



October 20, 2021

Mary E. Schwarzer
Attorney and Hearings Examiner
Department of Energy
21 South Fruit Street
Concord, N.H. 03301

RE: DG 21-131: Northern Utilities, Inc.'s Responses to DOE Set 1 Discovery

Attorney Schwarzer,

Northern Utilities, Inc. ("Northern" or the "Company") hereby submits responses to the Department of Energy's First Set of Technical Session Requests in the above referenced docket. Attachments to the Company's response to Energy TS 1-5 include confidential information. The Company intends to submit a motion for confidential treatment prior to a hearing in this docket pursuant to Puc 203.08(d) and has a good faith basis for seeking confidential treatment of the documents pursuant to this rule.

If you have any questions or need additional information, please contact me.

Regards,

A handwritten signature in black ink, appearing to read "Patrick H. Taylor", with a long horizontal flourish extending to the right.

Patrick H. Taylor

Patrick Taylor
Senior Counsel
taylorp@unitil.com

6 Liberty Lane West
Hampton, NH 03842

Northern Utilities, Inc.
Docket No. DG 21-131
DOE Data Requests – Tech Session Set 1

Date Request Received: 10/14/2021
Request No. Energy TS 1-1

Date of Response: 10/20/2021
Witness: S. Elena Demeris

REQUEST:

Reference: Petition Bates 24; Docket No. 21-123

- a. Please explain why, even though gas costs are expected to increase 30% to 40% this winter, Northern's projected Local Delivery Adjustment Clause (LDAC) is projected to decrease from \$ 0.1099 to \$0.0631 for residential customers and from \$0.0472 to \$0.0360 for commercial customers.
- b. Please explain what the Regulatory Cost Adjustment Mechanism (RCAM) is -- see Dkt. 21-123 -- and show how the RCAM, if approved, would impact the LDAC during Winter 2021-22 and Summer 2022. Hypothetically, assume the Commission approves the RCAM as requested and please updated the LDAC at Bates 24 and Tariff page Fourth Revised page 41, and Tenth Revised Page 85, as would then be necessary, and recalculate the impact on residential and commercial bills during the upcoming period, including bill impacts and percentage increases, if any.
- c. With reference to the LDAC Analysis by Component in DG 21-123, it appears that the RCAM, if approved, will increase the LDAC by \$0.0083 effective 11/1/21. Will Northern's proposed COG and 25% cap increase be sufficient to allow Northern to avoid significant under collection? Why is the impact of the RCAM higher for Residential non-heating customers as compared to the impact of the RCAM for Residential non-heating customers?

RESPONSE:

- a. Local Delivery Adjustment Clause components are delivery related and, as such, are not generally impacted by gas supply costs. However, the Gas Assistance Program and Regulatory Assessment (GAPRA) reflects the proposed cost of gas in the forecast of program costs since the gas assistance program consists of discounts to both the delivery and supply portions of customer bills. See Page 298 of 324.
- b. The Regulatory Cost Adjustment Mechanism (RCAM) is a reconciling mechanism, proposed by the Company in Docket DG 21-123, designed to

Northern Utilities, Inc.
Docket No. DG 21-131
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recover the increase in local property tax expense related to HB 700 above the amount of local property tax expense recovery in base rates established in DG 17-070. In addition to the local property taxes described above, the Company's proposal removes the regulatory assessment from the GAPRA and into the RCAM. Please see Energy TS 1-1b Attachment 1 for Revised Tariff Page 62, (Bates 24) and Revised Tariff Page 85 (Bates 25). The Fourth Revised Tariff Page 41 will not change if the RCAM is approved. Please see Energy TS 1-1b Attachment 2 for recalculated bill impacts. If the RCAM is approved Residential heating customers will see a Winter 2021-2022 increase of \$97.50 or 9.5% over the Winter 2020-2021 period. The Residential bill increase filed on September 17, 2021, that did not include the RCAM, was \$93.55 or 9.1%. Please note that the change in the LDAC component is a decrease from the Winter 2020-2021 period in both instances. When the RCAM is included in the LDAC the decrease is less than what was originally filed.

- c. The statement is not correct. As shown on Energy TS 1-1b Attachment 1, the proposed LDAC including the RCAM is \$0.0699 per therm for Residential customers and \$0.0428 per therm for Commercial and Industrial customers. This is an overall decrease of \$0.0400 per therm for residential and \$0.0044 for commercial and industrial customers from November 1, 2020 LDAC rates of \$0.1099 per therm and \$0.0472 for residential and C&I customers respectively. The proposed RCAM of \$0.0083 includes costs associated with the recovery of regulatory assessments that will be removed from the GAPRA, reducing the proposed GAPRA charge from \$0.0060 per therm to \$0.0045 per therm. The other factors impacting the overall LDAC decrease are decreases in the EEC, LRR and ERC. Please see the table below for an illustration of the current and proposed LDAC charges.

	LDAC Effective November 1, 2020	Proposed LDAC effective November 1, 2021	Proposed LDAC Effective November 1, 2021 including RCAM
Residential	\$0.1099	\$0.0631	\$0.0699
C&I	\$0.0472	\$0.0360	\$0.0428

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The 25% cap applies to the COG only and will not be affected by the LDAC rate change. Nonetheless, Northern does believe that the 25% cap is sufficient to avoid a potential large under-collection of COG costs.

Assuming that the question was intended to read: Why is the impact of the RCAM higher for Residential non-heating customers as compared to the impact of the RCAM for Commercial and Industrial customers? The proposed RCAM is a uniform charge, and is the same for all rate classes. Other components of the LDAC are class specific, therefore, when the charges are added the impact of the RCAM on one class is greater than another. This is illustrated on Energy TS 1-1b Attachment 1. The proposed Residential heating rate, including the RCAM, is an overall decrease of \$0.0400 per therm from the November 1, 2020 LDAC. The decrease over the same period for C&I customers is \$0.0044 per therm.

N.H.P.U.C. No. 12 - Gas
Northern Utilities, Inc.

Fourth Revised Page 62
Superseding Third Revised Page 62

Local Delivery Adjustment Clause

Rate Schedule	GAP	EEC	LRR	ERC	ITMC	RCE	RPC	RCAM	LDAC
Residential Heating	\$0.0045	\$0.0449	\$0.0066	\$0.0056	\$0.0000	\$0.0000	\$0.0000	\$0.0083	\$0.0699
Residential Non-Heating	\$0.0045	\$0.0449	\$0.0066	\$0.0056	\$0.0000	\$0.0000	\$0.0000	\$0.0083	\$0.0699
Small C&I	\$0.0045	\$0.0238	\$0.0006	\$0.0056	\$0.0000	\$0.0000	\$0.0000	\$0.0083	\$0.0428
Medium C&I	\$0.0045	\$0.0238	\$0.0006	\$0.0056	\$0.0000	\$0.0000	\$0.0000	\$0.0083	\$0.0428
Large C&I	\$0.0045	\$0.0238	\$0.0006	\$0.0056	\$0.0000	\$0.0000	\$0.0000	\$0.0083	\$0.0428
No Previous Sales Service									

Issued: October 20, 2021

Effective: With Service Rendered On and After November 1, 2021

Authorized by NHPUC Order No. in Docket No. DG 21-, dated

Issued by:

Title:

Robert B. Hevert
Senior Vice President

N.H.P.U.C. No. 12 - Gas
Northern Utilities, Inc

~~Fourth~~ ~~Third~~ Revised Page 62
Superseding ~~Third~~ ~~Second~~ Revised Page 62

Local Delivery Adjustment Clause

Rate Schedule	GAPRA	<i>GAP</i>	EEC	<i>EEC</i>	LRR	<i>LRR</i>	ERC	<i>ERC</i>	ITMC	RCE	RPC	<i>RCAM</i>	LDAC	<i>LDAC</i>
Residential Heating	\$0.0044	<i>\$0.0045</i>	\$0.0774	<i>\$0.0449</i>	\$0.0220	<i>\$0.0066</i>	\$0.0061	<i>\$0.0056</i>	\$0.0000	\$0.0000	\$0.0000	<i>\$0.0083</i>	\$0.1099	<i>\$0.0699</i>
Residential Non-Heating	\$0.0044	<i>\$0.0045</i>	\$0.0774	<i>\$0.0449</i>	\$0.0220	<i>\$0.0066</i>	\$0.0061	<i>\$0.0056</i>	\$0.0000	\$0.0000	\$0.0000	<i>\$0.0083</i>	\$0.1099	<i>\$0.0699</i>
Small C&I	\$0.0044	<i>\$0.0045</i>	\$0.0337	<i>\$0.0238</i>	\$0.0030	<i>\$0.0006</i>	\$0.0061	<i>\$0.0056</i>	\$0.0000	\$0.0000	\$0.0000	<i>\$0.0083</i>	\$0.0472	<i>\$0.0428</i>
Medium C&I	\$0.0044	<i>\$0.0045</i>	\$0.0337	<i>\$0.0238</i>	\$0.0030	<i>\$0.0006</i>	\$0.0061	<i>\$0.0056</i>	\$0.0000	\$0.0000	\$0.0000	<i>\$0.0083</i>	\$0.0472	<i>\$0.0428</i>
Large C&I	\$0.0044	<i>\$0.0045</i>	\$0.0337	<i>\$0.0238</i>	\$0.0030	<i>\$0.0006</i>	\$0.0061	<i>\$0.0056</i>	\$0.0000	\$0.0000	\$0.0000	<i>\$0.0083</i>	\$0.0472	<i>\$0.0428</i>
No Previous Sales Service														

Issued: ~~October 20, September 17, 2021~~ ~~10~~
Effective: With Service Rendered On and After November 1, 20~~21~~ ~~10~~
Authorized by NHPUC Order No. ~~26-429~~ in Docket No. DG ~~20-154~~ , dated ~~October 20, 2020~~

Issued by: Robert B. Hevert
Title: Senior Vice President

NHPUC No. 12 - Gas
NORTHERN UTILITIES, INC.

Tenth Revised Page 85
Superseding Ninth Page 85

**NORTHERN UTILITIES - NEW HAMPSHIRE DIVISION
WINTER SEASON RESIDENTIAL RATES**

Winter Season November 2021 - April 2022		Tariff Rates	Total Delivery Rates (Includes LDAC)	Total Billed Rates Tariff Rates, LDAC Plus Cost of Gas
Residential Heating	<u>Tariff Rate R 5:</u> Monthly Customer Charge First 50 therms All usage over 50 therms LDAC <u>Gas Cost Adjustment:</u> Cost of Gas	\$22.20 \$0.6920 \$0.6920 \$0.0699 \$0.9392	\$22.20 \$0.7619 \$0.7619	\$22.20 \$1.7011 \$1.7011
Residential Heating Low Income	<u>Tariff Rate R 10:</u> Monthly Customer Charge First 50 therms All usage over 50 therms LDAC <u>Gas Cost Adjustment:</u> Cost of Gas	\$22.20 \$0.6920 \$0.6920 \$0.0699 \$0.9392	\$22.20 \$0.7619 \$0.7619	\$22.20 \$1.7011 \$1.7011
45% Low Income Discount	Monthly Customer Charge	(\$9.99)	(\$9.99)	(\$9.99)
45% Low Income Discount	First 50 therms	(\$0.3114)	(\$0.3114)	(\$0.7340)
45% Low Income Discount	All usage over 50 therms	(\$0.3114)	(\$0.3114)	(\$0.7340)
No Discount	LDAC	\$0.0000		
45% Low Income Discount	<u>Gas Cost Adjustment:</u> Cost of Gas	(\$0.4226)		
Residential Non-Heating	<u>Tariff Rate R 6:</u> Monthly Customer Charge First 10 therms All usage over 10 therms LDAC <u>Gas Cost Adjustment:</u> Cost of Gas	\$22.20 \$0.6470 \$0.6470 \$0.0699 \$0.9392	\$22.20 \$0.7169 \$0.7169	\$22.20 \$1.6561 \$1.6561

NHPUC No. 12 - Gas
NORTHERN UTILITIES, INC.

~~Ninth~~ Tenth Revised Page 85
Superseding ~~Eighth~~ Ninth Page 85

NORTHERN UTILITIES - NEW HAMPSHIRE DIVISION
WINTER SEASON RESIDENTIAL RATES

Winter Season November 20 20 <u>21</u> - April 20 21 <u>22</u>		Tariff Rates	Total Delivery Rates (Includes LDAC)		Total Billed Rates Tariff Rates, LDAC Plus Cost of Gas	
Residential Heating	<u>Tariff Rate R 5:</u> Monthly Customer Charge First 50 therms All usage over 50 therms LDAC <u>Gas Cost Adjustment:</u> Cost of Gas	\$22.20 \$0.6920 \$0.6920 \$0.4099 <u>\$0.0699</u> \$0.7315 <u>\$0.9392</u>	\$22.20 \$0.8049 <u>\$0.7619</u> \$0.8049 <u>\$0.7619</u>	\$22.20 \$4.5334 <u>\$1.7011</u> \$4.5334 <u>\$1.7011</u>		
Residential Heating Low income	<u>Tariff Rate R 10:</u> Monthly Customer Charge First 50 therms All usage over 50 therms LDAC <u>Gas Cost Adjustment:</u> Cost of Gas	\$22.20 \$0.6920 \$0.6920 \$0.4099 <u>\$0.0699</u> \$0.7315 <u>\$0.9392</u>	\$22.20 \$0.8049 <u>\$0.7619</u> \$0.8049 <u>\$0.7619</u>	\$22.20 \$4.5334 <u>\$1.7011</u> \$4.5334 <u>\$1.7011</u>		
45% Low Income Discount	Monthly Customer Charge	(\$9.99)	(\$9.99)	(\$9.99)		
45% Low Income Discount	First 50 therms	(\$0.3114)	(\$0.3114)	(\$0.7340)		
45% Low Income Discount	All usage over 50 therms	(\$0.3114)	(\$0.3114)	(\$0.7340)		
No Discount	LDAC	\$0.0000				
45% Low Income Discount	<u>Gas Cost Adjustment:</u> Cost of Gas	<u>(\$0.4226)</u>				
Residential Non-Heating	<u>Tariff Rate R 6:</u> Monthly Customer Charge First 10 therms All usage over 10 therms LDAC <u>Gas Cost Adjustment:</u> Cost of Gas	\$22.20 \$0.6470 \$0.6470 \$0.4099 <u>\$0.0699</u> \$0.7315 <u>\$0.9392</u>	\$22.20 \$0.7569 <u>\$0.7169</u> \$0.7569 <u>\$0.7169</u>	\$22.20 \$1.4884 <u>\$1.6561</u> \$1.4884 <u>\$1.6561</u>		

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE DIVISION
Typical Residential Heating Bill - 715 therms/year
Comparison of Winter 2021-2022 vs. Winter 2020-2021

Northern Utilities, Inc.
New Hampshire Division
Attachment NUI-SED-3
Page 1 of 10

		Nov	Dec	Jan	Feb	Mar	Apr	Winter	May	June	July	August	Sept	October	Summer	Annual
	Typical Usage: therms (*)	55	93	124	135	101	74	581	51	21	14	12	15	21	133	715
1																
2																
3	Winter 2021 - 2022															
4	Customer Charge units @	\$ 22.20	\$22.20	\$22.20	\$22.20	\$22.20	\$22.20	\$133.20								
5	First 50 units @	\$0.6920	\$34.60	\$34.60	\$34.60	\$34.60	\$34.60	\$207.60								
6	Over 50 units @	\$0.6920	\$3.71	\$29.50	\$51.20	\$58.55	\$35.30	\$16.47								
7	COG 1	\$0.9392	\$52.00					\$52.00								
8	COG 2	\$0.9392	\$86.99					\$86.99								
9	COG 3	\$0.9392		\$116.45				\$116.45								
10	COG 4	\$0.9392			\$126.43			\$126.43								
11	COG 5	\$0.9392				\$94.87		\$94.87								
12	COG 6	\$0.9392					\$69.31	\$69.31								
13	LDAC	\$0.0699	\$3.87	\$6.47	\$8.67	\$9.41	\$7.06	\$5.16								
14	Summer 2022															
15	Customer Charge units @	\$ 22.20							\$ 22.20	\$22.20	\$22.20	\$22.20	\$ 22.20	\$22.20	\$133.20	
16	First 50 units @	\$0.6099							\$30.50	\$12.91	\$8.53	\$7.09	\$9.07	\$12.73	\$80.82	
17	Over 50 units @	\$0.6099							\$0.36	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.36	
20	COG 1	\$0.5176							\$26.18						\$26.18	
21	COG 2	\$0.5176								\$10.95					\$10.95	
22	COG 3	\$0.5176									\$7.24				\$7.24	
23	COG 4	\$0.5176										\$6.02			\$6.02	
24	COG 5	\$0.5176											\$7.70		\$7.70	
25	COG 6	\$0.5176												\$10.80	\$10.80	
26	Summer Period Weighted Avg. COG	\$0.5176														
27	LDAC	\$ 0.0699							\$3.54	\$1.48	\$0.98	\$0.81	\$1.04	\$1.46	\$9.30	
28	TOTAL		\$116.38	\$179.76	\$233.12	\$251.19	\$194.04	\$147.74	\$82.77	\$47.54	\$38.95	\$36.12	\$40.01	\$47.19	\$292.58	\$1,414.82
	Base Rate Change Winter	\$ Change	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00								
	% Change		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%								
	COG Change Winter	\$ Change	\$11.50	\$19.24	\$25.75	\$27.96	\$20.98	\$15.33								
	% Change		10.74%	11.71%	12.13%	12.23%	11.85%	11.32%								
	LDAC Change Winter	\$ Change	-\$2.21	-\$3.70	-\$4.96	-\$5.38	-\$4.04	-\$2.95								
	% Change		-2.07%	-2.26%	-2.34%	-2.36%	-2.28%	-2.18%								
27																
28	Typical Usage: therms															
29	Winter 2020 - 2021															
30	Customer Charge units @	\$ 22.20	\$22.20	\$22.20	\$22.20	\$22.20	\$22.20	\$133.20								
31	First 50 units @	\$0.6920	\$34.60	\$34.60	\$34.60	\$34.60	\$34.60	\$207.60								
32	Over 50 units @	\$0.6920	\$3.71	\$29.50	\$51.20	\$58.55	\$35.30	\$16.47								
33	COG 1	\$0.7315	\$40.50					\$40.50								
34	COG 2	\$0.7315	\$67.75					\$67.75								
35	COG 3	\$0.7315		\$90.70				\$90.70								
36	COG 4	\$0.7315			\$98.47			\$98.47								
37	COG 5	\$0.7315				\$73.89		\$73.89								
38	COG 6	\$0.7315					\$53.99	\$53.99								
39	Winter Period Weighted Avg. COG	\$0.7315														
40	LDAC	\$ 0.1099	\$6.08	\$10.18	\$13.63	\$14.79	\$11.10	\$8.11								
41	Summer 2021															
42	Customer Charge units @	\$ 22.20							\$22.20	\$22.20	\$22.20	\$22.20	\$22.20	\$22.20	\$133.20	
43	First 50 units @	\$0.6099							\$30.50	\$12.91	\$8.53	\$7.09	\$9.07	\$12.73	\$80.82	
44	Over 50 units @	\$0.6099							\$0.36	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.36	
45	COG 1	\$0.4970							\$25.14						\$25.14	
46	COG 2	\$0.4970								\$10.52					\$10.52	
47	COG 3	\$0.4970									\$6.95				\$6.95	
48	COG 4	\$0.4970										\$5.78			\$5.78	
49	COG 5	\$0.4970											\$7.39		\$7.39	
50	COG 6	\$0.4970												\$10.37	\$10.37	
51	Summer Period Weighted Avg. COG	\$0.4970														
52	LDAC	\$ 0.1099							\$5.56	\$2.33	\$1.54	\$1.28	\$1.63	\$2.29	\$14.63	
53	TOTAL		\$107.10	\$164.23	\$212.33	\$228.62	\$177.10	\$135.37	\$83.75	\$47.95	\$39.22	\$36.34	\$40.30	\$47.59	\$295.16	\$1,319.90
54	Change		\$9.28	\$15.53	\$20.79	\$22.58	\$16.94	\$12.38	(\$0.98)	(\$0.41)	(\$0.27)	(\$0.23)	(\$0.29)	(\$0.40)	(\$2.58)	\$94.92
55	% Chg		8.67%	9.46%	9.79%	9.87%	9.57%	9.14%	-1.17%	-0.86%	-0.69%	-0.62%	-0.72%	-0.85%	-0.87%	7.19%

*-Note- Weighted by usage. Most recent 12 months actual Weather Normalized.

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE DIVISION
Typical G-40 Commercial & Industrial Bill - 2,022 therms/year
Comparison of Winter 2021-2022 vs. Winter 2020-2021

Northern Utilities, Inc.
New Hampshire Division
Attachment NUI-SED-3
Page 2 of 10

		Nov	Dec	Jan	Feb	Mar	Apr	Winter	May	June	July	August	Sept	October	Summer	Annual
1	Typical Usage: therms (*)	159	279	369	417	306	209	1,738	122	42	24	20	31	44	283	2,022
3	Winter 2021 - 2022															
4	Customer Charge units @	\$ 75.09	\$75.09	\$75.09	\$75.09	\$75.09	\$75.09	\$450.54								
5	First 75 units @	\$0.1865	\$13.99	\$13.99	\$13.99	\$13.99	\$13.99	\$83.93								
6	Over 75 units @	\$0.1865	\$15.60	\$38.00	\$54.81	\$63.72	\$43.11	\$25.04								
7	COG 1	\$0.9551	\$151.54					\$151.54								
8	COG 2	\$0.9551	\$266.22					\$266.22								
9	COG 3	\$0.9551		\$352.32				\$352.32								
10	COG 4	\$0.9551			\$397.95			\$397.95								
11	COG 5	\$0.9551				\$292.39		\$292.39								
12	COG 6	\$0.9551					\$199.89	\$199.89								
13	LDAC	\$0.0428	\$6.79	\$11.93	\$15.79	\$17.83	\$13.10	\$8.96								
14	Summer 2022															
15	Customer Charge units @	\$ 75.09							\$ 75.09	\$75.09	\$75.09	\$75.09	\$ 75.09	\$75.09	\$450.54	
16	First 75 units @	\$0.1865							\$13.99	\$7.90	\$4.41	\$3.75	\$5.85	\$8.27	\$44.17	
17	Over 75 units @	\$0.1865							\$8.70	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$8.70	
18	COG 1	\$0.4554							\$55.40						\$55.40	
19	COG 2	\$0.4554								\$19.28					\$19.28	
20	COG 3	\$0.4554									\$10.77				\$10.77	
21	COG 4	\$0.4554										\$9.15			\$9.15	
22	COG 5	\$0.4554											\$14.29		\$14.29	
23	COG 6	\$0.4554												\$20.20	\$20.20	
24	Summer Period Weighted Avg. COG	\$0.4554														
25	LDAC	\$ 0.0428							\$5.21	\$1.81	\$1.01	\$0.86	\$1.34	\$1.90	\$12.13	
26	TOTAL		\$263.01	\$405.22	\$512.00	\$568.57	\$437.67	\$322.97	\$158.38	\$104.09	\$91.29	\$88.85	\$96.58	\$105.47	\$644.65	\$3,154.10
	Base Rate Change Winter	\$ Change	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00								
	% Change		0%	0%	0%	0%	0%	0%								
	COG Change Winter	\$ Change	\$33.54	\$58.92	\$77.98	\$88.08	\$64.72	\$44.24								
	% Change		15%	17%	18%	18%	17%	16%								
	LDAC Change Winter	\$ Change	-\$0.70	-\$1.23	-\$1.62	-\$1.83	-\$1.35	-\$0.92								
	% Change		-0.3%	-0.4%	-0.4%	-0.4%	-0.4%	-0.3%								
27																
28	Typical Usage: therms		159	279	369	417	306	209								
29	Winter 2020 - 2021															
30	Customer Charge units @	\$ 75.09	\$75.09	\$75.09	\$75.09	\$75.09	\$75.09	\$450.54								
31	First 75 units @	\$0.1865	\$13.99	\$13.99	\$13.99	\$13.99	\$13.99	\$83.93								
32	Over 75 units @	\$0.1865	\$15.60	\$38.00	\$54.81	\$63.72	\$43.11	\$25.04								
33	COG 1	\$0.7437	\$118.00					\$118.00								
34	COG 2	\$0.7437		\$207.29				\$207.29								
35	COG 3	\$0.7437			\$274.34			\$274.34								
36	COG 4	\$0.7437				\$309.87		\$309.87								
37	COG 5	\$0.7437					\$227.67	\$227.67								
38	COG 6	\$0.7437						\$155.65								
39	Winter Period Weighted Avg. COG	\$0.7437														
40	LDAC	\$ 0.0472	\$7.49	\$13.16	\$17.41	\$19.67	\$14.45	\$9.88								
41	Summer 2021															
42	Customer Charge units @	\$ 75.09							\$75.09	\$75.09	\$75.09	\$75.09	\$75.09	\$75.09	\$450.54	
43	First 75 units @	\$0.1865							\$13.99	\$7.90	\$4.41	\$3.75	\$5.85	\$8.27	\$44.17	
44	Over 75 units @	\$0.1865							\$8.70	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$8.70	
45	COG 1	\$0.5291							\$64.36						\$64.36	
46	COG 2	\$0.5291								\$22.41					\$22.41	
47	COG 3	\$0.5291									\$12.52				\$12.52	
48	COG 4	\$0.5291										\$10.63			\$10.63	
49	COG 5	\$0.5291											\$16.61		\$16.61	
50	COG 6	\$0.5291												\$23.47	\$23.47	
51	Summer Period Weighted Avg. COG	\$0.5291														
52	LDAC	\$ 0.0472							\$5.74	\$2.00	\$1.12	\$0.95	\$1.48	\$2.09	\$13.38	
53	TOTAL		\$230.17	\$347.52	\$435.64	\$482.33	\$374.31	\$279.65	\$167.88	\$107.39	\$93.14	\$90.42	\$99.03	\$108.93	\$666.79	\$2,816.40
54	Change		\$32.84	\$57.70	\$76.36	\$86.25	\$63.37	\$43.32	(\$39.84)	(\$9.50)	(\$3.31)	(\$1.85)	(\$1.57)	(\$2.45)	(\$3.46)	(\$22.14)
55	% Chg		14.27%	16.60%	17.53%	17.88%	16.93%	15.49%	-5.66%	-3.08%	-1.98%	-1.74%	-2.48%	-3.18%	-3.32%	11.99%

*-Note- Weighted by usage. Actual Weather Normalized.

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE DIVISION
Typical G-41 Commercial & Industrial Bill - 20,679 therms/year
Comparison of Winter 2021-2022 vs. Winter 2020-2021

Northern Utilities, Inc.
New Hampshire Division
Attachment NUI-SED-3
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		Nov	Dec	Jan	Feb	Mar	Apr	Winter	May	June	July	August	Sept	October	Summer	Annual	
2	Typical Usage: therms (*)	1,723	2,769	3,576	3,921	3,003	2,178	17,170	1,273	552	360	210	438	676	3,509	20,679	
3	Winter 2021 - 2022																
4	Customer Charge units @	\$ 222.64	\$222.64	\$222.64	\$222.64	\$222.64	\$222.64	\$1,335.84									
5	All units @	\$0.2425	\$417.80	\$671.60	\$867.07	\$950.83	\$728.20	\$528.26	\$4,163.76								
6	COG 1	\$0.9551	\$1,645.53						\$1,645.53								
7	COG 2	\$0.9551		\$2,645.12					\$2,645.12								
8	COG 3	\$0.9551			\$3,415.01				\$3,415.01								
9	COG 4	\$0.9551				\$3,744.89			\$3,744.89								
10	COG 5	\$0.9551					\$2,868.07		\$2,868.07								
11	COG 6	\$0.9551						\$2,080.58	\$2,080.58								
12	LDAC	\$0.0428	\$73.74	\$118.53	\$153.03	\$167.82	\$128.52	\$93.24	\$734.88								
13	Summer 2022																
14	Customer Charge units @	\$ 222.64							\$ 222.64	\$222.64	\$222.64	\$222.64	\$ 222.64	\$222.64	\$1,335.84		
15	All units @	\$0.1895							\$241.20	\$104.63	\$68.21	\$39.75	\$83.08	\$128.04	\$664.90		
16	COG 1	\$0.4554							\$579.63						\$579.63		
17	COG 2	\$0.4554								\$251.43					\$251.43		
18	COG 3	\$0.4554									\$163.93				\$163.93		
19	COG 4	\$0.4554										\$95.52			\$95.52		
20	COG 5	\$0.4554											\$199.65		\$199.65		
21	COG 6	\$0.4554												\$307.70	\$307.70		
22	Summer Period Weighted Avg. COG	\$0.4554															
23	LDAC	\$ 0.0428							\$54.48	\$23.63	\$15.41	\$8.98	\$18.76	\$28.92	\$150.17		
24	TOTAL		\$2,359.71	\$3,657.89	\$4,657.76	\$5,086.17	\$3,947.44	\$2,924.72	\$22,633.69	\$1,097.94	\$602.33	\$470.19	\$366.89	\$524.13	\$687.30	\$3,748.78	\$26,382.47
	Base Rate Change Winter	\$ Change	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00									
	% Change		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%									
	COG Change Winter	\$ Change	\$364.22	\$1,025.81	\$1,324.38	\$1,452.32	\$1,112.28	\$806.88	\$6,085.88								
	% Change		18.18%	38.79%	39.54%	39.78%	39.05%	37.93%	36.61%								
	LDAC Change Winter	\$ Change	-\$7.58	-\$12.19	-\$15.73	-\$17.25	-\$13.21	-\$9.58	-\$75.55								
	% Change		-0.378%	-0.461%	-0.470%	-0.473%	-0.464%	-0.451%	-0.45%								
25			Nov	Dec	Jan	Feb	Mar	Apr	Winter	May	June	July	August	Sept	October	Summer	Annual
26	Typical Usage: therms		1,723	2,769	3,576	3,921	3,003	2,178	17,170	1,273	552	360	210	438	676	3,509	20,679
27	Winter 2020 - 2021																
28	Customer Charge units @	\$ 222.64	\$222.64	\$222.64	\$222.64	\$222.64	\$222.64	\$222.64	\$1,335.84								
29	All units @	\$0.2425	\$417.80	\$671.60	\$867.07	\$950.83	\$728.20	\$528.26	\$4,163.76								
30	COG 1	\$0.7437	\$1,281.31						\$1,281.31								
31	COG 2	\$0.5847		\$1,619.31					\$1,619.31								
32	COG 3	\$0.5847			\$2,090.63				\$2,090.63								
33	COG 4	\$0.5847				\$2,292.57			\$2,292.57								
34	COG 5	\$0.5847					\$1,755.80		\$1,755.80								
35	COG 6	\$0.5847						\$1,273.71	\$1,273.71								
36	Winter Period Weighted Avg. COG	\$0.6007															
37	LDAC	\$ 0.0472	\$81.32	\$130.72	\$168.77	\$185.07	\$141.74	\$102.82	\$810.43								
38	Summer 2021																
39	Customer Charge units @	\$ 222.64							\$222.64	\$222.64	\$222.64	\$222.64	\$222.64	\$222.64	\$1,335.84		
40	All units @	\$0.1895							\$241.20	\$104.63	\$68.21	\$39.75	\$83.08	\$128.04	\$664.90		
41	COG 1	\$0.5291							\$673.44						\$673.44		
42	COG 2	\$0.5291								\$292.12					\$292.12		
43	COG 3	\$0.5291									\$190.46				\$190.46		
44	COG 4	\$0.5291										\$110.98			\$110.98		
45	COG 5	\$0.5291											\$231.96		\$231.96		
46	COG 6	\$0.5291													\$357.50	\$357.50	
47	Summer Period Weighted Avg. COG	\$0.5291															
48	LDAC	\$ 0.0472							\$60.08	\$26.06	\$16.99	\$9.90	\$20.69	\$31.89	\$165.61		
49	TOTAL		\$2,003.07	\$2,644.27	\$3,349.10	\$3,651.11	\$2,848.38	\$2,127.43	\$16,623.36	\$1,197.35	\$645.45	\$498.30	\$383.27	\$558.37	\$740.07	\$4,022.81	\$20,646.17
50	Change		\$356.64	\$1,013.63	\$1,308.65	\$1,435.06	\$1,099.06	\$797.29	\$6,010.34	(\$99.41)	(\$43.12)	(\$28.11)	(\$16.38)	(\$34.24)	(\$52.77)	(\$274.03)	\$5,736.31
51	% Chg		17.80%	38.33%	39.07%	39.30%	38.59%	37.48%	36.16%	-8.30%	-6.68%	-5.64%	-4.27%	-6.13%	-7.13%	-6.81%	27.78%

*-Note- Weighted by usage. Actual Weather Normalized.

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE DIVISION
Typical G-51 Commercial & Industrial Bill - 16,982 therms/year
Comparison of Winter 2021-2022 vs. Winter 2020-2021

Northern Utilities, Inc.
New Hampshire Division
Attachment NUI-SED-3
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		Nov	Dec	Jan	Feb	Mar	Apr	Winter	May	June	July	August	Sept	October	Summer	Annual
1	Typical Usage: therms (*)	1,394	1,767	1,968	2,106	2,041	1,647	10,922	990	951	992	928	1,122	1,078	6,060	16,982
2	Winter 2021 - 2022															
3																
4	Customer Charge units @	\$ 222.64	\$ 222.64	\$ 222.64	\$ 222.64	\$ 222.64	\$ 222.64	\$ 1,335.84								
5	First 1,300 units @	\$0.1712	\$222.56	\$222.56	\$222.56	\$222.56	\$222.56	\$ 1,335.36								
6	Over 1,300 units @	\$0.1399	\$13.13	\$65.30	\$93.45	\$112.73	\$103.67	\$48.49								
7	COG 1	\$0.8453	\$1,178.25					\$436.77								
8	COG 2	\$0.8453	\$1,493.46					\$1,178.25								
9	COG 3	\$0.8453		\$1,663.52				\$1,493.46								
10	COG 4	\$0.8453			\$1,780.00			\$1,663.52								
11	COG 5	\$0.8453				\$1,725.28		\$1,780.00								
12	COG 6	\$0.8453					\$1,391.87	\$1,725.28								
13	LDAC	\$0.0428	\$59.66	\$75.62	\$84.23	\$90.13	\$87.36	\$1,391.87	\$467.46							
14	Summer 2022															
15	Customer Charge units @	\$ 222.64							\$ 222.64	\$222.64	\$222.64	\$222.64	\$ 222.64	\$222.64	\$1,335.84	
16	First 1,000 units @	\$0.1337							\$132.38	\$127.11	\$132.56	\$124.04	\$133.70	\$133.70	\$783.49	
17	Over 1,000 units @	\$0.1087							\$0.00	\$0.00	\$0.00	\$0.00	\$13.27	\$8.51	\$21.77	
18	COG 1	\$0.4741							\$469.41						\$469.41	
19	COG 2	\$0.4741								\$450.72					\$450.72	
20	COG 3	\$0.4741									\$470.07				\$470.07	
21	COG 4	\$0.4741										\$439.85			\$439.85	
22	COG 5	\$0.4741											\$531.97		\$531.97	
23	COG 6	\$0.4741												\$511.20	\$511.20	
24	Summer Period Weighted Avg. COG	\$0.4741														
25	LDAC	\$ 0.0428							\$42.38	\$40.69	\$42.44	\$39.71	\$48.02	\$46.15	\$259.38	
26	TOTAL		\$1,696.24	\$2,079.58	\$2,286.39	\$2,428.06	\$2,361.51	\$1,956.03	\$12,807.80	\$866.80	\$841.15	\$867.71	\$826.24	\$949.60	\$5,273.71	\$18,081.51
	Base Rate Change Winter	\$ Change	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00							
	% Change	% Change	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%							
	COG Change Winter	\$ Change	\$277.10	\$351.24	\$391.23	\$418.63	\$405.76	\$327.34	\$2,171.30							
	% Change	% Change	19.44%	20.23%	20.55%	20.74%	20.65%	20.01%	20.32%							
	LDAC Change Winter	\$ Change	-\$6.13	-\$7.77	-\$8.66	-\$9.27	-\$8.98	-\$7.25	-\$48.06							
	% Change	% Change	-0.43%	-0.45%	-0.45%	-0.46%	-0.46%	-0.44%	-0.45%							
27																
28	Typical Usage: therms		1,394	1,767	1,968	2,106	2,041	1,647	990	951	992	928	1,122	1,078	6,060	16,982
29	Winter 2020 - 2021															
30	Customer Charge units @	\$ 222.64	\$222.64	\$222.64	\$222.64	\$222.64	\$222.64	\$ 1,335.84								
31	First 1,300 units @	\$0.1712	\$222.56	\$222.56	\$222.56	\$222.56	\$222.56	\$ 1,335.36								
32	Over 1,300 units @	\$0.1399	\$13.13	\$65.30	\$93.45	\$112.73	\$103.67	\$48.49								
33	COG 1	\$0.6465	\$901.14					\$436.77								
34	COG 2	\$0.6465		\$1,142.22				\$901.14								
35	COG 3	\$0.6465			\$1,272.29			\$1,142.22								
36	COG 4	\$0.6465				\$1,361.38		\$1,272.29								
37	COG 5	\$0.6465					\$1,319.53	\$1,361.38								
38	COG 6	\$0.6465						\$1,319.53								
39	Winter Period Weighted Avg. COG	\$0.6465						\$1,064.52								
40	LDAC	\$ 0.0472	\$65.79	\$83.39	\$92.89	\$99.39	\$96.34	\$77.72	\$515.52							
41	Summer 2021															
42	Customer Charge units @	\$ 222.64							\$222.64	\$222.64	\$222.64	\$222.64	\$222.64	\$222.64	\$1,335.84	
43	First 1,000 units @	\$0.1337							\$132.38	\$127.11	\$132.56	\$124.04	\$133.70	\$133.70	\$783.49	
44	Over 1,000 units @	\$0.1087							\$0.00	\$0.00	\$0.00	\$0.00	\$13.27	\$8.51	\$21.77	
45	COG 1	\$0.4501							\$445.64						\$445.64	
46	COG 2	\$0.4501								\$427.90					\$427.90	
47	COG 3	\$0.4501									\$446.27				\$446.27	
48	COG 4	\$0.4501										\$417.59			\$417.59	
49	COG 5	\$0.4501											\$505.04		\$505.04	
50	COG 6	\$0.4501												\$485.32	\$485.32	
51	Summer Period Weighted Avg. COG	\$0.4501														
52	LDAC	\$ 0.0472							\$46.73	\$44.87	\$46.80	\$43.79	\$52.96	\$50.89	\$286.05	
53	TOTAL		\$1,425.27	\$1,736.11	\$1,903.82	\$2,018.70	\$1,964.73	\$1,635.93	\$10,684.57	\$847.39	\$822.52	\$848.28	\$808.06	\$927.61	\$901.06	\$5,154.92
54	Change		\$270.97	\$343.46	\$382.57	\$409.36	\$396.78	\$320.10	\$2,123.24	\$19.41	\$18.63	\$19.43	\$18.18	\$21.99	\$21.13	\$118.78
55	% Chg		19.01%	19.78%	20.09%	20.28%	20.19%	19.57%	19.87%	2.29%	2.27%	2.29%	2.25%	2.37%	2.35%	2.30%

*-Note- Weighted by usage. Actual Weather Normalized.

NORTHERN UTILITIES, INC. -- NEW HAMPSHIRE DIVISION
Impact of Rate Changes on Residential Heating Bills by Usage Level
Forecast Winter 2021-2022 vs. Actual Winter 2020-2021

Northern Utilities, Inc.
New Hampshire Division
Attachment NUI-SED-3
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Residential Heating		
	<u>Winter 2020- 2021</u>	<u>Winter 2021- 2022</u>
Customer Charge	\$22.20	\$22.20
First 50 Therms	\$0.6920	\$0.6920
Over 50 therms	\$0.6920	\$0.6920
LDAC	\$0.1099	\$0.0699
CGA	\$0.7315	\$0.9392

Usage (Therms)	Winter 2020-2021 Bill Amount	Winter 2021-2022 Bill Amount	Total Bill		Base Rate		CGA		LDAC		
5	\$29.87	\$30.71	\$0.84	2.8%	\$0.00	0.0%	\$1.04	3.5%	(\$0.20)	-0.7%	
10	\$37.53	\$39.21	\$1.68	4.5%	\$0.00	0.0%	\$2.08	5.5%	(\$0.40)	-1.1%	
20	\$52.87	\$56.22	\$3.35	6.3%	\$0.00	0.0%	\$4.15	7.8%	(\$0.80)	-1.5%	
25	\$60.54	\$64.73	\$4.19	6.9%	\$0.00	0.0%	\$5.19	8.6%	(\$1.00)	-1.7%	
30	\$68.20	\$73.23	\$5.03	7.4%	\$0.00	0.0%	\$6.23	9.1%	(\$1.20)	-1.8%	
45	\$91.20	\$98.75	\$7.55	8.3%	\$0.00	0.0%	\$9.35	10.3%	(\$1.80)	-2.0%	
50	\$98.87	\$107.26	\$8.38	8.5%	\$0.00	0.0%	\$10.39	10.5%	(\$2.00)	-2.0%	
75	\$137.21	\$149.78	\$12.58	9.2%	\$0.00	0.0%	\$15.58	11.4%	(\$3.00)	-2.2%	
Monthly*	125	\$213.88	\$234.84	\$20.96	9.8%	\$0.00	0.0%	\$25.96	12.1%	(\$5.00)	-2.3%
	150	\$252.21	\$277.37	\$25.16	10.0%	\$0.00	0.0%	\$31.16	12.4%	(\$6.00)	-2.4%
	200	\$328.88	\$362.42	\$33.54	10.2%	\$0.00	0.0%	\$41.54	12.6%	(\$8.00)	-2.4%

* Monthly amount for benchmarking purposes, does not represent the average monthly use of Northern's residential class.

Northern Utilities, Inc.
New Hampshire Division
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NORTHERN UTILITIES, INC. - NEW HAMPSHIRE DIVISION
Typical Residential Heating Bill - 133 therms/Summer
Comparison of Summer 2022 vs. Summer 2021

			May	June	July	August	Sept	October	Summer
1	Typical Usage: therms(*)		51	21	14	12	15	21	133
2	Summer 2022								
3	Customer Charge	units @ \$22.20	\$22.20	\$22.20	\$22.20	\$22.20	\$22.20	\$22.20	\$133.20
4	First	50 units @ \$0.6099	\$30.50	\$12.91	\$8.53	\$7.09	\$9.07	\$12.73	\$80.82
5	Over	50 units @ \$0.6099	\$0.36	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.36
6	COG 1	\$0.5176	\$26.18						\$26.18
7	COG 2	\$0.5176		\$10.95					\$10.95
8	COG 3	\$0.5176			\$7.24				\$7.24
9	COG 4	\$0.5176				\$6.02			\$6.02
10	COG 5	\$0.5176					\$7.70		\$7.70
11	COG 6	\$0.5176						\$10.80	\$10.80
12	Summer Period 2022 Avg. COG	\$0.5176 *							
13	LDAC	\$0.0699	\$3.54	\$1.48	\$0.98	\$0.81	\$1.04	\$1.46	\$9.30
14	TOTAL		\$82.77	\$47.54	\$38.95	\$36.12	\$40.01	\$47.19	\$292.58
15	Base Rate Change	\$ Change	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
		% Change	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	COG Change	\$ Change	\$1.04	\$0.44	\$0.29	\$0.24	\$0.31	\$0.43	\$2.74
		% Change	1.24%	0.91%	0.73%	0.66%	0.76%	0.90%	0.93%
	LDAC Change	\$ Change	-\$2.02	-\$0.85	-\$0.56	-\$0.46	-\$0.59	-\$0.83	-\$5.32
		% Change	-2.42%	-1.77%	-1.43%	-1.28%	-1.48%	-1.75%	-1.80%
16	Typical Usage: therms		51	21	14	12	15	21	133
17	Summer 2021								
18	Customer Charge	units @ \$22.20	\$22.20	\$22.20	\$22.20	\$22.20	\$22.20	\$22.20	\$133.20
19	First	50 units @ \$0.6099	\$30.50	\$12.91	\$8.53	\$7.09	\$9.07	\$12.73	\$80.82
20	Over	50 units @ \$0.6099	\$0.36	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.36
21	COG 1	\$0.4970	\$25.14						\$25.14
22	COG 2	\$0.4970		\$10.52					\$10.52
23	COG 3	\$0.4970			\$6.95				\$6.95
24	COG 4	\$0.4970				\$5.78			\$5.78
25	COG 5	\$0.4970					\$7.39		\$7.39
26	COG 6	\$0.4970						\$10.37	\$10.37
27	Summer Period 2021 Avg. COG	\$0.4970 *							
28	LDAC	\$0.1099	\$5.56	\$2.33	\$1.54	\$1.28	\$1.63	\$2.29	\$14.63
29	TOTAL		\$83.75	\$47.95	\$39.22	\$36.34	\$40.30	\$47.59	\$295.16
30	Change		-\$0.98	-\$0.41	-\$0.27	-\$0.23	-\$0.29	-\$0.40	-\$2.58
31	% Chg		-1.17%	-0.86%	-0.69%	-0.62%	-0.72%	-0.85%	-0.87%
32									

*-Note- Weighted by usage. Actual Weather Normalized.

Northern Utilities, Inc.
New Hampshire Division
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NORTHERN UTILITIES, INC. - NEW HAMPSHIRE DIVISION

Typical G-40 Commercial & Industrial Bill - 283 therms/Summer

Comparison of Summer 2022 vs. Summer 2021

			May	June	July	August	Sept	October	Summer
Typical Usage: therms(*)			122	42	24	20	31	44	283
Summer 2022									
Customer Charge	units @	\$75.09	\$75.09	\$75.09	\$75.09	\$75.09	\$75.09	\$75.09	\$450.54
First	75 units @	\$0.1865	\$13.99	\$7.90	\$4.41	\$3.75	\$5.85	\$8.27	\$44.17
Over	75 units @	\$0.1865	\$8.70	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$8.70
	COG 1	\$0.4554	\$55.40						\$55.40
	COG 2	\$0.4554		\$19.28					\$19.28
	COG 3	\$0.4554			\$10.77				\$10.77
	COG 4	\$0.4554				\$9.15			\$9.15
	COG 5	\$0.4554					\$14.29		\$14.29
	COG 6	\$0.4554						\$20.20	\$20.20
Summer Period 2022 Avg. COG		\$0.4554 *							
LDAC		\$0.0428	\$5.21	\$1.81	\$1.01	\$0.86	\$1.34	\$1.90	\$12.13
TOTAL			\$158.38	\$104.09	\$91.29	\$88.85	\$96.58	\$105.47	\$644.65
Base Rate Change			\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
% Change			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
COG Change			-\$8.97	-\$3.12	-\$1.74	-\$1.48	-\$2.31	-\$3.27	-\$20.89
% Change			-5.34%	-2.91%	-1.87%	-1.64%	-2.34%	-3.00%	-3.13%
LDAC Change			-\$0.54	-\$0.19	-\$0.10	-\$0.09	-\$0.14	-\$0.20	-\$1.25
% Change			-0.32%	-0.17%	-0.11%	-0.10%	-0.14%	-0.18%	-0.19%
			May	June	July	August	Sept	October	Summer
Typical Usage: therms			122	42	24	20	31	44	283
Summer 2021									
Customer Charge	units @	\$75.09	\$75.09	\$75.09	\$75.09	\$75.09	\$75.09	\$75.09	\$450.54
First	75 units @	\$0.1865	\$13.99	\$7.90	\$4.41	\$3.75	\$5.85	\$8.27	\$44.17
Over	75 units @	\$0.1865	\$8.70	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$8.70
	COG 1	\$0.5291	\$64.36						\$64.36
	COG 2	\$0.5291		\$22.41					\$22.41
	COG 3	\$0.5291			\$12.52				\$12.52
	COG 4	\$0.5291				\$10.63			\$10.63
	COG 5	\$0.5291					\$16.61		\$16.61
	COG 6	\$0.5291						\$23.47	\$23.47
Summer Period 2021 Avg. COG		\$0.5291 *							
LDAC		\$0.0472	\$5.74	\$2.00	\$1.12	\$0.95	\$1.48	\$2.09	\$13.38
TOTAL			\$167.88	\$107.39	\$93.14	\$90.42	\$99.03	\$108.93	\$666.79
Change			-\$9.50	-\$3.31	-\$1.85	-\$1.57	-\$2.45	-\$3.46	-\$22.14
% Chg			-5.66%	-3.08%	-1.98%	-1.74%	-2.48%	-3.18%	-3.32%

*-Note- Weighted by usage. Actual Weather Normalized.

Northern Utilities, Inc.
New Hampshire Division
Attachment NUI-SED-3
Page 8 of 10

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE DIVISION
Typical G-41 Commercial & Industrial Bill - 3,509 therms/Summer
Comparison of Summer 2022 vs. Summer 2021

			May	June	July	August	Sept	October	Summer
1									
2	Typical Usage: therms(1)		1,273	552	360	210	438	676	3,509
3	Summer 2022								
4	Customer Charge	units @	\$222.64	\$222.64	\$222.64	\$222.64	\$222.64	\$222.64	\$1,335.84
5	All	units @	\$241.20	\$104.63	\$68.21	\$39.75	\$83.08	\$128.04	\$664.90
6		COG 1	\$579.63						\$579.63
7		COG 2		\$251.43					\$251.43
8		COG 3			\$163.93				\$163.93
9		COG 4				\$95.52			\$95.52
10		COG 5					\$199.65		\$199.65
11		COG 6						\$307.70	\$307.70
12	Summer Period 2022 Avg. COG		\$0.4554*						
13	LDAC		\$0.0428	\$54.48	\$23.63	\$15.41	\$8.98	\$18.76	\$28.92
14	TOTAL			\$1,097.94	\$602.33	\$470.19	\$366.89	\$524.13	\$687.30
									\$3,748.78
	Base Rate Change		\$ Change	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
			% Change	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	COG Change		\$ Change	-\$93.81	-\$40.69	-\$26.53	-\$15.46	-\$32.31	-\$49.80
			% Change	-7.83%	-6.30%	-5.32%	-4.03%	-5.79%	-6.73%
	LDAC Change		\$ Change	-\$5.60	-\$2.43	-\$1.58	-\$0.92	-\$1.93	-\$2.97
			% Change	-0.47%	-0.38%	-0.32%	-0.24%	-0.35%	-0.40%
15									
16	Typical Usage: therms		1,273	552	360	210	438	676	3,509
17	Summer 2021								
18	Customer Charge	units @	\$222.64	\$222.64	\$222.64	\$222.64	\$222.64	\$222.64	\$1,335.84
19	All	units @	\$241.20	\$104.63	\$68.21	\$39.75	\$83.08	\$128.04	\$664.90
20		COG 1	\$673.44						\$673.44
21		COG 2		\$292.12					\$292.12
22		COG 3			\$190.46				\$190.46
23		COG 4				\$110.98			\$110.98
24		COG 5					\$231.96		\$231.96
25		COG 6						\$357.50	\$357.50
26	Summer Period 2021 Avg. COG		\$0.5291*						
27	LDAC		\$0.0472	\$60.08	\$26.06	\$16.99	\$9.90	\$20.69	\$31.89
28	TOTAL			\$1,197.35	\$645.45	\$498.30	\$383.27	\$558.37	\$740.07
29	Change			-\$99.41	-\$43.12	-\$28.11	-\$16.38	-\$34.24	-\$52.77
30	% Chg			-8.30%	-6.68%	-5.64%	-4.27%	-6.13%	-7.13%
									-\$274.03
									-6.81%

*-Note- Weighted by usage. Actual Weather Normalized.

Northern Utilities, Inc.
New Hampshire Division
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Page 9 of 10

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE DIVISION

Typical G-51 Commercial & Industrial Bill - 6,060 therms/Summer

Comparison of Summer 2022 vs. Summer 2021

			May	June	July	August	Sept	October	Summer
Typical Usage: therms(1)			990	951	992	928	1,122	1,078	6,060
Summer 2022									
Customer Charge	units @	\$222.64	\$222.64	\$222.64	\$222.64	\$222.64	\$222.64	\$222.64	\$1,335.84
First	1,000 units @	\$0.1337	\$132.38	\$127.11	\$132.56	\$124.04	\$133.70	\$133.70	\$783.49
Over	1,000 units @	\$0.1087	\$0.00	\$0.00	\$0.00	\$0.00	\$13.27	\$8.51	\$21.77
	COG 1	\$0.4741	\$469.41						\$469.41
	COG 2	\$0.4741		\$450.72					\$450.72
	COG 3	\$0.4741			\$470.07				\$470.07
	COG 4	\$0.4741				\$439.85			\$439.85
	COG 5	\$0.4741					\$531.97		\$531.97
	COG 6	\$0.4741						\$511.20	\$511.20
Summer Period 2022 Avg. COG									
	LDAC	\$0.0428	\$42.38	\$40.69	\$42.44	\$39.71	\$48.02	\$46.15	\$259.38
TOTAL			\$866.80	\$841.15	\$867.71	\$826.24	\$949.60	\$922.20	\$5,273.71
Base Rate Change			\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
% Change			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
COG Change			\$266.44	\$255.83	\$353.97	\$331.21	\$235.41	\$226.22	\$1,669.07
% Change			44.89%	44.20%	69.83%	67.78%	33.32%	32.85%	46.85%
LDAC Change			\$6.83	\$6.56	\$6.84	\$6.40	\$7.74	\$7.44	\$41.82
% Change			1.15%	1.13%	1.35%	1.31%	1.10%	1.08%	1.17%
			May	June	July	August	Sept	October	Summer
Typical Usage: therms			990	951	992	928	1,122	1,078	6,060
Summer 2021									
Customer Charge	units @	\$222.64	\$222.64	\$222.64	\$222.64	\$222.64	\$222.64	\$222.64	\$1,335.84
First	1,000 units @	\$0.1337	\$132.38	\$127.11	\$132.56	\$124.04	\$133.70	\$133.70	\$783.49
Over	1,000 units @	\$0.1087	\$0.00	\$0.00	\$0.00	\$0.00	\$13.27	\$8.51	\$21.77
	COG 1	\$0.2050	\$202.97						\$202.97
	COG 2	\$0.2050		\$194.89					\$194.89
	COG 3	\$0.1171			\$116.10				\$116.10
	COG 4	\$0.1171				\$108.64			\$108.64
	COG 5	\$0.2643					\$296.56		\$296.56
	COG 6	\$0.2643						\$284.98	\$284.98
Summer Period 2021 Avg. COG									
	LDAC	\$0.0359	\$35.54	\$34.13	\$35.59	\$33.31	\$40.28	\$38.71	\$217.57
TOTAL			\$593.53	\$578.76	\$506.90	\$488.63	\$706.45	\$688.54	\$3,562.82
Change			\$273.27	\$262.39	\$360.81	\$337.61	\$243.15	\$233.66	\$1,710.89
% Chg			46.04%	45.34%	71.18%	69.09%	34.42%	33.94%	48.02%

*-Note- Weighted by usage.

NORTHERN UTILITIES, INC. -- NEW HAMPSHIRE DIVISION
Impact of Rate Changes on Residential Heating Bills by Usage Level
Forecast Summer 2022 vs. Actual Summer 2021

Northern Utilities, Inc.
New Hampshire Division
Attachment NUI-SED-3
Page 10 of 10

Residential Heating		
	<u>Summer 2021</u>	<u>Summer 2022</u>
Customer Charge	\$22.20	\$22.20
First 50 Therms	\$0.6099	\$0.6099
Over 50 therms	\$0.6099	\$0.6099
LDAC	\$0.1099	\$0.0699
CGA	\$0.4970	\$0.5176

Usage (Therms)	Summer 2019 Bill Amount	Summer 2020 Bill Amount	Total Bill		Base Rate		COG		LDAC		
5	\$28.28	\$28.19	(\$0.10)	-0.3%	\$0.00	0.0%	\$0.10	0.4%	(\$0.20)	-0.7%	
10	\$34.37	\$34.17	(\$0.19)	-0.6%	\$0.00	0.0%	\$0.21	0.6%	(\$0.40)	-1.2%	
20	\$46.54	\$46.15	(\$0.39)	-0.8%	\$0.00	0.0%	\$0.41	0.9%	(\$0.80)	-1.7%	
Monthly*	25	\$52.62	\$52.14	(\$0.48)	-0.9%	\$0.00	0.0%	\$0.52	1.0%	(\$1.00)	-1.9%
	30	\$58.70	\$58.12	(\$0.58)	-1.0%	\$0.00	0.0%	\$0.62	1.1%	(\$1.20)	-2.0%
	45	\$76.96	\$76.08	(\$0.87)	-1.1%	\$0.00	0.0%	\$0.93	1.2%	(\$1.80)	-2.3%
	50	\$83.04	\$82.07	(\$0.97)	-1.2%	\$0.00	0.0%	\$1.03	1.2%	(\$2.00)	-2.4%
	75	\$113.46	\$112.01	(\$1.46)	-1.3%	\$0.00	0.0%	\$1.55	1.4%	(\$3.00)	-2.6%
	125	\$174.30	\$171.88	(\$2.43)	-1.4%	\$0.00	0.0%	\$2.58	1.5%	(\$5.00)	-2.9%
	150	\$204.72	\$201.81	(\$2.91)	-1.4%	\$0.00	0.0%	\$3.09	1.5%	(\$6.00)	-2.9%
	200	\$265.56	\$261.68	(\$3.88)	-1.5%	\$0.00	0.0%	\$4.12	1.6%	(\$8.00)	-3.0%

* Monthly amount for benchmarking purposes, does not represent the average monthly use of Northern's residential class.

Northern Utilities, Inc.
Docket No. DG 21-131
DOE Data Requests – Tech Session Set 1

Date Request Received: 10/14/2021
Request No. Energy TS 1-2

Date of Response: 10/20/2021
Witness: Francis X. Wells

REQUEST:

Reference: Petition Bates page 182

Northern has identified a lost and unaccounted for gas value of 1.23% and a “company gas allowance” of 1.25% as a 48 month average. Please provide those figures on an annual basis for the past two years. Please identify the calendar period reports (State Fiscal Year, Calendar Year, something else?). Please summarize the steps the Company has taken to lower its percentages during the last two years.

RESPONSE:

TS 1-2 Attachment 1 provides the requested data. The calendar period used was May through April, which is consistent with its calculation of the Company Gas Allowance applied to gas received by the Company from retail marketers pursuant to the Delivery Service Terms and Conditions.

Lost and Unaccounted for gas (“LAUF”) is caused by a variety of reasons, including metering accuracy, timing differences between billing measurements at the city gate and individual customer meters, theft, pipe leaks and third party damage. The LAUF Gas for Northern New Hampshire is very low and well within the tolerances for meter accuracy and therefore we believe the vast majority of LAUF gas can be attributed to measurement accuracy and timing for billing purposes. However, the Company has implemented programs that do impact LAUF as follows:

1. Northern has completed the replacement of all leak prone infrastructure and therefore has minimal gas leakage on the system. In 2020 there were only seven leaks on our gas main infrastructure and fifty-three leaks on gas services. On average gas main leaks were repaired within twenty-four days of discovery and gas service leaks were repaired with nine days.
2. To ensure the accuracy of meter measurement the Company has implemented a meter accuracy and testing program as prescribed by NH PUC 505.03 and 505.04.
3. PHMSA requires LAUF reporting on the F 7100.1-1 Annual Report. The F7100.1-1 report is for the calendar year for all sections with the exception of LAUF. LAUF is calculated from July 1 of the preceding year through June 30 of the reporting

Northern Utilities, Inc.
Docket No. DG 21-131
DOE Data Requests – Tech Session Set 1

Date Request Received: 10/14/2021
Request No. Energy TS 1-2

Date of Response: 10/20/2021
Witness: Francis X. Wells

year. LAUF is purposely reported on this timeframe to minimize the impacts of timing of billing by measuring LAUF under base load conditions. Northern's LAUF for the PHMSA Annual Report in 2019 was 1.08% and in 2020 it was .98%. These results were well within meter accuracy.

Northern Utilities, Inc.
New Hampshire Division
Energy TS 1-2 Attachment 1
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Northern Utilities, Inc.
New Hampshire Division
Lost and Unaccounted For, Company Use and Therm Factor Data

Month	GSGT - NH City-Gates (MCF)	Therm Factor	Total - NH City-Gate (Dth)	Total System Billed Sales (Dth)	Company Use (Dth)	Lost and Unaccounted For (Dth)	Company Gas Allowance (Dth)
May-20	441,527	1.0303	454,923	565,494	141	(110,712)	(110,571)
Jun-20	344,089	1.0300	354,401	396,103	60	(41,762)	(41,702)
Jul-20	332,377	1.0285	341,836	347,265	64	(5,493)	(5,429)
Aug-20	341,582	1.0299	351,806	330,714	89	21,003	21,092
Sep-20	387,752	1.0284	398,768	386,921	118	11,729	11,847
Oct-20	569,808	1.0286	586,110	452,419	61	133,631	133,691
Nov-20	740,493	1.0331	765,011	649,932	98	114,981	115,079
Dec-20	1,058,690	1.0409	1,101,990	928,725	171	173,094	173,265
Jan-21	1,172,543	1.0407	1,220,219	1,116,107	263	103,849	104,112
Feb-21	1,086,893	1.0402	1,130,630	1,198,238	328	(67,936)	(67,608)
Mar-21	942,363	1.0334	973,866	1,164,215	327	(190,676)	(190,349)
Apr-21	652,284	1.0292	671,331	720,559	162	(49,390)	(49,228)
Total	8,070,401	1.0348	8,350,891	8,256,691	1,882	92,317	94,200
12-Month Average					0.02%	1.11%	1.13%

Northern Utilities, Inc.
New Hampshire Division
Energy TS 1-2 Attachment 1
Page 2 of 2

Northern Utilities, Inc.
New Hampshire Division
Lost and Unaccounted For, Company Use and Therm Factor Data

Month	GSGT - NH City-Gates (MCF)	Therm Factor	Total - NH City-Gate (Dth)	Total System Billed Sales (Dth)	Company Use (Dth)	Lost and Unaccounted For (Dth)	Company Gas Allowance (Dth)
May-19	545,305	1.0288	560,999	632,151	100	(71,252)	(71,152)
Jun-19	388,772	1.0290	400,027	430,401	58	(30,432)	(30,374)
Jul-19	365,810	1.0287	376,320	391,025	83	(14,788)	(14,705)
Aug-19	374,614	1.0280	385,103	380,773	140	4,190	4,330
Sep-19	394,298	1.0283	405,449	375,182	100	30,168	30,268
Oct-19	534,087	1.0295	549,837	485,413	89	64,335	64,424
Nov-19	930,426	1.0352	963,214	698,186	84	264,945	265,029
Dec-19	1,075,165	1.0460	1,124,591	1,016,439	240	107,912	108,152
Jan-20	1,077,141	1.0437	1,124,212	1,130,011	294	(6,093)	(5,799)
Feb-20	1,041,031	1.0434	1,086,254	1,133,789	289	(47,824)	(47,535)
Mar-20	839,434	1.0376	871,030	1,005,451	257	(134,678)	(134,421)
Apr-20	651,269	1.0343	673,594	707,067	180	(33,653)	(33,473)
Total	8,217,351	1.0369	8,520,630	8,385,888	1,914	132,828	134,742
48-Month Average					0.02%	1.56%	1.58%

Northern Utilities, Inc.
Docket No. DG 21-131
DOE Data Requests – Tech Session Set 1

Date Request Received: 10/14/2021
Request No. Energy TS 1-3

Date of Response: 10/20/2021
Witness: S. Elena Demeris

REQUEST:

Reference: Technical Session Discussion

Please confirm that Northern's proposal to implement decoupling "Year 1" during the period August 1, 2022 to July 31, 2023, and that for the contemplated COP period as issue in this docket, DG 21-131, at most three months of the Summer 2022 schedule will be part of Northern's decoupling framework. Please describe and identify (by Bates page and Attachment Title) any of the COG information reflect or include an assumption that Northern's decoupling proposal will be adopted by the Commission.

RESPONSE:

Northern's proposal to transition to decoupling has no impact on the COG rates. The decoupling proposal will impact future LDAC rates. As detailed in the Prefiled Testimony of Tim Lyons in Docket No. DG 21-104, Northern is proposing Year 1 of the decoupling period of August 1, 2022 to July 31, 2023 with the first Revenue Decoupling Adjustment Factor ("RDAF") to be included as part of the LDAC effective November 1, 2024.

The Lost Revenue Rate ("LRR") included as part of the LDAC proposed for effect November 1, 2021 has assumptions built into the rate that decoupling will begin on August 1, 2022. The assumptions results in no lost revenue being included in the LRR for the months of August 2022, September 2022 and October 2022. Northern's proposal to transition to decoupling as it affects the LRR's included in the instant filing is discussed in the Prefiled Testimony of S. Elena Demeris, Bates 96 and 97, Appendix 1 to that testimony, Bates 101-103 and is reflected in the calculation of the LRR's, Bates 307-313. Please refer to the table on Bates page 102, as shown the transition to decoupling occurs on August 1, 2022 when permanent rates take effect.

Northern Utilities, Inc.
Docket No. DG 21-131
DOE Data Requests – Tech Session Set 1

Date Request Received: 10/14/2021
Request No. Energy TS 1-4

Date of Response: 10/20/2021
Witness: Christopher Kahl & Francis Wells

REQUEST:

Reference: Petition Bates 32, 33, 36

In the referenced testimony, Northern states it has “reorganized its filing to more easily tie the schedules to testimony...[A]ttachments are not grouped with the attachments pertaining to the testimony of the witnesses... In adopting this format, the Company has not eliminated any of the schedules provided in previous filings.”

- a. Please provide a cross reference for the Attachments identified on Bates 32-33, showing the new attachment title and the corresponding schedule number and title for prior Northern COG filings, to facilitate comparison to prior Northern COG dockets and references to past schedules or attachments. Please include in this cross-referencing document the Bates page numbers for the Attachments identified on Bates 32-33, to facilitate locating them in the present lengthy filing.
- b. In future filing, for ease of reference, please consider including a comprehensive table of contents, including bates page numbers for referenced documents, at the front of the Petition or attached to the cover letter.
- c. Please provide updated petition pages, bates stamped “Number-R” for any (all) pages Northern changes or updated, or that should be changed or updated, following Northern’s filing on October 8, 2021 regarding the “conversion rate.” For example, please submit updated tariff page Fourth Revised Page 158 marked “19-R of 324.” Please update Fourth Revised Page 41 marked “21-R of 324,” etc. Please integrate the supplemental testimony of Mr. Wells, with Bates pages, subsequent to Bates 89 and before Bates 90. Please provide red-lined version of updated NUI-FXW 11, pp 1-11, and explain why the new attachments, NUI –FXW 20-22 were necessary What do the new tables illustrate?
- d. Please note that the cover page for Northern’s “confidential filing” (per file name) does not say “Confidential” in the upper right hand corner.
- e. Please note bates page 100 is followed by a series of pages hand-stamped “111, 112, 113. Please clarify. Is there a gap in the Bates page number? Something else?

RESPONSE:

- a. Please see Energy 1-4a Attachment 1. This attachment compares the current

Northern Utilities, Inc.
Docket No. DG 21-131
DOE Data Requests – Tech Session Set 1

Date Request Received: 10/14/2021
Request No. Energy TS 1-4

Date of Response: 10/20/2021
Witness: Christopher Kahl & Francis Wells

COG table of contents, including Bates Page numbers, to the ones submitted in 2019-20 and 2020-21.

- b. Northern will consider adding Bates Page numbers to the Table of Contents in future COG filings.
- c. For Tariff Page 158, please see Energy TS 1-4c Attachment 1. Tariff Page 41 was not revised and does not require a revised Bates Page number. Northern intends to offer the Supplemental Prefiled Testimony of Francis X. Wells as a separate Exhibit at the hearing. Energy TS 1-4c Attachment 2 provides the requested redline of pages 2 and 3 of Attachment NUI-FXW-11. There are no changes to the other pages of this Attachment from the initial filing. Attachment NUI-FXW-20 is explained beginning on line 8 of Bates Page 6 of the Supplemental Filing. Attachment NUI-FXW-21 is explained beginning on line 4 of Bates Page 7 of the Supplemental Filing.
- d. Northern will include the word “Confidential” in the upper right hand corner of the cover page in future COG filings.
- e. The stamped page numbers 111, 112 and 113 were included on pages initially used and numbered in Northern’s base rate case proceeding, Docket No. 2021-00104. These initial page numbers are larger and are in bold which overwrites the Bates Page numbers 101, 102 and 103 for the cost of gas. A version of these three pages with the page numbers from the rate case filing removed is provided in Energy TS 1-4e Attachment 1.

Northern Utilities, Inc.
New Hampshire Division
Energy TS 1-4a Attachment 1
Page 1 of 2

Comparison of 2021-22 to 2020-21 & 2019-20 Table of Content:

Attachment / Schedule Description	2021 - 2022 COG Filing	Page No.	2020-21 COG Filing	Page No.	2019 - 20 COG Filing	Page No.
Allocation of Demand Costs to ME & NH	Attachment NUI-CAK-1	104	Schedule 4-CAK	124	Schedule 4-CAK	87
NH Allocated Demand Costs	Attachment NUI-CAK-2	110	Schedule 5-CAK	130	Schedule 5-CAK	93
Support for Outage Replacement Costs	Attachment NUI-CAK-2A	115	Schedule 39-FXW	306	NA	NA
Forecast Firm Sales	Attachment NUI-CAK-3	117	Schedule 6-CAK	135	Schedule 6-CAK	98
Allocation of Demand Costs to Firm Sales	Attachment NUI-CAK-4	121	Schedule 7-CAK	139	Schedule 7-CAK	102
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VII. DELIVERY SERVICE TERMS AND CONDITIONS (continued)

Appendix D

**Re-entry Surcharge and Conversion Surcharge
(continued)**

D. Information to be Filed with the Commission:

As part of the annual Cost of Gas filing, the Company shall file with the Commission a report showing the number of customers assessed the Re-entry Surcharge and the Conversion Surcharge and the amount of revenue received for each charge through the prior April 30. Pursuant to the Company's Cost of Gas Clause, the Company will apply such revenues as credits to the Company's New Hampshire Division Cost of Gas.

The following Re-entry Surcharge and Conversion Surcharge shall be applicable for the periods of November 1, 2021 through April 30, 2022 and May 1, 2022 through October 2022.

Effective Dates:	November 1, 2021 – April 30, 2022	May 1, 2022 – October 30, 2022
Re-entry Surcharge:	\$0.000 per therm	\$0.0000 per therm
Conversion Surcharge, Low Load Factor (G-40, G-41, G-42):	\$0.7543 per therm	\$0.0000 per therm
Conversion Surcharge, High Load Factor (G-50, G-51, G-52):	\$0.8641 per therm	\$0.0000 per therm

Issued: October 8, 2021
Effective: November 1, 2021

Issued by: Robert. B Hevert
Title: Senior Vice President

Authorized by NHPUC Order No. in Docket No. DG 21- , dated .

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Northern Utilities, Inc.

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VII. DELIVERY SERVICE TERMS AND CONDITIONS (continued)

Appendix D

Re-entry Surcharge and Conversion Surcharge (continued)

D. Information to be Filed with the Commission:

As part of the annual Cost of Gas filing, the Company shall file with the Commission a report showing the number of customers assessed the Re-entry Surcharge and the Conversion Surcharge and the amount of revenue received for each charge through the prior April 30. Pursuant to the Company's Cost of Gas Clause, the Company will apply such revenues as credits to the Company's New Hampshire Division Cost of Gas.

The following Re-entry Surcharge and Conversion Surcharge shall be applicable for the periods of November 1, ~~2020-2021~~ through April 30, ~~2021-2022~~ and May 1, ~~2021-2022~~ through October ~~2021-2022~~.

Effective Dates:	November 1, 20201 – April 30, 20212	May 1, 20212 – October 30, 20212
Re-entry Surcharge:	\$0. 0012-0000 per therm	\$0. 0011-0000 per therm
Conversion Surcharge, Low Load Factor (G-40, G-41, G-42):	\$0. 0012-7543 per therm	\$0. 0011-0000 per therm
Conversion Surcharge, High Load Factor (G-50, G-51, G-52):	\$0. 0984-8641 per therm	\$0. 0011-0000 per therm

Issued: ~~September 17~~ October 8, ~~2020~~2021
Effective: November 1, ~~2020~~2021

Issued by: Robert B. Hevert
Title: Senior Vice President

Authorized by NHPUC Order No. in Docket No. DG ~~2021~~-, dated.

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Winter Period Re-Entry Surcharge Calculation
(Applicable to Capacity Assigned Customers Returning to Sales Service)

Line	Item	HLF (50, 51, 52)	LLF (40, 41, 42)	Weighted Average	Reference
1	Winter Demand Cost of Gas Rate	\$0.2543	\$0.3805	\$0.3379	Summary
2	Winter Commodity Cost of Gas Rate	\$0.5575	\$0.5411	\$0.5466	Summary
3	Winter Indirect Cost of Gas	\$0.0335	\$0.0335	\$0.0335	Summary, Removing any Prior Period Over-Collection or Supplier Refunds
4	Winter Cost of Gas Rate (Exclusive of Credits)	\$0.8453	\$0.9551	\$0.9180	Sum Lines 1 through 3
5	Winter Cost of Gas Rate for Incumbent Sales Customers	\$0.8453	\$0.9551	\$0.9180	Summary
6	Winter Re-Entry Surcharge	\$0.0000	\$0.0000	\$0.0000	Positive Difference between Line 4 and Line 5
7	Projected Sales (therms)	13,608,737	26,660,466	40,269,203	FXW-2 - Distribution Service Deliveries, excluding Special Contracts

Summer Period Re-Entry Surcharge & Conversion Surcharge Calculation
(Applicable to Capacity Assigned & Capacity Exempt Customers Returning to Sales Service)

Line	Item	HLF (50, 51, 52)	LLF (40, 41, 42)	Weighted Average	Reference
8	Summer Demand Cost of Gas Rate	\$0.1085	\$0.1789	\$0.1551	Summary
9	Summer Commodity Cost of Gas Rate	\$0.3515	\$0.3516	\$0.3516	Summary
10	Summer Indirect Cost of Gas	\$0.0141	\$0.0141	\$0.0141	Summary, Removing any Prior Period Over-Collection or Supplier Refunds
11	Summer Cost of Gas Rate (Exclusive of Credits)	\$0.4741	\$0.5446	\$0.5208	Sum Lines 8 through 10
12	Summer Cost of Gas Rate for Incumbent Sales Customers	\$0.4741	\$0.5446	\$0.5208	Summary
13	Summer Re-Entry Surcharge	\$0.0000	\$0.0000	\$0.0000	Positive Difference between Line 11 and Line 12
14	Projected Sales (therms)	11,439,284	6,075,647	17,514,931	FXW-2 - Distribution Service Deliveries, excluding Special Contracts

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Winter Period Conversion Surcharge Calculation
(Applicable to Capacity Exempt Customers Returning to Sales Service)

Line	Item	HLF (50, 51, 52)		LLF (40, 41, 42)		Reference
1	LLF Winter Demand Cost of Gas Rate		\$0.3805		\$0.3805	Summary
2	LLF Winter Commodity Cost of Gas Rate		\$0.5411		\$0.5411	Summary
3	LLF Winter Indirect Cost of Gas		\$0.0335		\$0.0335	Summary, Removing any Prior Period Over-Collection or Supplier Refunds
4	Floor Price (LLF Winter Cost of Gas Rate, Exclusive of Credits)		\$0.9551		\$0.9551	Sum Lines 1 through 3.
5	Total Incremental Cost	\$1.4368	<u>\$1.7094</u>	\$1.4368	<u>\$1.7094</u>	See Line 15 of Incremental Commodity Price Worksheet
6	Total Conversion Rate	\$1.4368	<u>\$1.7094</u>	\$1.4368	<u>\$1.7094</u>	Maximum of Line 4 and Line 5
7	Winter Gas Adjustment Factor for Incumbent Sales Customers	\$0.8453	<u>\$0.8453</u>	\$0.9551	<u>\$0.9551</u>	Summary
8	Conversion Surcharge	\$0.5915	<u>\$0.8641</u>	\$0.4817	<u>\$0.7543</u>	Positive Difference between Line 6 and Line 7

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Incremental Commodity Price Worksheet
10/6/2021 Settlement Prices

Line	Month	NYMEX		Projected PNGTS Delivered Basis		Projected FOM Index		Projected Non-Capacity Assigned Delivery Service Loads	Comments
1	Nov-21	\$ 5.305	\$ 5.675	\$ 3.352	\$ 4.254	\$ 8.657	\$ 9.929	227,140	
2	Dec-21	\$ 5.398	\$ 5.803	\$ 9.742	\$ 13.479	\$ 15.140	\$ 19.282	231,339	
3	Jan-22	\$ 5.465	\$ 5.888	\$ 14.867	\$ 17.574	\$ 20.332	\$ 23.462	256,763	
4	Feb-22	\$ 5.370	\$ 5.787	\$ 14.057	\$ 17.374	\$ 19.427	\$ 23.161	242,833	
5	Mar-22	\$ 5.013	\$ 5.437	\$ 5.159	\$ 7.479	\$ 10.172	\$ 12.916	255,609	
6	Apr-22	\$ 3.939	\$ 3.997	\$ 1.532	\$ 1.682	\$ 5.474	\$ 5.679	232,427	
7	Winter Period Weigthed Average Baseload Price (\$/Dth)						\$ 13.331	\$ 15.895	1,446,111 Average, Weighted by Loads, Lines 1 through 6
8	Load Shape Price Factor						\$ 1.046	\$ 1.046	See Load Shape Price Factor Worksheet
9	Winter Period Incremental Load Shape Price (\$/Dth)						\$ 13.944	\$ 16.626	Line 7 times Line 8
10	Granite Fuel						0.350%	0.350%	Granite Tariff
11	Granite Variable Transport (\$/Dth)						\$0.1954	\$0.1955	Granite Tariff (IT Daily Rate plus ACA)
12	Northern City-Gate Price (\$/Dth)						\$ 14.188	\$ 16.880	Line 9 times (1 plus Line 10) plus Line 11
13	New Hampshire Division City-Gate Sendout to Sales Ratio						1.0127	1.0127	See FXW-2
14	Northern Retail Meter Price (\$/Dth)						\$14.3689	\$ 17.094	Line 12 times Line 13
15	Northern Retail Meter Price (\$/therm)						\$1.4368	\$1.7094	Line 14 divided by 10

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Load Shape Price Factor Worksheet

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		Historic Delivery Service Loads			Delivery Service Loads Not Subject to Capacity Assignment			2020-2021 Cost Analysis	
Month	Date	Capacity Exempt	Capacity Assigned	Total	Capacity Exempt	Capacity Assigned	Total	AGT City-Gate Price	AGT City-Gate Cost
Nov-20	11/1/2020	5,214	5,687	10,901	5,214	-	5,214	\$ 3.540	\$ 18,458
Nov-20	11/2/2020	7,917	7,680	15,597	7,917	-	7,917	\$ 3.540	\$ 28,026
Nov-20	11/3/2020	8,861	7,600	16,461	8,861	-	8,861	\$ 3.870	\$ 34,292
Nov-20	11/4/2020	8,610	6,394	15,004	8,610	-	8,610	\$ 2.150	\$ 18,512
Nov-20	11/5/2020	7,067	3,727	10,794	7,067	-	7,067	\$ 0.840	\$ 5,936
Nov-20	11/6/2020	6,242	3,333	9,575	6,242	-	6,242	\$ 0.775	\$ 4,838
Nov-20	11/7/2020	5,621	3,529	9,150	5,621	-	5,621	\$ 0.375	\$ 2,108
Nov-20	11/8/2020	4,856	4,706	9,562	4,856	-	4,856	\$ 0.375	\$ 1,821
Nov-20	11/9/2020	7,024	5,256	12,280	7,024	-	7,024	\$ 0.375	\$ 2,634
Nov-20	11/10/2020	6,973	3,416	10,389	6,973	-	6,973	\$ 0.605	\$ 4,219
Nov-20	11/11/2020	6,542	3,277	9,819	6,542	-	6,542	\$ 1.045	\$ 6,836
Nov-20	11/12/2020	7,298	5,781	13,079	7,298	-	7,298	\$ 1.580	\$ 11,531
Nov-20	11/13/2020	7,241	6,614	13,855	7,241	-	7,241	\$ 2.155	\$ 15,604
Nov-20	11/14/2020	6,910	6,675	13,585	6,910	-	6,910	\$ 2.280	\$ 15,755
Nov-20	11/15/2020	5,002	5,543	10,545	5,002	-	5,002	\$ 2.280	\$ 11,405
Nov-20	11/16/2020	8,084	6,553	14,637	8,084	-	8,084	\$ 2.280	\$ 18,432
Nov-20	11/17/2020	8,481	7,686	16,167	8,481	-	8,481	\$ 4.210	\$ 35,705
Nov-20	11/18/2020	8,787	9,407	18,194	8,787	-	8,787	\$ 4.360	\$ 38,311
Nov-20	11/19/2020	7,805	6,860	14,665	7,805	-	7,805	\$ 2.225	\$ 17,366
Nov-20	11/20/2020	6,803	4,945	11,748	6,803	-	6,803	\$ 1.550	\$ 10,545
Nov-20	11/21/2020	6,874	5,906	12,780	6,874	-	6,874	\$ 1.985	\$ 13,645
Nov-20	11/22/2020	6,401	5,695	12,096	6,401	-	6,401	\$ 1.985	\$ 12,706
Nov-20	11/23/2020	7,890	7,243	15,133	7,890	-	7,890	\$ 1.985	\$ 15,662
Nov-20	11/24/2020	8,841	8,329	17,170	8,841	-	8,841	\$ 3.260	\$ 28,822
Nov-20	11/25/2020	6,628	7,063	13,691	6,628	-	6,628	\$ 1.945	\$ 12,891
Nov-20	11/26/2020	3,997	6,466	10,463	3,997	-	3,997	\$ 1.380	\$ 5,516
Nov-20	11/27/2020	3,744	5,664	9,408	3,744	-	3,744	\$ 1.380	\$ 5,167
Nov-20	11/28/2020	4,035	6,272	10,307	4,035	-	4,035	\$ 1.380	\$ 5,568
Nov-20	11/29/2020	5,149	6,821	11,970	5,149	-	5,149	\$ 1.380	\$ 7,106

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Load Shape Price Factor Worksheet

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		Historic Delivery Service Loads			Delivery Service Loads Not Subject to Capacity Assignment			2020-2021 Cost Analysis	
Month	Date	Capacity Exempt	Capacity Assigned	Total	Capacity Exempt	Capacity Assigned	Total	AGT City-Gate Price	AGT City-Gate Cost
Nov-20	11/30/2020	6,843	4,951	11,794	6,843	-	6,843	\$ 1.380	\$ 9,443
Dec-20	12/1/2020	7,332	6,331	13,663	7,332	-	7,332	\$ 2.370	\$ 17,377
Dec-20	12/2/2020	8,043	7,477	15,520	8,043	-	8,043	\$ 2.780	\$ 22,360
Dec-20	12/3/2020	7,734	6,707	14,441	7,734	-	7,734	\$ 2.405	\$ 18,600
Dec-20	12/4/2020	6,547	5,920	12,467	6,547	-	6,547	\$ 2.155	\$ 14,109
Dec-20	12/5/2020	7,116	7,800	14,916	7,116	-	7,116	\$ 3.055	\$ 21,739
Dec-20	12/6/2020	5,951	8,437	14,388	5,951	-	5,951	\$ 3.055	\$ 18,180
Dec-20	12/7/2020	8,066	8,911	16,977	8,066	-	8,066	\$ 3.055	\$ 24,642
Dec-20	12/8/2020	8,480	9,370	17,850	8,480	-	8,480	\$ 2.985	\$ 25,313
Dec-20	12/9/2020	8,370	8,109	16,479	8,370	-	8,370	\$ 2.645	\$ 22,139
Dec-20	12/10/2020	8,039	8,137	16,176	8,039	-	8,039	\$ 2.695	\$ 21,665
Dec-20	12/11/2020	7,233	7,275	14,508	7,233	-	7,233	\$ 2.225	\$ 16,093
Dec-20	12/12/2020	6,580	6,332	12,912	6,580	-	6,580	\$ 2.705	\$ 17,799
Dec-20	12/13/2020	5,067	6,691	11,758	5,067	-	5,067	\$ 2.705	\$ 13,706
Dec-20	12/14/2020	8,057	8,229	16,286	8,057	-	8,057	\$ 2.705	\$ 21,794
Dec-20	12/15/2020	9,613	10,146	19,759	9,613	-	9,613	\$ 5.825	\$ 55,996
Dec-20	12/16/2020	9,237	9,185	18,422	9,237	-	9,237	\$ 7.530	\$ 69,555
Dec-20	12/17/2020	8,644	8,794	17,438	8,644	-	8,644	\$ 9.445	\$ 81,643
Dec-20	12/18/2020	8,393	8,763	17,156	8,393	-	8,393	\$ 11.920	\$ 100,045
Dec-20	12/19/2020	7,408	7,746	15,154	7,408	-	7,408	\$ 7.200	\$ 53,338
Dec-20	12/20/2020	7,735	7,676	15,411	7,735	-	7,735	\$ 7.200	\$ 55,692
Dec-20	12/21/2020	7,338	7,396	14,734	7,338	-	7,338	\$ 7.200	\$ 52,834
Dec-20	12/22/2020	7,272	6,990	14,262	7,272	-	7,272	\$ 4.105	\$ 29,852
Dec-20	12/23/2020	6,822	7,119	13,941	6,822	-	6,822	\$ 3.320	\$ 22,649
Dec-20	12/24/2020	3,918	4,510	8,428	3,918	-	3,918	\$ 2.495	\$ 9,775
Dec-20	12/25/2020	4,013	5,032	9,045	4,013	-	4,013	\$ 4.475	\$ 17,958
Dec-20	12/26/2020	5,798	7,330	13,128	5,798	-	5,798	\$ 4.475	\$ 25,946
Dec-20	12/27/2020	7,065	6,960	14,025	7,065	-	7,065	\$ 4.475	\$ 31,616
Dec-20	12/28/2020	7,385	6,500	13,885	7,385	-	7,385	\$ 4.475	\$ 33,048

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		Historic Delivery Service Loads			Delivery Service Loads Not Subject to Capacity Assignment			2020-2021 Cost Analysis	
Month	Date	Capacity Exempt	Capacity Assigned	Total	Capacity Exempt	Capacity Assigned	Total	AGT City-Gate Price	AGT City-Gate Cost
Dec-20	12/29/2020	8,499	9,339	17,838	8,499	-	8,499	\$ 3.835	\$ 32,594
Dec-20	12/30/2020	6,752	7,317	14,069	6,752	-	6,752	\$ 3.265	\$ 22,045
Dec-20	12/31/2020	4,898	7,525	12,423	4,898	-	4,898	\$ 2.580	\$ 12,637
Jan-21	1/1/2021	4,433	7,143	11,576	4,433	-	4,433	\$ 2.410	\$ 10,684
Jan-21	1/2/2021	6,493	7,628	14,121	6,493	-	6,493	\$ 2.410	\$ 15,648
Jan-21	1/3/2021	6,968	7,850	14,818	6,968	-	6,968	\$ 2.410	\$ 16,793
Jan-21	1/4/2021	7,451	8,205	15,656	7,451	-	7,451	\$ 2.410	\$ 17,957
Jan-21	1/5/2021	7,833	8,386	16,219	7,833	-	7,833	\$ 3.295	\$ 25,810
Jan-21	1/6/2021	7,790	8,017	15,807	7,790	-	7,790	\$ 3.260	\$ 25,395
Jan-21	1/7/2021	7,892	8,367	16,259	7,892	-	7,892	\$ 2.990	\$ 23,597
Jan-21	1/8/2021	7,662	8,339	16,001	7,662	-	7,662	\$ 3.320	\$ 25,438
Jan-21	1/9/2021	6,854	7,555	14,409	6,854	-	6,854	\$ 3.860	\$ 26,456
Jan-21	1/10/2021	5,920	8,156	14,076	5,920	-	5,920	\$ 3.860	\$ 22,851
Jan-21	1/11/2021	8,023	8,429	16,452	8,023	-	8,023	\$ 3.860	\$ 30,969
Jan-21	1/12/2021	7,803	7,910	15,713	7,803	-	7,803	\$ 4.000	\$ 31,212
Jan-21	1/13/2021	7,521	7,689	15,210	7,521	-	7,521	\$ 4.385	\$ 32,980
Jan-21	1/14/2021	7,688	7,663	15,351	7,688	-	7,688	\$ 4.470	\$ 34,365
Jan-21	1/15/2021	7,307	6,839	14,146	7,307	-	7,307	\$ 3.020	\$ 22,067
Jan-21	1/16/2021	6,162	6,627	12,789	6,162	-	6,162	\$ 5.205	\$ 32,073
Jan-21	1/17/2021	4,892	6,958	11,850	4,892	-	4,892	\$ 5.205	\$ 25,463
Jan-21	1/18/2021	7,655	8,534	16,189	7,655	-	7,655	\$ 5.205	\$ 39,844
Jan-21	1/19/2021	8,011	8,381	16,392	8,011	-	8,011	\$ 5.205	\$ 41,697
Jan-21	1/20/2021	8,359	9,349	17,708	8,359	-	8,359	\$ 4.295	\$ 35,902
Jan-21	1/21/2021	8,075	8,874	16,949	8,075	-	8,075	\$ 3.040	\$ 24,548
Jan-21	1/22/2021	7,722	7,959	15,681	7,722	-	7,722	\$ 3.660	\$ 28,263
Jan-21	1/23/2021	7,985	10,489	18,474	7,985	-	7,985	\$ 5.475	\$ 43,718
Jan-21	1/24/2021	6,426	9,990	16,416	6,426	-	6,426	\$ 5.475	\$ 35,182
Jan-21	1/25/2021	8,865	9,599	18,464	8,865	-	8,865	\$ 5.475	\$ 48,536
Jan-21	1/26/2021	8,866	8,719	17,585	8,866	-	8,866	\$ 4.975	\$ 44,108

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Load Shape Price Factor Worksheet

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Month	Date	Historic Delivery Service Loads			Delivery Service Loads Not Subject to Capacity Assignment			2020-2021 Cost Analysis	
		Capacity Exempt	Capacity Assigned	Total	Capacity Exempt	Capacity Assigned	Total	AGT City-Gate Price	AGT City-Gate Cost
Jan-21	1/27/2021	8,151	8,214	16,365	8,151	-	8,151	\$ 4.770	\$ 38,880
Jan-21	1/28/2021	8,920	10,600	19,520	8,920	-	8,920	\$ 9.890	\$ 88,219
Jan-21	1/29/2021	9,125	11,601	20,726	9,125	-	9,125	\$ 11.595	\$ 105,804
Jan-21	1/30/2021	8,971	11,186	20,157	8,971	-	8,971	\$ 11.595	\$ 104,019
Jan-21	1/31/2021	7,100	10,356	17,456	7,100	-	7,100	\$ 11.595	\$ 82,325
Feb-21	2/1/2021	7,127	9,370	16,497	7,127	-	7,127	\$ 5.440	\$ 38,771
Feb-21	2/2/2021	7,175	8,657	15,832	7,175	-	7,175	\$ 8.110	\$ 58,189
Feb-21	2/3/2021	7,982	8,300	16,282	7,982	-	7,982	\$ 11.810	\$ 94,267
Feb-21	2/4/2021	8,149	8,909	17,058	8,149	-	8,149	\$ 10.835	\$ 88,294
Feb-21	2/5/2021	7,370	8,112	15,482	7,370	-	7,370	\$ 7.420	\$ 54,685
Feb-21	2/6/2021	7,437	8,283	15,720	7,437	-	7,437	\$ 11.465	\$ 85,265
Feb-21	2/7/2021	6,237	9,304	15,541	6,237	-	6,237	\$ 11.465	\$ 71,507
Feb-21	2/8/2021	8,807	10,463	19,270	8,807	-	8,807	\$ 11.465	\$ 100,972
Feb-21	2/9/2021	8,050	10,366	18,416	8,050	-	8,050	\$ 11.365	\$ 91,488
Feb-21	2/10/2021	8,615	10,055	18,670	8,615	-	8,615	\$ 10.465	\$ 90,156
Feb-21	2/11/2021	8,576	10,944	19,520	8,576	-	8,576	\$ 11.100	\$ 95,194
Feb-21	2/12/2021	7,683	10,167	17,850	7,683	-	7,683	\$ 12.310	\$ 94,578
Feb-21	2/13/2021	7,218	8,929	16,147	7,218	-	7,218	\$ 10.405	\$ 75,103
Feb-21	2/14/2021	5,802	8,571	14,373	5,802	-	5,802	\$ 10.405	\$ 60,370
Feb-21	2/15/2021	7,746	8,615	16,361	7,746	-	7,746	\$ 10.405	\$ 80,597
Feb-21	2/16/2021	8,502	8,976	17,478	8,502	-	8,502	\$ 10.405	\$ 88,463
Feb-21	2/17/2021	8,801	9,842	18,643	8,801	-	8,801	\$ 10.955	\$ 96,415
Feb-21	2/18/2021	8,591	9,328	17,919	8,591	-	8,591	\$ 10.600	\$ 91,065
Feb-21	2/19/2021	8,137	8,933	17,070	8,137	-	8,137	\$ 8.590	\$ 69,897
Feb-21	2/20/2021	7,695	9,051	16,746	7,695	-	7,695	\$ 6.725	\$ 51,749
Feb-21	2/21/2021	7,311	8,994	16,305	7,311	-	7,311	\$ 6.725	\$ 49,166
Feb-21	2/22/2021	7,646	8,259	15,905	7,646	-	7,646	\$ 6.725	\$ 51,419
Feb-21	2/23/2021	7,878	7,452	15,330	7,878	-	7,878	\$ 4.460	\$ 35,136
Feb-21	2/24/2021	6,880	6,751	13,631	6,880	-	6,880	\$ 3.180	\$ 21,878

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Load Shape Price Factor Worksheet

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Month	Date	Historic Delivery Service Loads			Delivery Service Loads Not Subject to Capacity Assignment			2020-2021 Cost Analysis	
		Capacity Exempt	Capacity Assigned	Total	Capacity Exempt	Capacity Assigned	Total	AGT City-Gate Price	AGT City-Gate Cost
Feb-21	2/25/2021	7,527	8,443	15,970	7,527	-	7,527	\$ 3.440	\$ 25,893
Feb-21	2/26/2021	7,524	7,810	15,334	7,524	-	7,524	\$ 2.655	\$ 19,976
Feb-21	2/27/2021	7,288	6,952	14,240	7,288	-	7,288	\$ 2.655	\$ 19,350
Feb-21	2/28/2021	6,104	6,711	12,815	6,104	-	6,104	\$ 2.655	\$ 16,206
Mar-21	3/1/2021	8,079	9,677	17,756	8,079	-	8,079	\$ 3.385	\$ 27,347
Mar-21	3/2/2021	8,796	10,247	19,043	8,796	-	8,796	\$ 6.470	\$ 56,910
Mar-21	3/3/2021	7,816	7,786	15,602	7,816	-	7,816	\$ 4.125	\$ 32,241
Mar-21	3/4/2021	8,360	9,744	18,104	8,360	-	8,360	\$ 8.235	\$ 68,845
Mar-21	3/5/2021	8,375	9,774	18,149	8,375	-	8,375	\$ 7.100	\$ 59,463
Mar-21	3/6/2021	7,996	8,849	16,845	7,996	-	7,996	\$ 5.355	\$ 42,819
Mar-21	3/7/2021	6,194	8,556	14,750	6,194	-	6,194	\$ 5.355	\$ 33,169
Mar-21	3/8/2021	8,003	8,062	16,065	8,003	-	8,003	\$ 5.355	\$ 42,856
Mar-21	3/9/2021	7,960	7,104	15,064	7,960	-	7,960	\$ 2.845	\$ 22,646
Mar-21	3/10/2021	7,491	6,984	14,475	7,491	-	7,491	\$ 2.740	\$ 20,525
Mar-21	3/11/2021	6,480	4,286	10,766	6,480	-	6,480	\$ 2.370	\$ 15,358
Mar-21	3/12/2021	6,533	5,868	12,401	6,533	-	6,533	\$ 2.310	\$ 15,091
Mar-21	3/13/2021	6,799	6,843	13,642	6,799	-	6,799	\$ 4.115	\$ 27,978
Mar-21	3/14/2021	7,184	9,346	16,530	7,184	-	7,184	\$ 4.115	\$ 29,562
Mar-21	3/15/2021	9,579	10,470	20,049	9,579	-	9,579	\$ 4.115	\$ 39,418
Mar-21	3/16/2021	8,684	8,172	16,856	8,684	-	8,684	\$ 4.515	\$ 39,208
Mar-21	3/17/2021	7,487	6,764	14,251	7,487	-	7,487	\$ 2.675	\$ 20,028
Mar-21	3/18/2021	7,432	7,003	14,435	7,432	-	7,432	\$ 2.760	\$ 20,512
Mar-21	3/19/2021	7,727	7,428	15,155	7,727	-	7,727	\$ 3.450	\$ 26,658
Mar-21	3/20/2021	7,107	5,773	12,880	7,107	-	7,107	\$ 2.205	\$ 15,671
Mar-21	3/21/2021	6,247	5,921	12,168	6,247	-	6,247	\$ 2.205	\$ 13,775
Mar-21	3/22/2021	7,056	6,419	13,475	7,056	-	7,056	\$ 2.205	\$ 15,558
Mar-21	3/23/2021	7,138	5,720	12,858	7,138	-	7,138	\$ 2.090	\$ 14,918
Mar-21	3/24/2021	6,554	5,333	11,887	6,554	-	6,554	\$ 2.140	\$ 14,026
Mar-21	3/25/2021	6,493	4,764	11,257	6,493	-	6,493	\$ 1.930	\$ 12,531

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Load Shape Price Factor Worksheet

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		Historic Delivery Service Loads			Delivery Service Loads Not Subject to Capacity Assignment			2020-2021 Cost Analysis	
Month	Date	Capacity Exempt	Capacity Assigned	Total	Capacity Exempt	Capacity Assigned	Total	AGT City-Gate Price	AGT City-Gate Cost
Mar-21	3/26/2021	6,198	3,976	10,174	6,198	-	6,198	\$ 1.835	\$ 11,373
Mar-21	3/27/2021	6,841	5,323	12,164	6,841	-	6,841	\$ 1.835	\$ 12,553
Mar-21	3/28/2021	5,780	5,948	11,728	5,780	-	5,780	\$ 1.835	\$ 10,606
Mar-21	3/29/2021	8,314	6,789	15,103	8,314	-	8,314	\$ 1.835	\$ 15,256
Mar-21	3/30/2021	7,551	5,889	13,440	7,551	-	7,551	\$ 1.940	\$ 14,649
Mar-21	3/31/2021	6,621	4,326	10,947	6,621	-	6,621	\$ 1.915	\$ 12,679
Apr-21	4/1/2021	7,906	7,027	14,933	7,906	-	7,906	\$ 2.535	\$ 20,042
Apr-21	4/2/2021	7,608	7,070	14,678	7,608	-	7,608	\$ 2.255	\$ 17,156
Apr-21	4/3/2021	6,982	6,066	13,048	6,982	-	6,982	\$ 2.255	\$ 15,744
Apr-21	4/4/2021	6,600	4,836	11,436	6,600	-	6,600	\$ 2.255	\$ 14,883
Apr-21	4/5/2021	7,170	6,015	13,185	7,170	-	7,170	\$ 2.255	\$ 16,168
Apr-21	4/6/2021	7,074	5,130	12,204	7,074	-	7,074	\$ 1.930	\$ 13,653
Apr-21	4/7/2021	6,780	4,551	11,331	6,780	-	6,780	\$ 2.000	\$ 13,560
Apr-21	4/8/2021	6,921	5,239	12,160	6,921	-	6,921	\$ 1.920	\$ 13,288
Apr-21	4/9/2021	6,754	4,501	11,255	6,754	-	6,754	\$ 1.795	\$ 12,123
Apr-21	4/10/2021	5,806	3,678	9,484	5,806	-	5,806	\$ 1.775	\$ 10,306
Apr-21	4/11/2021	7,038	5,408	12,446	7,038	-	7,038	\$ 1.775	\$ 12,492
Apr-21	4/12/2021	7,731	5,835	13,566	7,731	-	7,731	\$ 1.775	\$ 13,723
Apr-21	4/13/2021	7,458	4,824	12,282	7,458	-	7,458	\$ 1.940	\$ 14,469
Apr-21	4/14/2021	7,358	5,139	12,497	7,358	-	7,358	\$ 2.065	\$ 15,194
Apr-21	4/15/2021	7,168	5,815	12,983	7,168	-	7,168	\$ 2.355	\$ 16,881
Apr-21	4/16/2021	7,696	6,650	14,346	7,696	-	7,696	\$ 3.170	\$ 24,396
Apr-21	4/17/2021	6,818	5,338	12,156	6,818	-	6,818	\$ 2.865	\$ 19,534
Apr-21	4/18/2021	6,832	5,282	12,114	6,832	-	6,832	\$ 2.865	\$ 19,574
Apr-21	4/19/2021	7,530	4,850	12,380	7,530	-	7,530	\$ 2.865	\$ 21,573
Apr-21	4/20/2021	7,775	4,321	12,096	7,775	-	7,775	\$ 2.445	\$ 19,010
Apr-21	4/21/2021	7,506	6,009	13,515	7,506	-	7,506	\$ 2.605	\$ 19,553
Apr-21	4/22/2021	8,365	6,834	15,199	8,365	-	8,365	\$ 3.135	\$ 26,224
Apr-21	4/23/2021	6,142	4,519	10,661	6,142	-	6,142	\$ 2.465	\$ 15,140

Northern Utilities, Inc.
Maine Division
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Load Shape Price Factor Worksheet

		Historic Delivery Service Loads			Delivery Service Loads Not Subject to Capacity Assignment			2020-2021 Cost Analysis	
Month	Date	Capacity Exempt	Capacity Assigned	Total	Capacity Exempt	Capacity Assigned	Total	AGT City-Gate Price	AGT City-Gate Cost
Apr-21	4/24/2021	3,760	3,191	6,951	3,760	-	3,760	\$ 2.160	\$ 8,122
Apr-21	4/25/2021	5,260	5,107	10,367	5,260	-	5,260	\$ 2.160	\$ 11,362
Apr-21	4/26/2021	8,383	6,029	14,412	8,383	-	8,383	\$ 2.160	\$ 18,107
Apr-21	4/27/2021	7,309	4,561	11,870	7,309	-	7,309	\$ 2.600	\$ 19,003
Apr-21	4/28/2021	6,835	5,023	11,858	6,835	-	6,835	\$ 2.525	\$ 17,258
Apr-21	4/29/2021	6,866	5,165	12,031	6,866	-	6,866	\$ 2.465	\$ 16,925
Apr-21	4/30/2021	6,859	4,898	11,757	6,859	-	6,859	\$ 2.400	\$ 16,462
Winter Period		1,311,091	1,303,347	2,614,438	1,311,091	-	1,311,091	\$ 4.343	\$ 5,694,604
Weighted Average Daily Price								\$ 4.343	
Straight Average Daily Price								\$ 4.154	
Load Shape Price Factor								1.046	

Northern Utilities, Inc.
Maine Division
Energy TS 1-4c Attachment 2

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Month	Projected Delivery Service Loads			Delivery Service Loads Not Subject to Capacity Assignment		
	Capacity Exempt	Capacity Assigned	Total	Capacity Exempt	Capacity Assigned	Total
Nov-21	227,140	211,485	438,625	227,140	-	227,140
Dec-21	231,339	241,104	472,443	231,339	-	231,339
Jan-22	256,763	273,557	530,320	256,763	-	256,763
Feb-22	242,833	251,374	494,207	242,833	-	242,833
Mar-22	255,609	250,793	506,402	255,609	-	255,609
Apr-22	232,427	202,864	435,291	232,427	-	232,427
Winter	1,446,111	1,431,177	2,877,288	1,446,111	-	1,446,111

1 in the area to further support the economics of the expansion. Furthermore, the
2 pipelines installed in Epping have sufficient capacity to serve other communities
3 should the Company continue to expand its distribution network.

4 **VII. TRANSITION TO DECOUPLING**

5 **Q. How will the Company transition from Lost Base Revenue Recovery as part**
6 **of the Lost Revenue Rate (“LRR”) to Decoupling?**

7 A. At the start of the proposed decoupling period of August 1, 2022, the Company
8 will stop accruing Lost Base Revenue (“LBR”) associated with Energy Efficiency
9 savings. Up until that time, the Company will continue to collect and accrue LBR
10 associated with the 2020 energy efficiency savings, the 2021 energy efficiency
11 savings and the 2022 energy efficiency savings through July 31, 2022, assuming a
12 start date of decoupling of August 1, 2022. Table 3 below outlines how the
13 transition will work based on the proposed temporary rates, permanent rates and
14 decoupling start period of August 1, 2022 timeline. The Company is not
15 proposing any change to the LRR at this time and instead will make all required
16 changes, including reconciliations in subsequent LRR filings as appropriate.

17 **Table 3: Transition from LBR to Decoupling**

Energy TS 1-4e Attachment 1
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October 1, 2021 (Temporary Rates Effective)	
Stop accruing lost revenue associated with the 2017 savings	
Stop accruing lost revenue associated with the 2018 savings	
Stop accruing lost revenue associated with the 2019 savings	
Continue accruing lost revenue associated with the 2020 savings*	
Continue accruing lost revenue associated with the 2021 savings	
January 1, 2022 to August 1, 2022	
Continue accruing lost revenue associated with the 2020 savings*	
Continue accruing lost revenue associated with the 2021 savings	
Continue accruing lost revenue associated with the 2022 savings	
August 1, 2022 (Permanent Rates Effective - Begin Decoupling)	
Stop accruing lost revenue associated with the 2020 savings*	
Stop accruing lost revenue associated with the 2021 savings	
Stop accruing lost revenue associated with the 2022 savings	
*Taking into account timing of the month of installtion for the 2020 measures	

1

2 **Q. Why will the Company continue to accrue lost revenue associated with the**
3 **2020 measures if 2020 was the test year?**

4 A. The Company needs to continue to recover lost revenue associated with the
5 savings reduction not reflected in the 2020 test year. For example, for a measure
6 that was installed in December 2020 that is estimated to save 120 therms
7 annually, the impact on the 2020 test year sales would only reflect a reduction of
8 10 therms kWh (120 / 12 months * 1 month). The remaining 110 therms of
9 savings would be realized in 2021, so it is necessary to continue to recover lost
10 revenue associated with the 2020 savings, taking into account the month that
11 savings were realized in 2020. Table 4 below shows an illustrative example of
12 how the calculation would work based on the 145,178 therms of actual annual
13 2020 savings installed in 2020. The 2020 test year would reflect a reduction in

sales of 65,169 therms with the remaining reduction of 80,008 therms of savings reduction occurring in 2021.

Table 4: Illustrative 2020 Savings Annualization

Northern Utilities, Inc.														
2020 Residential Installed Therm Savings														
Savings Annualization														
Line	Description	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	2020 Annual Savings
1	Monthly Residential Therm Savings*	-	16,204	15,242	7,355	918	4,876	3,827	30,944	14,644	24,534	7,203	19,430	145,176
2														
3	Monthly Residential Therms Savings													
4	January 2020	-	-	-	-	-	-	-	-	-	-	-	-	-
5	February 2020		1,350	1,350	1,350	1,350	1,350	1,350	1,350	1,350	1,350	1,350	1,350	14,853
6	March 2020			1,270	1,270	1,270	1,270	1,270	1,270	1,270	1,270	1,270	1,270	12,702
7	April 2020				613	613	613	613	613	613	613	613	613	5,516
8	May 2020					76	76	76	76	76	76	76	76	612
9	June 2020						406	406	406	406	406	406	406	2,844
10	July 2020							319	319	319	319	319	319	1,913
11	August 2020								2,579	2,579	2,579	2,579	2,579	12,893
12	September 2020									1,220	1,220	1,220	1,220	4,881
13	October 2020										2,044	2,044	2,044	6,133
14	November 2020											600	600	1,201
15	December 2020												1,619	1,619
16	Total 2020 Therm Savings Realized in 2020	-	1,350	2,621	3,233	3,310	3,716	4,035	6,614	7,834	9,879	10,479	12,098	65,169
17														
18	2020 Residential Therm Savings Realized in 2021	-	1,350	2,540	1,839	306	2,031	1,913	18,051	9,762	18,400	6,003	17,811	80,008

*Per DE 17-136 Northern Utilities, Inc 2020 Energy Efficiency Revised Annual Report filed on June 29, 2021 Page 1 of 18(Revised)

VIII. PROPOSED TARIFF CHANGES

Q. Please summarize the proposed tariff changes presented in the Company's filing.

A. The Company's proposed tariff changes reflect: (1) the proposed rates, as presented in the prefiled testimony of Ron Amen and John Taylor; (2) the proposed Revenue Decoupling Adjustment Clause as presented in the prefiled testimony of Timothy Lyons; (3) proposed changes to the Company's proposed RCAM tariff, which is a component of the LDAC; (4) proposed Temporary Rate surcharge; and (5) changes to the Company's delivery service terms and conditions as supported by Mark Lambert.

Northern Utilities, Inc.
Docket No. DG 21-131
DOE Data Requests – Tech Session Set 1

Date Request Received: 10/14/2021
Request No. Energy TS 1-5

Date of Response: 10/20/2021
Witness: Francis X. Wells

REQUEST:

Reference: Petition Bates 49-50 pipeline outages and CNG/LNG supply

With regard to the pipeline outages referenced in Testimony at Bates 49-50, please:

- a. Explain whether Northern issued RFPs for CNG or LNG to address the first pipeline outage. If so, please identify companies that responded to the RFP, and provide a copy of the winning RFP and contract. What criteria did Northern use to select the winning bid? How much of the costs were related to equipment (e.g. Skid) or site preparation and how much to incremental supply costs, if any? Why were \$18,105 of expenses not included in the 2020-2021 COG? What services, charges, equipment or supply costs did the \$18,105 cover? How much of the charge was allocated to the State of New Hampshire? Why?
- b. Please explain whether Northern issued RFPs for CNG or LNG to address the second pipeline outage. If so, please identify the companies that responded to the RFP and provide a copy of the winning RFP and contract. If not, please explain why not, and provide a copy of the contract Northern entered into to obtain CNG supplies and equipment to address the second pipeline outage. Please explain why Northern chose to contract with the supplier it did.
- c. Please explain whether the Atlantic Bay Compressor was working during the first and second pipeline outages. Why was that source insufficient to provide needed gas. If it had been consistently in operation after its first operation date, would Northern have needed to obtain supplemental CNG or LNG?
- d. For each pipeline outage, did the hired Contractor or Northern i) own the skid; ii) inject the gas into a pipeline; rent decompression equipment?

RESPONSE:

- a. The 2020 PNGTS outage due to PXP expansion construction isolated the Granite Eliot station from all upstream pipeline supply. As such, an RFP was issued for temporary CNG supply for the 2020 outage on the PNGTS system due to the PXP expansion construction. Energy TS 1-5 Attachment A is a copy of the RFP issued. CONFIDENTIAL Energy TS 1-5 Attachment B is a copy of the Company's analysis of bids received. CONFIDENTIAL Energy TS 1-5 Attachment C is a copy of the resulting contract.

Northern Utilities, Inc.
Docket No. DG 21-131
DOE Data Requests – Tech Session Set 1

Date Request Received: 10/14/2021
Request No. Energy TS 1-5

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Witness: Francis X. Wells

The \$18,105 of additional expenses were not included in the 2020-2021 COG due to delays in receiving and processing the invoices from the vendors. An explanation of these costs by vendor is provided below.

- Collin Pipe: When the CNG operation was taken out of service, the lateral was disconnected from the pressure regulation device and the open end from the cut-off needed to be capped. The Collin's Pipe cost reflects those pipe components that were required in order to appropriately cap-off the open end of the lateral line.
- Chasco: The Chasco cost covers the temporary security fencing that was required to be installed around the CNG tankers and pressure regulation device during the duration of the operation.
- JDH Inspection: Both the pressure regulation device and the lateral piping included welding as part of their respective fabrications. All welds that are subjected to high gas pressure must be x-rayed to ensure the quality of the weld meets API & Federal standards for over-all integrity. JDH Inspection is one of two firms contracted by Unitol to x-ray welds on steel piping and provide reports confirming that the welds meet prescribed standards allowing Unitol to be in compliance PHMSA QA/QC requirements for weld integrity. The cost noted covers weld inspections services as well as the supporting documentation provided by JDH Inspection on welds that were part of both the pressure regulation device as well as the lateral piping that supplied the high pressure main.
- NUECO: NUECO is the company's contractor that was hired to fabricate and install the lateral that supplied the high pressure main from the temporary CNG skid. Once the project was completed, NEUCO was responsible for cutting and capping the lateral main and then reclaiming the site where the lateral main was installed, including providing loam and seeding and re-grading of the area so that it appeared as it did before the CNG operation was put into service. This cost would reflect the crew time associated with cutting and capping the main and completing all of the required site reclamation work-which is approximately 1 ½ days.

As shown on Attachment NUI-CAK-2A, bates page 115, of the total cost of \$18,105, \$7,575 was allocated to the New Hampshire division. This allocation (41.84%) was based on the PR allocator in effect during the time of the outage.

- b. The 2021 PNGTS outage due to the WXP Project construction, which isolated supply from north of the interconnection between PNGTS and Maritimes at Westbrook from all GSGT receipt meters (Westbrook, Eliot and Newington). Unlike in the 2020 outage, discussed in response to part A of this request, supply

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to the affected meters could be supplied with flowing gas. Available supply sources were the Atlantic Bridge capacity and the XNG CNG decompression facility, which are both south of the PNGTS-Maritimes interconnection affected by the outage. As an Atlantic Bridge shipper, Northern had sufficient capacity such that this could have been its sole source of supply during the 2021 outage. However, the operational history of the Weymouth Compressor Station (which was needed to move gas from south to north on the Maritimes system) was very inconsistent, with force majeure outages affecting availability of supply since the facility was placed into service in late September 2020. To protect against the risk that an outage of the Weymouth Compressor Station might occur during the 2021 PNGTS outage, the Company elected to purchase additional supply from XNG. As stated at the Technical Session, the Company did not issue an RFP for CNG or LNG as a result of the 2021 PNGTS outage due to WXP Project construction, as XNG was the only party that would be able to deliver supply onto PNGTS or Maritimes during the PNGTS outage, which was capable of reaching the GSGT Westbrook, Newington and Eliot meters without relying on the Weymouth Compressor Station. The Company considered another temporary CNG supply, similar to that utilized during the 2020 outage, but knew from the bids received the prior summer (provided in CONFIDENTIAL Energy TS 1-5 B) and the level of internal Engineering and Operations staff time required to safely and reliably install temporary CNG that the offer from XNG was more cost effective. CONFIDENTIAL Energy TS 1-5 Attachment D is a copy of the requested supply contract. Because the XNG facility is a permanent CNG facility, interconnected to the PNGTS and Maritimes pipelines, no incremental facilities were installed as a result of the 2021 outage.

- c. The Weymouth Compressor Station was not placed into service until September 2020, after the 2020 PNGTS outage related to PXP Project construction. As that project required the complete isolation of the GSGT Eliot station, temporary CNG would have been required regardless of the availability of Atlantic Bridge. As discussed in response to part B of this request, the frequent and long duration of outages following the placement of Weymouth Compressor Station into service informed the Company's decision to secure additional supply during the 2021 PNGTS outage. Had the Weymouth Compressor Station had a more reliable operational history, it is likely that the Company would not have decided to purchase XNG supply.
- d. During the 2020 PNGTS outage, the Company contracted for a temporary CNG supply, which was able to replace the flows that it would have normally received through the GSGT Eliot meter station. The vendor the Company contracted with owned the equipment it used to provide this service. Following the event, the equipment was removed from the system. CNG was trucked by the vendor to the temporary facility and injected into the system.

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During the 2021 PNGTS outage, the Company contracted for supply, which was sourced by a permanent CNG decompression facility, located in Eliot, Maine and owned by the vendor. Gas was trucked by the vendor to this facility, decompressed and injected into the PNGTS pipeline. Northern then utilized its PNGTS capacity to deliver this supply to its system.