Northwest Natural Gas Company

August 2019 Washington Hedge Plan Filing

1. Background

The Washington Utilities and Transportation Commission (WUTC) issued a Policy Statement in March 2017 pertaining to its Inquiry into Local Distribution Companies' Natural Gas Hedging Practices. That Policy Statement required the filing of "comprehensive hedging plans that demonstrate the integration of risk responsive strategies into the Companies' overall hedging framework." In conjunction with the 2019 PGA filing, the annual hedging plan filing is expected to "exhibit a full strategy implementation for 2020 and beyond."

Per the Policy Statement, the annual hedging plan filing should include a retrospective hedging report. This report should provide a narrative of the utility's perspective on the execution of its prior year hedging strategy, insights regarding metrics and tolerances identified previously, and how the retrospective evaluation has informed modifications in the current year's plan.

In addition to the requirements in the 2017 Policy Statement, Northwest Natural Gas Company (NW Natural) received a letter from the WUTC dated April 29, 2019, that provided additional guidelines for NW Natural's 2019 hedge plan filing.

Accordingly, this document has been structured to be responsive to both the Policy Statement as well as the April 2019 letter from the WUTC.

2. Compliance Items

NW Natural has implemented a risk responsive hedging program for its Washington customers that is fully compliant with the WUTC's Policy Statement. Implementation began on April 1, 2019. Since that time, hedge decisions have been, and continue to be, re-evaluated on a weekly basis (the shortest time horizon that is achievable). NW Natural contracted with Mr. Michael Gettings of RiskCentrix LLC to assist with the development of this hedge program and assure compliance with the Policy Statement. Assessments by Mr. Gettings of NW Natural's hedge program implementation are cited in various instances in this document; the full report from Mr. Gettings is attached as an Appendix to this filing.

The following section will address NW Natural's compliance with the Policy Statement:

The first expectation the WUTC laid out is that hedging practices should not be speculative in nature[1]. NW Natural has adopted a “risk-view” of hedging as opposed to a “market-view” as termed by Mr. Gettings in his white paper[2]. Whereas a market view works off the opinion that an individual “knows better” than market consensus, a risk view acknowledges the market consensus and assesses the risks associated with the market moving up or down, and does not engage in speculative behavior. By adopting a risk-view, as outlined below, NW Natural complies with the WUTC’s first evaluation criteria of adopting a non-speculative approach to hedging.

The second expectation outlined in the Policy Statement is the use of an appropriate mix of hedging instruments. Within the retrospective report below is an assessment of the available instruments and a clear definition of how they fit within the overall hedging strategy employed by NW Natural.

The WUTC also requested a flexible hedging plan that is able to adapt[3]. As detailed below, NW Natural has expanded its use of hedging instruments to include the ability to unwind (place offsetting hedges) and also to assess loss risk, complementing and balancing prior strategies which focused on cost risk.

Finally, the WUTC asked that quantitative metrics be employed as well as documentation of data-driven decisions[4]. As detailed below, NW Natural sets clear objectives by setting measurable goals for upside and downside risk tolerances, as well as documenting weekly model calculations and results.

2.a. Demonstration of Risk Responsive Hedging Protocols & Ability to Execute

NW Natural has developed a mathematical model in order to calculate risk and provide direction on when to hedge, what volumes, and what basins. The model has gone through a series of validation steps including:

- Validation by our third party consultant with respect to the determination of appropriate “action boundaries,” which are trigger points that would cause actions to either increase or decrease hedges in the portfolio.
- The verification of model formulas by the Middle Office (MO) to ensure the calculations performed are working as intended, has been completed.
- The Front Office (FO) is currently incorporating commodity deferral impacts as a continuous improvement item and is currently in the process of back testing these improvements prior to implementation.

[1] Docket UG-132019 Policy Statement pg 12, paragraph 41
[2] Source: Michael Gettings, “Natural Gas Utility Hedging Practices and Regulatory Oversight”, July 2015.
[3] Docket UG-132019 Policy Statement pg 12, paragraph 45
[4] Docket UG-132019 Policy Statement pg 13, paragraph 46-7

In March of 2019, Michael Gettings presented an update regarding the status of our hedging program to NW Natural's Gas Acquisition Strategy & Policies Committee (GASP), which provides executive oversight for gas supply matters including financial hedging. Mr. Gettings concluded that the FO has the necessary capabilities to perform weekly assessments, using the model, in order to make decisions that conform to the selected strategy.

The FO began executing the model on April 1, 2019 and has continued to run the model weekly to the present date. Subsequently Michael Gettings provided a report to NW Natural (as attached in the Appendix) regarding compliance with the Commission's guidance. Within this report several elements were noted:

1. Hedging should not be speculative: Mr. Gettings has determined that NW Naturals hedging program includes no speculative activity and also imposes a maximum hedge ratio that will preclude unneeded hedges in all but extraordinary circumstances.
2. The Hedging Program should be risk-responsive: Mr. Gettings believes that NW Natural's deployment of VaR metrics along with defensive action boundaries are compliant with WUTC guidance and consistent with the white paper.
3. The Hedging Program should manage upside price risk and downside hedging losses simultaneously, along with evaluating whether the "insurance" benefit justifies the cost: Mr. Gettings determined that NW Natural is satisfying this requirement through the utilization of defensive protocols in conjunction with monitoring the mark-to-market of its current portfolio, and intends to unwind hedges should the metrics indicate to do so.
4. The Hedging Program's framework should be informed by quantitative metrics in order to monitor market risk and identify meaningful hedging responses: Mr. Gettings agrees that the combination of three models/systems developed by NW Natural provides these quantitative metrics that work in conjunction with each other to monitor risk and provide meaningful responses. These metrics track positions, volatilities, VaR, and statistically high-confidence outliers which are tested against decision criteria (noted below in the section for Hedging Goals and Measurement of Objectives), with weekly analysis providing direction to risk-responsive hedging decisions.
5. The Company should document data-driven decisions as the market either remains consistent or conditions change: NW Natural documents metrics weekly along with hedging decisions in accordance to the white paper.

NW Natural believes it has demonstrated its ability to execute risk responsive hedging protocols in compliance with the Commission's guidance.

2.b. Hedging Goals & Measurement of Objectives

NW Natural has selected specific goals that it feels are reasonable and appropriate at this time.

To protect against upside cost increases, NW Natural has set a goal of mitigating the risk of year-over-year rate increases to customers [redacted].

To protect against losses incurred by customers during falling markets, NW Natural performs an analysis once per year to determine loss tolerance, designed to rein in losses as tightly as is feasible to prevent cyclic purchase/unwind/purchase/unwind transactions during an exceptionally volatile period; [redacted]

This loss tolerance is a very specific number because of the calculations used in its derivation, which start by approximating the extremes of what a cyclic market might look like. This is done by taking a highly volatile time at a very liquid trading point, specifically the Henry Hub during the extreme hurricane season of 2005 – Katrina, Rita, et al, and then modifying this range of volatility to approximate an appropriate boundary for the basins from which NW Natural purchases its supplies.

The current goals were confirmed by Michael Gettings as clear and reasonable. Mr. Gettings writes in his report that calculating and setting these goals requires judgement and experience. To that extent, NW Natural will retain Mr. Getting's services as we reset the goals next year to ensure sufficient experience has been gained to determine appropriate boundaries.

2.c. Oversight & Control Entities and Their Capacities

Oversight and control of the hedging program consists of GASP, the FO, and the MO.

The GASP Committee sets boundary conditions that the FO is allowed to operate under for the placement of Defensive and Contingent hedges. These boundary conditions allow the FO to react quickly if the market begins to move. With regards to Programmatic hedges, GASP approves specific hedges on a monthly basis.

The FO approves specific Defensive and Contingent hedges, meant to prevent excessive cost run ups or hedge losses, respectively, that are encompassed under the boundaries and methodologies approved by GASP.

The MO provides verification of the model used for Contingent and Defensive hedges. In addition, the MO monitors FO activity against policy compliance.

2.d. Hedging Decision Makers and Their Responsibilities

Hedging decisions start with GASP, which provides oversight of all policies and decision making related to physical gas supply purchases and related financial hedging including the Gas Supply Risk Management Policies (GSRMP). GASP meetings include NW Natural's CFO, General Counsel, Treasurer/Controller, Vice President in charge of Gas Supply, and other members of senior management.

The FO divides responsibilities between its employees.

The FO executive approves any changes in the methodology, along with the GASP committee, if necessary. The FO executive provides decisions on Discretionary hedges, which are expected to be rare.

The Senior Director of Gas supply approves each Discretionary and Contingent hedge, and reviews each analysis.

The Assistant Director of Gas Supply develops a plan for physical gas supply purchases and performs the duties of the Senior Director in his absence.

The Senior Gas Supply Consultant performs analysis and modeling of the hedge portfolio; performs weekly analysis for Contingent and Defensive hedging, annual analysis for Programmatic hedging, and as-needed analysis for Discretionary hedging. Based on this analysis, the Senior Gas Supply Consultant makes recommendations for the placement of hedges.

Senior Gas Buyers execute the recommended hedges after obtaining the necessary approvals by obtaining bids from counter parties and then entering into financial hedge transactions. They also perform the physical purchase transactions that tie to the financial instruments and link them together.

The Gas Supply Consultant performs analysis and modeling of the Contingent/Defensive hedge portfolio in the absence of the Senior Gas Supply Consultant, as well as other supporting activities.

The MO Senior Manager provides initial validation of the risk-responsive hedge model, as well as providing additional verification of the model as it changes. The MO Senior Manager approves counterparties, establishes authorization levels, and oversees the FO compliance with the GSRMP.

The MO Analyst verifies and confirms transaction activity and details.

The Back Office reconciles accounts, initiates payments to counterparties, and prepares deferral calculations, modified to ensure Washington-only swaps are accounted for correctly.

2.e. Hedging Decision Hierarchy

The hierarchy for decision making differs for each hedge type:

For Programmatic hedges, the Senior Gas Supply Consultant performs analysis to determine volume, basin, and tenor of Programmatic hedges and makes recommendations when to place the hedges. The FO will be programmatically hedging 20% of the projected load for the 2019-2020 portfolio; the FO will continue to assesses programmatic hedges and make adjustments in future years as necessary. GASP reviews these recommendations and approves hedge volume targets on a monthly basis.

For Defensive and Contingent Hedges, GASP sets specific goals and boundary conditions for which the FO may operate. Under these conditions, the Senior Gas Supply Consultant performs weekly modeling to determine if hedges are needed to reduce the risk of either cost increases or hedge losses. If a hedge is necessary, the Senior Gas Supply Consultant determines basin location, tenor, and volume of hedge(s) to place to reduce the risk. He then reviews the results with the Senior Director or Assistant Director of Gas Supply as well as the Senior Gas Buyers for approval and execution. The Senior Gas Buyers then execute hedges after obtaining competitive bids.

For Discretionary Hedges, which are expected to be rare, the Senior Gas Supply Consultant performs analysis as applicable. The Senior Direct and/or Assistant Director of Gas Supply review the analysis and make recommendations to the FO Executive. The FO Executive then provides direction on whether the hedge should be placed, and if it is deemed necessary the Senior Gas Buyer executes the hedge after obtaining competitive bids.

Throughout the back testing of the model during the period after the Enbridge line break, we learned that in some extreme situations the model may require intervention. After discussion with Michael Gettings (and as noted in his report), we feel that rote following of the model could have drawbacks in extreme market situations. We have adjusted the model based on the Enbridge event in order to better respond to a situation such as this, but we believe that there may still be unforeseeable extreme conditions which may require GASP's guidance after consideration of the model's outputs.

2.f. Sources Used in the Development of this Plan

During the development of the hedging program, the following documents provided insight and influenced the design and assessment of the program:

1. Docket UG-132019 – Policy and Interpretive Statement on Local Distribution Companies' Natural Gas Hedging Practices, March 13, 2017

2. “Natural Gas Utility Hedging Practices and Regulatory Oversight: An Inquiry into Local Natural Gas Distribution Companies’ Hedging Practices and Transaction Reporting” Michael Gettings, July 2015
3. “A Strawman for a Risk Management Regulatory Framework”, Michael Gettings, March 2016
4. NW Natural’s Gas Supply Risk Management Policy (GSRMP)
5. 2019-2020 NW Natural Gas Acquisition Plan for Washington
6. NW Natural Risk Management Program Status – Michael Gettings, March 17, 2019
7. Report to NW Natural Regarding Status of Hedge Program Implementation – Michael Gettings, June 2019

3. Retrospective Report

NW Natural has developed the following retrospective assessment to articulate the details and progress of the hedging program.

3.a. Instruments Used to Reduce Exposure to Commodity Markets

In the 2018/2019 PGA year, the following instruments were used by NW Natural to reduce our exposure to fluctuations in the commodity markets:

Financial Derivatives – Hedges are placed for supplies by hedging the First of Month price to a specific index

Physical Baseload – physical purchases that are tied to financial derivatives and usually contain a small price adjustment, referred to as a basis adjuster.

Storage – NW Natural uses a combination of underground and LNG storage facilities. LNG is primarily used for peak shaving; however boil-off is considered in hedging analysis.

Mist Production – very low volumes of Mist production gas (less than 1%) are part of NW Natural’s projected supply portfolio for 2019-2020, but the pricing of these supplies may act as a hedge.

Fix Price Physical Purchases – A combination instrument that hedges financially while also providing physical delivery. The company occasionally used these instruments in the past but does not expect to enter into any more of these agreements due to restrictions in its accounting systems.

Costless Collars, Options, and other financial instruments – these instruments do not pose an advantage to NW Natural at this time, and we are currently not considering entering into any of these agreements; however, our storage provides some degree of financial as well as supply optionality.

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3.c. Cost Allocations

Past hedges were allocated between Oregon and Washington on a volumetric basis with ~10.5% allocated for Washington. Going forward, all new hedges will be designated wholly for either Oregon or Washington. The Company has taken this approach with financial hedges due to the historical practice and acceptance of a hedging practice in Oregon more weighted toward programmatic hedging, for instance, the inclusion of longer term hedges (specifically the Company's Oregon-only investment in gas reserves), and the anticipated future treatment of renewable natural gas purchases.

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4. Conclusion

In conclusion, NW Natural has completed initial development of its hedging plan and has been executing a risk-responsive hedging program since April 1, 2019, in compliance with the Commission's Policy Statement. We have set clear tolerances and goals, as well as developed a hierarchy of responsibilities and oversight to ensure conformance to the Policy Statement. Our consultant has reviewed our work, and we have taken measures to ensure the model has been validated and verified. We will continue to enhance and improve the model over time as we gain experience and additional insights into risk responsive hedging.