

**UNITIL ENERGY SYSTEMS, INC.
BEFORE THE STATE OF NEW HAMPSHIRE
PUBLIC UTILITIES COMMISSION**

Docket No. DE 19-152

Northern Utilities, Inc.

Fourth Amendment to Special Contract with National Gypsum Company

Compliance Filing

Technical Statement of Christopher J. Goulding and Michael Smith

On November 13, 2019, the New Hampshire Public Utilities Commission (“Commission”) issued Order No. 26,308 in Docket No. DG 19-152 approving a fourth amendment of Northern Utilities, Inc.’s (“Northern” or the “Company”) special contract with National Gypsum for firm gas transportation service. The amendment extended the special contract for five years to November 30, 2024, with up to three additional one-year extensions. As part of the order, the Commission required that Northern file updates of the special contract rates and associated marginal cost analyses with the Commission seven months prior to the commencement of the first of the three self-executing extensions. Accordingly, Northern is providing estimates of annualized long-run marginal cost to serve calculation.

This analysis compares projected marginal costs to projected marginal revenues. As shown in both CGMS-1 and CGMS-2, the marginal cost data and the current special contract pricing has been escalated by inflation to November 2024 dollars to account for when the first of three additional one-year extensions is to become effective. By using the as filed and unadjusted unit marginal cost from the 2020 marginal cost study developed by Ronald Amen and John Taylor of Atrium Economics, who supported Northern’s proposed distribution rates in the Company’s rate case proceeding in Docket No. DG 21-103, the marginal costs exceed the revenue by \$63,869. *See*

Schedule CGMS-1(CONFIDENTIAL), Page 1 and 2 respectively.

As presented in CGMS-1, the projected cost data do not provide an accurate estimate of the marginal cost to service National Gypsum. In particular, the Company identifies two refinements to the cost data. When factored into the marginal costs estimates, these refinements demonstrate that the revenues exceed the marginal cost to serve by [REDACTED]. See Schedule CGMS-2(CONFIDENTIAL), Page 1 and 2.

As indicated above, the initial calculation used unadjusted marginal unit cost from the “as filed” marginal cost study in DG 21-103. It’s important to note that the “as filed” version of the marginal cost study incorporated a deficiency of \$7,782,950 and a weighted average cost of capital of 7.75 percent. The case was resolved as part of a comprehensive settlement resulting in a settled deficiency of \$6,091,477 and a weighted average cost of capital of 7.20 percent. A revised marginal cost study was not filed as part of the settlement in the rate case.

For the first refinement, the Company made a simple change to the marginal cost study to incorporate the settled weighted average cost of capital. This change alone decreases the marginal cost by [REDACTED], thus narrowing the gap between costs and revenues to [REDACTED]. A more comprehensive recalculation of the costs to incorporate the changes in the settled revenue requirement (i.e. changes in depreciation rates) would further reduce the marginal cost. However, the Company would need to engage its consultant to revise the study to incorporate additional changes consistent with the settled revenue requirement. In light of the cost associated with engaging a consultant to do this work, the Company has not done so at this time. See DG 19-152, Order No. 26,308 at 5.

Additionally, upon closer review of the marginal unit cost information used in previous analyses, the Company has made a refinement to exclude the marginal cost associated with main

extensions which are fixed costs. When National Gypsum initially connected to the Northern system over three decades ago, National Gypsum paid the cost associated with its main extension. As such, it is appropriate to exclude the main extensions cost from the annual cost to serve National Gypsum, and doing so results in a further reduction in the calculated cost to serve the customer of \$ [REDACTED]. With both changes, revenues exceed the marginal cost to serve by [REDACTED].

Northern Utilities, Inc.
Docket No. DG 19-152
Schedule CGMS-1 (Redacted)
Page 1 of 2

National Gypsum Special Contract

Northern Utilities, Inc. Marginal Cost Estimate Template

Escalating Marginal Costs using GDPLEV from Bureau of Economic Analysis data:

- 1) Go to -> <http://www.bea.gov/national/index.htm>
- 2) Click on the link for *Current-Dollar and "Real" Gross Domestic Product*;
- 3) Update annual "GDP in billions of current dollars" and "GDP in billions of chained 2012 dollars" data in the table below;
- 4) Forecast years GDP estimates use EIA Energy Outlook projections (Table 9a Macroeconomics Indicators);
Go to -> <https://www.eia.doe.gov/outlooks/steo/data/browser/#/?v=5>
- 5) Update prior to start of each contract year.

Adjustment Escalators to Marginal Costs

Year	GDP in billions of current dollars	GDP in billions of chained 2017 dollars	GDP Chain-type Price Index (2017=1.000)	Marginal Cost Study Escalation Factor Calculation
2017	19,612.1	19,612.1	1.0000	
2018	20,656.5	20,193.9	1.0229	
2019	21,521.4	20,692.1	1.0401	
2020	21,323.0	20,234.1	1.0538	1.0538
2021	23,594.0	21,407.7	1.1021	
2022	25,744.1	21,822.0	1.1797	
2023	27,360.9	22,376.9	1.2227	
2024 (est)	28,695.4	22,938.0	1.2510	1.2369
Calculation of Escalation Factor ->				1.1737

ANNUALIZED MARGINAL COST ESTIMATE

A	B	C	D	E	F
Line No.	Description	DG 21-104 Atrium MCS Revised RAJT-10 Page 2	Estimated Inflation Adjustment Dec. 1, 2024		Notes
1	Escalation Factor		1.1737		
2	Marginal Cost Data				
3	Customer Charge	\$741.49	\$870.29		C3 x D1
4	Pressure Support	\$0.00	\$0.00		C4 x D1
5	Main Reinforcement (per Dth)	\$150.57	\$176.72		C5 x D1
6	Main Extension (per Dth)	\$117.45	\$137.85		C6 x D1
7	O&M (per Dth)	\$28.28	\$33.19		C7 x D1
8					
9	Customer Data				
10	Annual Usage (Therms)				4/23-3/24 Usage
11	Design Day Usage (Dth)				Customer MDTQ
12					
13	Marginal Revenue Requirement				
14	Customer Charge				C3 x 12
15	Pressure Support				C4 x F11
16	Main Reinforcement				C5 x F11
17	Main Extension				C6 x F11
18	O&M				C7 x F11
19	Total				Sum(C14:C18)
20					
21	Marginal Cost Floor - All Components				
22	Revenue Requirement				C19
23	Customer Charge				C14
24	Remaining Revenue				C22 - C23
25	Volumetric Charge				C24

Note:

Customer Charge from Schedule Revised RAJT-10, Page 2, Line 53
Main Reinforcement Cost from Schedule Revised RAJT-10, Page 2, Line 31
Main Extension Cost from Schedule Revised RAJT-10, Page 2, Line 32
O&M Cost from Schedule Revised RAJT-10, Page 2, Line 35
2019 thru 2023 GDP Chain-type Price Index from EIA Annual Energy Outlook
2024 GDP Price Index from EIA Short-Term Energy Outlook

Northern Utilities, Inc.
 National Gypsum Special Contract - Marginal Revenue Estimate Template

A	B	C	D
Line No.	Description	Amount	Notes
1	Current Rates (December 1, 2023):		
2	Month Customer Charge		
3	Usage Charge per Therm		
4			
5	November 2023 CPI	307.051	
6	Projected November 2024 CPI	317.491	Line 5 x (1 + Line 8)
7			
8	Forecasted December 1, 2024 CPI Increase (1)	3.4%	
9			
10	Forecasted Rates (December 1, 2024):		
11	Month Customer Charge		Line 1 x (1 + Line 8)
12	Usage Charge per Therm		Line 2 x (1 + Line 8)
13			
14	Annual Usage (Therms)		4/23 - 3/24 Usage
15			
16	Annual Customer Charge Revenue		Line 11 x 12
17	Annual Usage Charge Revenue		Line 12 x Line 14
18	Total Revenues at Forecasted December 1, 2024 Rates		Line 16 + Line 17
19			
20	Estimated Marginal Revenue Requirement		Page 1, Line 19

Note:
 (1) Forecasted CPI increase from Investing.com

Northern Utilities, Inc.
DG 19-152
Special Contract with National Gypsum
NH Department of Energy Data Requests - Set 1

Date Request Received: 5/21/24
Request No. DOE 1-02

Date of Response: 6/4/2024
Witness: C.Goulding & M.Smith

Request:

Reference: April 30, 2024, Compliance Filing, Technical Statement of Christopher J. Goulding and Michael Smith and Corresponding Schedules.

Northern states on page 1,

“By using the as filed and unadjusted unit marginal cost from the 2020 marginal cost study developed by Ronald Amen and John Taylor of Atrium Economics, who supported Northern’s proposed distribution rates in the Company’s rate case proceeding in Docket No. DG 21-103, the marginal costs exceed the revenue by \$63,869.”

Please provide the calculation of the reported figure of \$63,869 in Schedule CGMS-1 and confirm that it is correct. The difference between line 20 and line 19 in Schedule CGMS-1 page 1 of 2 does not equal \$63,869.

Response:

The amount in the testimony is incorrect. It should have said \$64,139 which is the difference between line 20 and line 18 in Schedule CGMS-1 page 2 of 2.

National Gypsum Special Contract

Northern Utilities, Inc. Marginal Cost Estimate Template

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Go to -> <https://www.eia.doe.gov/outlooks/steo/data/browser/#/?v=5>
- 5) Update prior to start of each contract year.

Adjustment Escalators to Marginal Costs

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2021	23,594.0	21,407.7	1.1021	
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Calculation of Escalation Factor ->				1.1737

ANNUALIZED MARGINAL COST ESTIMATE

A	B	C	D	E	F
Line No.	Description	DG 21-104 Atrium Revised RAJT-10	MCS Page 2	Estimated Inflation Adjustment Dec. 1, 2024	Notes
1	Escalation Factor			1.1737	
2	Marginal Cost Data				
3	Customer Charge	\$711.04		\$834.55	C3 x D1
4	Pressure Support	\$0.00		\$0.00	C4 x D1
5	Main Reinforcement (per Dth)	\$140.69		\$165.13	C5 x D1
6	Main Extension (per Dth)	\$0.00		\$0.00	C6 x D1
7	O&M (per Dth)	\$28.28		\$33.19	C7 x D1
8					
9	Customer Data				
10	Annual Usage (Therms)				4/23-3/24 Usage
11	Design Day Usage (Dth)				Customer MDTQ
12					
13	Marginal Revenue Requirement				
14	Customer Charge				C3 x 12
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16	Main Reinforcement				C5 x F11
17	Main Extension				C6 x F11
18	O&M				C7 x F11
19	Total				Sum(C14:C18)
20					
21	Marginal Cost Floor - All Components				
22	Revenue Requirement				C19
23	Customer Charge				C14
24	Remaining Revenue				C22 - C23
25	Volumetric Charge				C24

Note:

Customer Charge from Schedule Revised RAJT-10, Page 2, Line 53 (Updated to reflect the settled weighted average cost of capital)
Main Reinforcement Cost from Schedule Revised RAJT-10, Page 2, Line 31 (Updated to reflect the settled weighted average cost of capital)
Main Extension Cost from Schedule Revised RAJT-10, Page 2, Line 32 (Excluded from the analysis)
O&M Cost from Schedule Revised RAJT-10, Page 2, Line 35
2019 thru 2023 GDP Chain-type Price Index from EIA Annual Energy Outlook
2024 GDP Price Index from EIA Short-Term Energy Outlook

Northern Utilities, Inc.
National Gypsum Special Contract - Marginal Revenue Estimate Template

A Line No.	B Description	C Amount	D Notes
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4			
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19			
20	Estimated Marginal Revenue Requirement		Page 1, Line 19

Note:
(1) Forecasted CPI increase from Investing.com

Northern Utilities, Inc.
DG 19-152
Special Contract with National Gypsum
NH Department of Energy Data Requests - Set 1

Date Request Received: 5/21/24
Request No. DOE 1-05

Date of Response: 6/4/2024
Witness: C.Goulding & M.Smith

Request:

- a) Do the special circumstances at the origin of the special contract with National Gypsum Company remain the same? If yes, please explain why.
- b) Considering the current circumstances, is the special contract still justified? Please provide a narrative justification. Please supplement with any analytics as needed.

Response:

- a) Yes, the special circumstances of the original special contract approved by the Commission remain the same. National Gypsum is located within 1.1 miles from the Granite State Pipeline and the Maritimes and Northeast Pipeline, both located in Newington, NH. National Gypsum has a viable option to bypass Northern's local distribution system and avoid the Company's transportation rates altogether.
- b) Yes, the special contract is still justified. If National Gypsum bypasses Northern, all revenues as provided in response DG 19-152 DOE 1-06, will be lost to Northern. Thus, retaining National Gypsum as a Northern customer will continue to keep the average system costs to all of Northern's firm customers lower than it would be if Northern were to lose this Customer to bypass.

Northern Utilities, Inc.
DG 19-152
Special Contract with National Gypsum
NH Department of Energy Data Requests - Set 1

Date Request Received: 5/21/24
Request No. DOE 1-06

Date of Response: 6/4/2024
Witness: C.Goulding & M.Smith

Request:

- a) What would be the revenue if National Gypsum Company is charged the existing full rate, as provided in the tariff, instead of the current special contract rate? Please provide a comparative (full rate vs. special contract rate) calculation.
- b) At the current special contract rate, what is the percentage of Northern's total revenue that comes from the special contract with National Gypsum Company?
- c) At the existing full rate, as provided in the tariff, what would be the percentage of Northern's total revenue that comes from the National Gypsum Company?

Response:

- a) Please refer to DOE 1-06 Attachment 1 for the requested information.
- b) Please refer to DOE 1-06 Attachment 1, line 44 for the requested calculation.
- c) Please refer to DOE 1-06 Attachment 1, line 46 for the requested calculation.

REDACTED

Docket No. DG 19-152
 DOE 1-06 (CONFIDENTIAL)
 Attachment 1
 Page 1 of 1

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Special Contract Revenue at December 1, 2023 Rates	
Customer Charge	Therm Charge

[REDACTED]	[REDACTED]
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Month	Usage	Customer Charge	Usage Revenue	Total \$'s
April 2023	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
May 2023	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
June 2023	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
July 2023	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
August 2023	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
September 2023	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
October 2023	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
November 2023	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
December 2023	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
January 2024	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
February 2024	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
March 2024	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Total	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

G-52 Tariff Rates Effective January 1, 2024

Customer Charge	Peak Distribution	Off-Peak Distribution	LDAC
\$ 1,350.00	\$ 0.1791	\$ 0.1094	\$ 0.0375

Month	Usage	Customer Charge	Distribution	Total Distribution	LDAC	Total \$'s
April 2023	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
May 2023	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
June 2023	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
July 2023	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
August 2023	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
September 2023	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
October 2023	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
November 2023	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
December 2023	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
January 2024	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
February 2024	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
March 2024	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Total	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

Difference [REDACTED]

Total 2023 Billed Distribution Revenue	[REDACTED]
Special Contract Revenue at Special Contract Rate / Line 42	[REDACTED]
Illustrative Special Contract Revenue at Tariff Rate / Line 42	[REDACTED]