STATE OF NEW HAMPSHIRE

PUBLIC UTILITIES COMMISSION

NORTHERN UTILITIES, INC.

PROPOSED CHANGES TO HEDGING PROGRAM

Docket No. DG 13-____

Submitted by
NORTHERN UTILITIES, INC.

April 23, 2013

I. Introduction

With this filing, Northern Utilities, Inc. ("Northern" or "Company") petitions the New Hampshire Public Utilities Commission ("Commission") for approval to adopt the new hedging program design that has been proposed by Northern's Maine Division, as described below[1]. Having learned about the proposal in Maine, Commission Staff ("Staff") has encouraged the Company to seek approval from the Commission in order to maintain a common program in the two divisions.

This proposal first reviews the current hedging program design, and then describes the primary aspects of the proposed program design, including the considerations taken into account in support of the recommendations. The proposal then provides a Table of Proposed Hedging Program Attributes which provides a side-by-side comparison of the proposed program to the current program. The proposal also provides a recommendation for the transition from the current design to the new design. Lastly, alternative hedging plans for the 2014-15 period are attached as Exhibit 1. These plans provide a tabular view of the volume and timing of purchases that would be made under the current program and the proposed program.

II. Description of Current Hedging Program

Northern's current hedging program design was approved in Docket DG 09-141, by an Order from the Commission issued on March 30, 2010. Northern's hedging program is structured to provide a portfolio approach whereby both physically hedged supplies and financial hedging are used to target starting each winter season with 70 percent of expected requirements available under a fixed

[1] The hedging proposal submitted to the Maine Public Utilities Commission ("MPUC") by Northern's Maine Division has been reviewed in Docket 2012-00448. Under the procedural schedule in that docket, an Examiner's Report was filed on April 9, 2013, and the MPUC is due to deliberate on April 23, 2013.

price and starting the summer months of May and October with 40 percent of requirements for available under a fixed price. Thus, under the current program, approximately 30 percent of winter supplies would be purchased at market prices. Purchases are scheduled to occur each month on the date that the prompt month contract expires so long as futures prices are below pre-defined price ceilings. The program also provides for the sale of futures contracts upon contract expiration or earlier if a given contract has appreciated in value by 40 percent above the purchase price, at which point it is sold to realize the gain.

Purchasing NYMEX futures contracts results in fixing the price at which the volumes represented by the contracts are purchased. Such transactions protect against upside risk (the risk of further increases in price), but at the cost of incurring downside risk (the risk that the purchaser foregoes any benefit if prices subsequently drop). The price ceilings are calculated at one standard deviation above the mean pursuant to a formula that reflects historical prices. The price ceilings were established to avoid locking in poor results when prices spike, and can be viewed as defining a price above which the Company would no longer accept downside risk in an attempt to protect against further upside risk. Two years into the current program design, since markets have been relatively stable, there have been no purchases delayed as a result of the price ceilings and no contracts sold early pursuant to the appreciation rule.[2] Please see page 1 of Exhibit 1 for the 2014-15 hedging plan under the current program design.

III. Proposed Hedging Program Design

The following describes the primary aspects of the proposed program.

[2] The Company notes however that the recent increase in futures prices has appreciated the value of the current hedging portfolio. As of the April 18, 2013 daily settlement, five futures contracts have appreciated by more than 30 percent above the purchase price. The Company is monitoring these for possible early liquidation under the Appreciation Rule.

1. Replacing Futures Contracts with Options Contracts. Under the proposed program design, the Company would not make purchases of futures contracts, but rather would purchase "out of the money" call options on futures contracts. Out-of-the money means the options would be for strike prices higher than current futures prices. By not purchasing the futures contracts, the Company is accepting a degree of upward price risk and preserving downward price opportunity. The Company has determined that the combination of the supply portfolio, which includes demand charges and storage supplies that are not subject to change during the winter period, and distribution rates, which are fixed at a given time, serve to mitigate the impact of market price changes on customer rates. Specifically, the Company estimates that a ten percent change in NYMEX natural gas prices translates to only a one percent change in the total delivered rate for residential heating customers. Given this relationship between commodity prices and ultimate customer rate impact, the proposed program is designed to protect only against significant increases in price, while accepting the impact of moderate increases in price and preserving the benefit of all decreases in price. The call options would also protect against high prices since if prices settle above the strike prices, the holder of the option receives a payment for the difference between the strike price and the expiration price.

2. Number of Option Contracts. The Company proposes to maintain the same metric used currently to determine financial hedging volumes, which is to determine the number of contracts needed such that 70 percent of projected requirements are available at a fixed price, either through the physical supply contracts or via the purchase of call options. There should be recognition that prices associated with the call options are capped rather than fixed, so the modified standard would be "70 percent of

projected requirements are available at a fixed or capped price". In terms of periods to be hedged, the Company proposes to discontinue hedging the summer period (May, October) and also for the month of April. Thus, hedging would only be done for the traditional winter period of November through March, which is also storage withdrawal period.

The Company intends to pursue and assess methods of relating contract quantity and strike price combinations to probabilities of total delivered price in order to establish program targets in the future. The Company will keep the Commission Staff apprised of its progress in developing such methods, and would propose any such changes as part of a future annual hedging plan. Note that the proposed program design provides the Company with the flexibility to propose such revisions as part of the annual hedging plan by allowing for changes to the program upon a showing of good cause. See item 7, Hedging Plan Parameters, below and the corresponding row of the Table of Proposed Program Attributes.

3. Use of European Options. Northern proposes to use European style options. There are two primary differences between American and European options. First, American options can be exercised at any time into a futures contract at the strike price, whereas European options cannot be exercised early and settle only upon option contract expiration. Both American and European options settle on the penultimate, or next to last day of trading. Natural gas futures contracts expire on the third business day before the beginning of the month; therefore, American and European options on natural gas futures contracts settle on the fourth business day before the beginning of the month. Second, upon option expiration an American option either expires worthless or gets exercised

into a futures contract if it is in-the-money (the futures contract settles at a price above the strike price). With European options, if the option is in-the-money, the holder receives the difference between the expiration price and the strike price, and no further transactions or fees are required. Both American and European options are exchange traded, and relative costs differences are negligible, although European options are approximately 7 times more liquid than American options.

European options are best suited for Northern's objectives, since Northern is not interested in taking physical delivery of the supply represented by a futures contract and therefore sells its futures contracts before expiration. Under the current program, futures contracts are settled by first converting them to Exchange of Futures for Swaps, or EFS transactions. The EFS transactions convert futures contracts to swaps that settle financially at the settlement price of the futures contract. Thus, because they settle financially and because they have higher liquidity, the European-style option is the best fit for Northern's hedging program. In the event that American-style options become more liquid than European options in the future or if Northern's strategies change, with a given hedging plan, Northern would be free to propose use of American options.

4. Option Price and Strike Price Determination. The Company proposes to use a budget based approach to determine option and strike prices. The budget would be established as a percentage of the futures price at the time of purchase. The Company initially proposes a budget of 2.5 percent of the futures price, but would review and propose a specific budget percentage each year when it files its hedging plan. Utilizing the budget approach, the Company would not be calculating strike prices based on

historical data, but would accept the strike prices supported by the option budget, which is a market result. Please refer to the bottom of page 2 of Exhibit 1 for a sample budget calculation for the winter of 2014-15. As shown in the example, the price for November 2014 futures contracts is assumed to be $4.260. Based on a budget of 2.5 percent of the underlying futures price, Northern would expect to pay $0.107 per option contract for contracts scheduled that month resulting in an option budget of $11,770 ($0.107*11*10,000 = $11,770). The strike price corresponding to an option price of $0.107 for November 2014 was $5.950. The sample budget for the full period to be hedged is estimated to be $83,490. The actual dollar amount would vary depending on futures prices at the times of purchase.

5. Hedging Horizon. The Company proposes to implement the purchase of option contracts beginning in the spring each year and continuing into the summer for the second subsequent winter season that starts 18 months after purchases begin. This timing is consistent with the timing of the current program since purchases are being made for a period that starts 18 months into the future. However, under the proposal purchases for the period being hedged will be completed in five months rather than in twelve months and all purchases for a given future month will be purchased at one time. Please see page 2 of Exhibit 1 for the hedging plan for 2014-15 under the proposed program design.

Under the proposed design option contracts for each month of the future winter period to be hedged would be purchased 18 months before expiration of the futures contract for that month. For example, options for November 2014 would be purchased in late April 2013 upon the expiration

of the May 2013 contract; options for December 2014 would be purchased in late May 2013 upon the expiration of the June 2013 contract; and so on.

6. Timing of Purchases. The Company proposes to purchase option contracts for each winter month 18 months in advance. Purchases would be made on the day of expiration of the prompt month contract that is 18 months earlier than the month being hedged. Thus, for example, the November 2014 options would be purchased in late April 2013 upon the expiration of the May 2013 contract; options for December 2014 would be purchased in late May 2013 upon the expiration of the June 2013 contract; and so on. Please see page 2 of Exhibit 1 for a table demonstrating the proposed purchases.

7. Hedging Plan Parameters[3]. The Company proposes to continue submitting its annual hedging plans with the spring, or off-peak, Cost of Gas (COG) filings. The off-peak COG is filed on or about March 15 each year seeking approval of rates effective May 1. Initially not intending to seek approval of this new program design in New Hampshire for effect this year, the Company filed a hedging plan for 2014-15 with its COG filing dated March 15, 2013 that reflects continuation of the current program design, which is identical to the plan provided on page 1 of Exhibit 1.[4] The hedging plan for 2014-15 under the proposed program design is provided on page 2 of Exhibit 1.

Hedging plans would continue to include the calculations used to determine the volume of contracts to be purchased for the period to be

[3] The Company refers to the design of the hedging program as the "program" and the periodic planned hedging activity as a "plan".
[4] See Schedule 20, page 1 of 3.

hedged and the two subsequent hedging periods, providing a three-year projection of expected hedging activity. The hedging plans would also include the Company's proposed budget percentage, which would be used to establish the option price given the value of the underlying futures contract at the time of purchase. As discussed in the "Option Price and Strike Price Determination" section, the resulting strike prices will be market-based results determined by trading at the option price derived using the budget percentage.

IV. Transition Plan

Northern completed the final purchases associated with the 2013-14 hedging plan in March 2013. Northern proposes to allow the hedging plan for 2013-14 to run its course, meaning that Northern would hold the contracts purchased under the 2013-14 hedging plan until the futures contracts expire unless they are sold earlier due to the Appreciation Rule. The last of these futures contracts expire in March 2014.

The first purchases under the hedging plan for 2014-15 are scheduled to be made on April 26, 2013. Given the timing of this proposal, Northern proposes to continue purchasing futures contracts under the program approved in DG 09-141 until such time as the Commission issues an order directing Northern to move to the proposed program design. If the Commission approves the proposal presented herein, the Company proposes to liquidate the futures contracts purchased for the 2014-15 period and to make up missed purchases of options contracts that would have been made had approval of the new design been in place by April 26, 2013. The Company would execute these transactions,

liquidating purchases under the DG 09-141 design and purchasing options contracts, within one month of Commission approval of this proposal.

V. Table of Proposed Hedging Program Attributes

The changes to the proposed program discussed above are incorporated into the following table of program attributes for comparison to the current program.

Table of Proposed Hedging Program Attributes

Program Attribute	Current Program	Revised Program
Basis of Volume Targets	Percentage of supplies available at a fixed price.	Percentage of supplies available at a fixed or capped price.
Winter Hedging Volumes	Winter period financial hedging volumes determined by portfolio approach that factors both physically hedged supplies and financial program to target 70% of normal winter requirements.	Winter period financial hedging volumes determined by portfolio approach that factors both physically hedged supplies and financial program to target 70% of normal winter requirements for the months of November through March.
Summer Hedging Volumes	Summer period financial hedging volumes equal 40% of May and October requirements.	Discontinue summer period transactions.
Instrument Types	NYMEX natural gas futures contracts	European options on NYMEX natural gas futures contracts.
Transaction Types	Time-based transactions only, subject to ceiling prices (would purchase less if prices remain too high).	Time-based transactions with purchases made 18 months before contract expiration.
Structure of Price Parameters	Monthly price ceilings equal to one average standard deviation above the mean.	Strike price determined by market given the approved budget, defined as percentage of futures price at time of option purchase.
Hedging Plan	Each Hedging Plan provides a	Each Hedging Plan provides a

Program Attribute	Current Program	Revised Program
Parameters	schedule of planned purchases by contract month, planned purchase dates and price ceilings above which purchases are postponed. Hedging Plans provide an analysis showing fixed price resources, projected sendout requirements and planned financial contracts, including a three-year outlook.	budget percentage, the number of contracts to be purchased and expected strike price. Hedging Plans provide an analysis showing how each component of the proposed budget was determined, including customer bill impact of hedging activity. The Company may propose to alter any provision of the program in a given hedging plan for good cause shown.
Timing of Purchases	Provided prices remain below the ceiling, purchases are made each month on the day the prompt month contract expires. Purchases delayed due to prices above the ceiling are queued and made any time during the month when prices fall below the ceiling.	Purchases are made on the day the prompt month contract which is 18 months before the contract being purchased expires.
Appreciation Rule	Futures contracts that appreciate by 40% are sold and proceeds credited to the CGA. Once liquidated, contracts are not replaced.	Discontinue Appreciation Rule.
Hedging Plan Schedule	Hedging plans filed annually with off-peak CGA filings for summer period beginning 12 months later and winter period beginning 18 months later. Price Ceiling (to extent queued purchases have not been made) and Appreciation Rule continue to apply after CGA filing; contracts are sold each month as they expire.	Hedging plans filed annually with off-peak CGA filings for the Peak period starting 18 months later. Options would financially settle and would be held to expiration.

Program Attribute	Current Program	Revised Program
Time Horizon	Purchases for peak period begin 18 months before the season starts.	Purchases for each month of the peak period are made 18 months before the contract expires.

IV. Conclusion

The Company believes this proposal is reasonably designed to provide upward price protection, leveraging the inherent stability of the portfolio, while preserving the opportunity for downside price movement at a reasonable cost. The Company appreciates the Staff's recommendation that the Company maintain a common program in both divisions.