NORTHERN UTILITIES, INC.
NEW HAMSPHIRE DIVISION
2016 / 2017 ANNUAL COST OF GAS FACTOR FILING
DOCKET NO. DG 16-819

SUPPLEMENTAL TESTIMONY OF
CHRISTOPHER A. KAHL

1 **I. INTRODUCTION**

2 **Q. Please state your name and business address**

3 A. My name is Christopher A. Kahl. My business address is 6 Liberty Lane West,
4 Hampton, New Hampshire.

5 **Q. For whom do you work and in what capacity?**

6 A. I am a Senior Regulatory Analyst for Unitil Service Corp. ("Unitil Service"), a subsidiary
7 of Unitil Corporation ("Unitil"). Unitil Service provides managerial, financial, regulatory
8 and engineering services to the principal subsidiaries of Unitil

9 **Q. Please summarize your professional and educational background.**

10 A. I have worked in the natural gas industry for over twenty years. Before joining Unitil
11 Service in January 2011, I was employed as an Analyst with Columbia Gas of
12 Massachusetts ("Columbia") where I worked since 1997. Prior to joining Columbia, I
13 was employed as an Analyst in the Rates and Regulatory Affairs Department of
14 Algonquin Gas Transmission Company Inc. ("Algonquin") from 1993 to 1997. Prior to
15 working for Algonquin, I was employed as a Senior Associate/Energy Consultant for
16 DRI/McGraw-Hill. I received a Bachelor of Sciences degree and a Masters of Arts
17 degree in Economics from Northeastern University.

1 **Q. Have you previously testified before the New Hampshire Public Utilities**
2 **Commission ("Commission")?**

3 A. Yes, I testified in Northern's 2016 / 2017 Annual Cost of Gas ("COG") Proceeding,
4 Docket No. DG 2016-819, and Northern's 2016 Summer Period COG Proceeding,
5 Docket No. DG 2016-309. I have also testified in other cost of gas proceedings for
6 Northern's New Hampshire Division.

7 **Q. What is the purpose of your supplemental direct testimony in this proceeding?**

8 A. In Docket No. DG 16-564, Northern proposed to modify its current filing schedules and
9 procedures from separate Summer Season and Winter Season filings to a single Annual
10 COG filing. In that proposal, I testified that Northern's annual hedging plan, which had
11 previously been submitted in Summer COG filings, would now be submitted separately
12 by March 1st of each year. This supplemental testimony, along with the attached exhibit,
13 provides the Company's hedging plan for 2018 / 2019.

14 **Q. What is the status of Northern's hedging program?**

15 A. Northern's current hedging program involves the purchase of options contracts on natural
16 gas futures for the traditional winter months of November through March, with purchases
17 made 18 months in advance of the months being hedged.[1] The hedging program is
18 designed to provide for 70 percent of expected supply requirements at a fixed or capped
19 price using both physical and financial resources. Thus, the number of financial hedges

[1] The current program design was approved for the Maine Division in Docket No. 2012-448 and for the New Hampshire Division in Docket DG 13-119.

1 under the program each year is determined after accounting for physical resources that
2 provide supply at fixed or capped prices. The hedging program uses a budget approach
3 to determine option and strike prices whereby the options budget is established as a
4 percentage of the futures price at the time of purchase and strike prices are determined by
5 the options market.

6 Hedging plans are established each spring for the second following winter period and,
7 historically, were proposed as part of the Summer Period Cost of Gas Factor filing. The
8 first hedging plan under the current program design covered the period of November
9 2014 through March 2015. The upcoming hedging plan period of November 2018
10 through March 2019 is the fifth hedging plan period under the current program design.
11 During the first three hedging plans, Northern utilized an options budget based on 2.5
12 percent of the futures price at the time of purchase. Last year, Northern utilized a 7.5
13 percent budget for the November 2017 through March 2018 period.

14 **Q. What does Northern propose for the coming hedging plan period?**

15 A. Northern proposes to suspend new transactions under the hedging program for the
16 hedging plan period of November 2018 through March 2019.

17 One year ago when Northern proposed to increase the options budget from 2.5 percent to
18 7.5 percent of the futures price, a key consideration was concern that lower budget
19 percentages were resulting in options contracts with strike prices that were much higher
20 than the underlying futures price. Given the relative stability of NYMEX natural gas
21 futures contract prices in recent years, the options contracts purchased with a budget of

1 2.5 percent of the futures contract were expiring worthless. The 7.5 percent options
2 budget adopted for the November 2017 through March 2018 period has resulted in
3 options contracts with strike prices much closer to futures prices. However, while the
4 options contracts purchased for November 2017 through March 2018 have generally held
5 their value, they are currently expected to expire worthless. Rather than purchase
6 additional options contracts for the upcoming hedging plan period, Northern proposes to
7 suspend the program for one year, allow the options contracts currently held to expire and
8 determine the best course of action moving forward.

9 **Q. Please discuss considerations taken into account in proposing to suspend new**
10 **transactions under the hedging program for the upcoming hedging plan period.**

11 A. Northern reviewed its experience to date with the options contracts purchased for the
12 prior period of November 2017 through March 2018. In addition, the Company examined
13 various alternative budget levels, pending portfolio changes and projected customer bill
14 impacts related to a possible 2018 -2019 hedging plan. This analysis is provided in
15 Attachment 1 and shows the projected cost of options for the period, a comparison of
16 budget alternatives, a three year outlook for winter hedging plans, bill impacts and the
17 expected value of options contracts.

18 Page 5 of Attachment 1 provides a summary of changes in the value of options contracts
19 purchased for November 2017 through March 2018 using data provided in Northern's
20 monthly hedging reports. The summary provides the actual option premiums paid and
21 the monthly value of the options since they were purchased. In aggregate, the options
22 have appreciated in value but would still expire worthless. The options contracts cost

1 $280,875 and as of the end of January 2017 had a market value of $303,242. Page 5 also
2 compares the strike prices under the options contracts to the futures prices each month.
3 To date, only one options contract has had a strike price below the futures price in a given
4 month.[2] Although the November 2017 option contract strike price has been generally
5 close to the futures price in recent months, the strike prices for January through March
6 2018, which have the greatest number of contracts, have remained approximately 20
7 percent higher than the futures prices. As of the end of January 2017, the options
8 contracts for November 2017 through March 2018 are projected to expire worthless.

9 Pages 1 through 4 of Attachment 1 provide a possible hedging plan, comparison of
10 budget alternatives, a three-year outlook and bill impact summary for the pending
11 hedging plan period of November 2018 through March 2019. As shown on page 1, the
12 projected cost of options for the period, based upon a 7.5 percent option budget, is
13 $380,720. Page 2 of Attachment 1 shows the various budget alternatives considered,
14 which ranged from 2.5 percent to 10.0 percent. Similar to the conclusion drawn a year
15 ago, the 7.5 percent budget would appear to provide the best value in terms of relatively
16 low strike prices and moderate option premium cost. The 7.5 percent budget is projected
17 to result in an average strike price of $3.88 at an average option premium of $0.22. To
18 put these values in perspective, NYMEX natural gas futures for the months to be hedged
19 would have to settle at an average price of $4.11 for customers to break even ($3.88 +
20 $0.22 = $4.11). By comparison, the current average futures price is $3.13, as shown on

[2] The November 2017 option contract as reported in the December 2016 hedging report, filed January 4, 2017.

1 page 1. Thus, as shown on page 4, customers not would break-even until the futures
2 prices increase by 31 percent.[3]

3 In terms of pending portfolio changes, Northern's underground storage inventory will
4 increase on April 1, 2018, when Northern's contract for 3.4 Bcf of storage at Washington
5 10 is replaced with 4.0 Bcf of storage at Dawn. When combined with Northern's
6 Tennessee Gas Pipeline underground storage, which has not changed, after adjustments
7 for capacity release to delivery service customers, Northern's underground storage
8 available to sales service customers is projected to be approximately 3.5 Bcf, as shown on
9 page 3. This is an increase from the prior period in which approximately 2.9 Bcf of
10 storage was available to sales service. Thus, the volume of gas with physically hedged
11 pricing will increase by approximately 20 percent for the Winter 2018-19 period.

12 Lastly, Northern prepared a typical bill impact summary, which is provided on page 4.
13 The projected option cost of $380,720 translates to a bill impact of $3.36 for a typical
14 customer using 695 therms during the winter period. As discussed earlier, not until
15 futures prices rise by 31 percent, after options are purchased, would the hedging plan
16 expect to break even. If futures prices rise by less than 31 percent, the hedging plan
17 would result in net costs.

18 **Q. Does Northern propose to terminate the hedging program?**

19 A. No, Northern does not propose to terminate the program at this time but, rather, to
20 suspend new purchases and allow time for recent options contracts to expire in order to

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[3] This value can be derived as the break-even price of $4.11 from page 2 divided by the current futures price of $3.13.

1 better assess the options budget and the ongoing value of the current program design. If
2 the Company determines the program should be redesigned or terminated, the Company
3 would file a separate proposal to modify the hedging program.

4 **Q. Does this conclude your testimony?**

5 A. Yes it does.