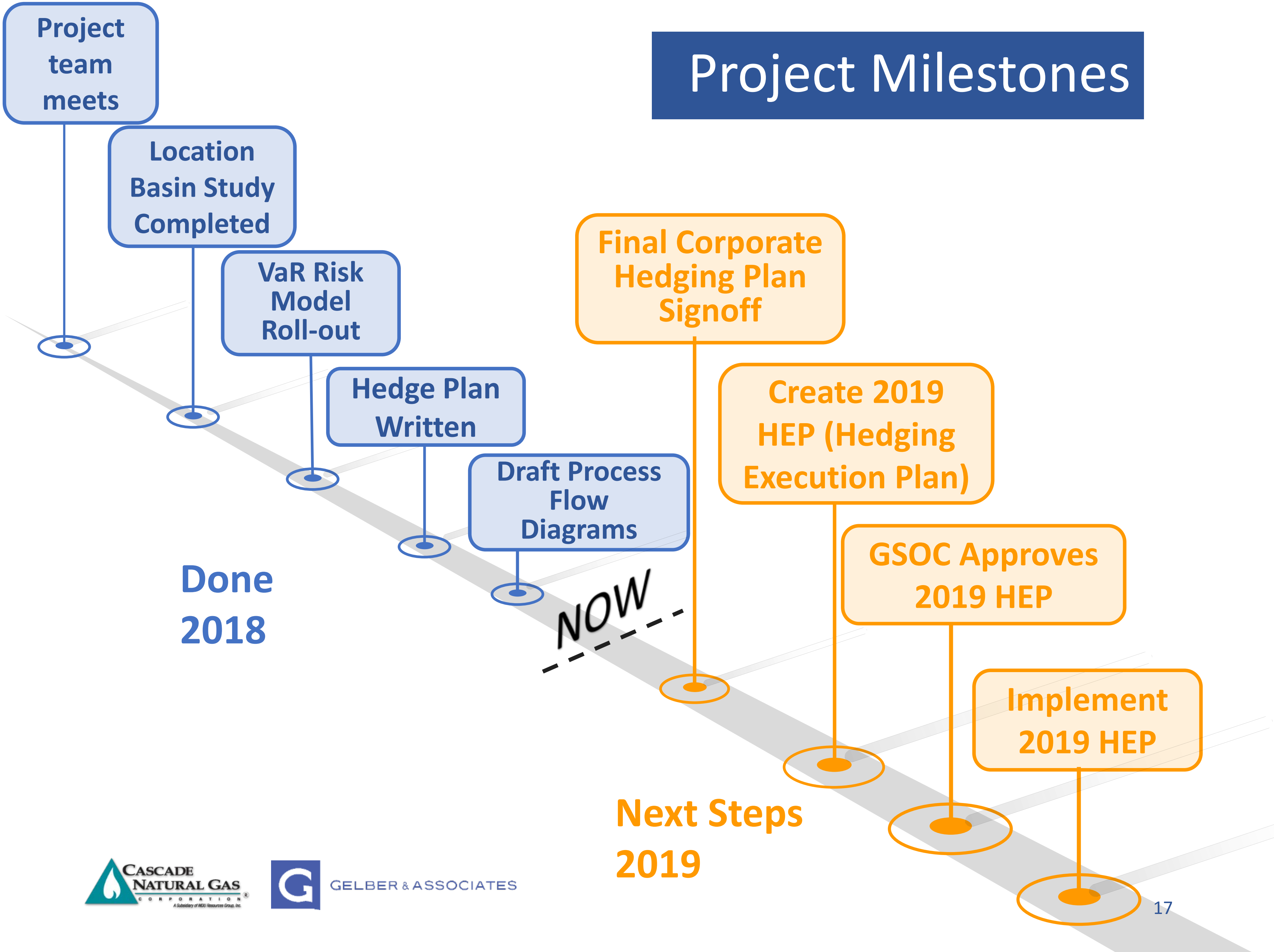
RISK RESPONSIVE ACTIVITIES WILL BE COMMUNICATED TO OVERSIGHT AND MANAGEMENT ON A MONTHLY BASIS IN ADVANCE OF HEDGING ACTIVITY

ANY EXCEPTION TO THE MONTHLY GUIDANCE WILL BE MEMORIALIZED IN AN EXCEPTION DOCUMENT TO MANAGEMENT AND FILE

Operations, Oversight and Guidance

- GSOC serves as oversight committee and authority
- Gas Supply team operates as front and mid-office for transactions
- Accounting operates as the back office for settlement
- Resource Planning operates as research, surveillance, and compliance

Project Milestones



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Summary

- Revised Hedge Program avoids “set it and forget it” to be more risk responsive
- The Program uses the actual Cascade procurement sheet to drive the initial quantitative metric framework
- Program features and employed-resources are expected to become more sophisticated over time
- Hedging Program complies with policy statement UG-132019

Questions and Discussion