

New Hampshire Monthly Cost of Gas Report

Summer Period

April 2020 Summary

The objective of the Summer Period Monthly Cost of Gas (“COG”) analysis is to determine if COG rates need to be adjusted in order to minimize the October 31, 2020 expected end of year balance. This is done by determining if the October 31, 2020 Summer Period balance exceeds the threshold for a rate change and, if exceeded, the rate change would lower the expected end of year balance.

The April 2020 analysis and summary updates estimated costs in order to reflect the updated November 1, 2019 beginning balance as well as projected NYMEX prices over the Summer Period. NYMEX prices were updated to reflect closing prices on April 23, 2020 and are reflected in the revised projected direct gas costs shown on Line 19 of Table 1. The change in NYMEX prices also impacts the working capital component of projected indirect gas costs as shown on Line 20. Revised projected indirect costs also reflect the impact of the updated November 1, 2019 balance on interest charges.

As shown Line 23 of Table 1, the projected end of Summer Period balance is an over-collection of (\$341,893). This balance is above the 4% Summer Period over-collection threshold of (\$224,910) (Line 35) for requiring a change in COG rates. In addition, the Winter Period balance is also an over-collection. Therefore, a Summer Period COG rate change is required in order to reduce the end of year balance.

Support for the projected end of Summer Period and end of year balances is provided in Table 2.

NORTHERN UTILITIES, INC.
NEW HAMPSHIRE DIVISION
Calculation of the Projected Over or Under Collection of the
2019-2020 Summer Period Cost of Gas
DG 19-154
April 2020 Estimated

1	April 30, 2020 Target Balance	\$ (3,553,724)	February Monthly COG Update, Table 3
2			
3	Forecasted firm therm sales 05/01/20-10/31/20		
4	Residential Heat & Non Heat	3,473,678	Table 2, PG. 2, Line 2
5	HLF Classes	2,702,383	Table 2, PG. 2, Line 3
6	LLF Classes	2,532,740	Table 2, PG. 2, Line 4
7			
8	Current recovery rate per therm		
9	Residential heat & non heat	\$0.2768	Table 2, PG. 1, Line 7
10	HLF classes	\$0.2443	Table 2, PG. 1, Line 8
11	LLF classes	\$0.3116	Table 2, PG. 1, Line 9
12			
13	Total	\$ (2,410,908)	(LN 4 * Ln 9) + (LN 5 * LN 10) + (LN 6 * LN 11)
14			
15	Forecasted recovered costs at current rates 05/01/20 - 10/31/20	\$ (2,410,908)	LN 13
16	Actual recovered costs	\$ -	
17	Estimated total recovered costs 05/01/20 - 10/31/20	\$ (2,410,908)	LN 15 + LN 16
18			
19	Revised projected direct gas costs [1]	\$ 5,416,541	Table 2, PG. 2, Line 62
20	Revised projected indirect gas costs [2]	\$ 206,198	Table 2, PG. 4, Line 94
21	Revised total projected gas costs 05/01/2020 - 10/31/2020	\$ 5,622,739	LN 19 + LN 20
22			
23	Projected October 31, 2020 Summer Season Balance	\$ (341,893)	LN 1 + LN 17 + LN 21
24			
25	Projected Winter Season Variance	\$ (417,672)	Table 2, Page 3, LN 104
26			
27	Projected End of Year Balance	\$ (759,565)	Table 2, Page 2, LN 92
28			
29			
30			
31	Projected Summer Season Imbalance Type	Over-collection	
32			
33	Projected Summer Balance Projection	-6.08%	LN 23 / LN 21
34			
35	Summer Season Over-collection Threshold (4% over Summer Costs)	\$ (224,910)	LN 23 * 4%
36			
37	Summer Season Under-collection Threshold (4% over Year End Balance)	\$ 642,582	(ABS) LN 25 + (ABS) LN 35
38			
39	Over-collection Rate Adjustment Required	Yes	IF (ABS) LN 23 > (ABS) LN 35 Yes, ELSE No
40			
41	Under-collection Rate Adjustment Required	No	IF ABS (LN 23) > ABS (LN 37) Yes, ELSE No

NOTES

[1] Reflects futures prices as of April 22, 2020

[2] Includes: Working Capital Allowance, Bad Debt Allowance, Production and Storage Capacity, Miscellaneous Overhead and Interest

**Northern Utilities
 NEW HAMPSHIRE (Over) / Undercollection Anal**

Sales Revenues				
Volumes	Winter	Summer	Prior Period	Total
Residential Heat & Non Heat				5,057,296
Sales HLF Classes				3,057,538
Sales LLF Classes				3,997,818
Total		8,708,801		12,112,651
Rates				
Residential Heat & Non Heat CGA				
Sales HLF Classes CGA				
Sales LLF Classes CGA				
Revenues				
Residential Heat & Non Heat				\$ (1,852,457)
Sales HLF Classes				\$ (827,648)
Sales LLF Classes				\$ (1,645,833)
Total Sales	\$ (18,525,313)	\$ (2,410,908)		\$ (20,936,221)
Gas Costs and Credits				
Demand Costs (net of Capacity Assignment)				Total
Pipeline	\$ 147,686	\$ 886,115		\$ 1,033,800
Storage	\$ 601,905	\$ 3,611,429		\$ 4,213,334
On-system Peaking	\$ 91,532	\$ 186,940		\$ 258,472
Off-System Peaking	\$ 324,734	\$ 1,948,405		\$ 2,273,139
Total Demand Costs	\$ 1,165,857	\$ 6,612,888		\$ 7,778,745
Asset Management and Capacity Release				
NUI AMA Revenue				\$ (8,435,350)
NUI Capacity Release				\$ -
NUI AMA Rev & Cap. Release Subtotal				\$ -
NH AMA Revenue				\$ (3,533,733)
NH Capacity Release				\$ -
NH Total Asset Management and Capacity Release		\$ -	\$ -	\$ (3,533,733)
Re-entry Rate & Conversion Rate Revenue	\$ (10,000)	\$ -		\$ (10,000)
Net Demand Costs	\$ 4,427,021	\$ 3,583,973		\$ 8,010,994
NUI Commodity Costs				
NUI Total Pipeline Volumes				3,439,847
Pipeline Costs Modeled in Sendout™				\$ 7,508,205
NYMEX Price Used for Forecast				
NYMEX Price Used for Update				
Increase/(Decrease) NYMEX Price				
Increase/(Decrease) in Pipeline Costs				
Updated Pipeline Costs				
New Hampshire Allocated Percentage				
NH Updated Pipeline Costs				\$ 2,353,669
NH Peaking Volumes				
NH Peaking Costs Modeled in Sendout				
Change in NYMEX Price				
Change in Peaking Costs				
NH Updated Peaking Costs				\$ 4,049
NH Commodity Costs				
Pipeline				\$ 2,353,669
Storage				\$ 333
Peaking				\$ 19,605
Total Commodity Costs	\$ 11,927,695	\$ 1,832,567		\$ 13,760,262
Inventory Finance Charge				\$ 219
Total Anticipated Direct Cost of Gas	\$ 16,354,934	\$ 5,416,541		\$ 21,771,475

Northern Utilities
NEW HAMPSHIRE (Over) / Undercollection Analysis, Balances and Interest Calculation

	Winter							Summer					
	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	(Forecast) Apr-20	(Forecast) May-20	(Forecast) Jun-20	(Forecast) Jul-20	(Forecast) Aug-20	(Forecast) Sep-20	(Forecast) Oct-20
Working Capital													
Total Anticipated Direct Cost of Gas		\$ 2,321,971	\$ 4,459,112	\$ 3,862,497	\$ 3,016,554	\$ 2,280,546	\$ 1,357,905	\$ 954,392	\$ 860,301	\$ 838,872	\$ 850,341	\$ 863,114	\$ 1,162,431
Working Capital Percentage		0.1441%	0.14%	0.13%	0.13%	0.13%	0.13%	0.13%	0.13%	0.13%	0.13%	0.13%	0.13%
Working Capital Allowance		\$ 3,346	\$ 6,426	\$ 5,037	\$ 3,934	\$ 2,974	\$ 1,771	\$ 1,245	\$ 1,122	\$ 1,094	\$ 1,109	\$ 1,126	\$ 1,516
Beginning Period Working Capital Balance		\$ (47,165)	\$ (44,018)	\$ (37,771)	\$ (32,874)	\$ (29,063)	\$ (26,198)	\$ (24,528)	\$ (23,378)	\$ (22,346)	\$ (21,339)	\$ (20,312)	\$ (19,265)
End of Period Working Capital Allowance		\$ (43,819)	\$ (37,593)	\$ (32,735)	\$ (28,941)	\$ (26,089)	\$ (24,428)	\$ (23,283)	\$ (22,256)	\$ (21,253)	\$ (20,230)	\$ (19,187)	\$ (17,749)
Interest		\$ (199)	\$ (179)	\$ (140)	\$ (122)	\$ (109)	\$ (100)	\$ (95)	\$ (90)	\$ (86)	\$ (82)	\$ (78)	\$ (73)
End of period with Interest		\$ (47,165)	\$ (44,018)	\$ (37,771)	\$ (32,874)	\$ (29,063)	\$ (26,198)	\$ (24,528)	\$ (23,378)	\$ (22,346)	\$ (21,339)	\$ (20,312)	\$ (19,265)
Bad Debt													
Projected Bad Debt	\$ -	\$ 14,220	\$ 7,458	\$ 24,377	\$ 1,585	\$ 1,221	\$ -	\$ 8,419	\$ 25,257	\$ 25,257	\$ 33,676	\$ 25,257	\$ 25,257
Beginning Period Bad Debt Balance		\$ 32,931	\$ 47,326	\$ 55,008	\$ 79,651	\$ 81,554	\$ 83,101	\$ 83,430	\$ 92,196	\$ 117,868	\$ 143,641	\$ 177,952	\$ 203,963
End of Period Bad Debt Balance		\$ 47,151	\$ 54,784	\$ 79,385	\$ 81,236	\$ 82,776	\$ 83,101	\$ 91,849	\$ 117,453	\$ 143,124	\$ 177,317	\$ 203,209	\$ 229,220
Interest		\$ 175	\$ 223	\$ 266	\$ 318	\$ 325	\$ 329	\$ 347	\$ 415	\$ 517	\$ 635	\$ 754	\$ 857
End of Period Bad Debt Balance with Interest	\$ 32,931	\$ 47,326	\$ 55,008	\$ 79,651	\$ 81,554	\$ 83,101	\$ 83,430	\$ 92,196	\$ 117,868	\$ 143,641	\$ 177,952	\$ 203,963	\$ 230,077
Local Production and Storage Capacity		\$ 79,351	\$ 79,351	\$ 79,351	\$ 79,351	\$ 79,351	\$ 79,351	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Miscellaneous Overhead		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		\$ 77,924	\$ 77,924	\$ 77,924	\$ 77,924	\$ 77,924	\$ 77,924	\$ 18,818	\$ 18,818	\$ 18,818	\$ 18,818	\$ 18,818	\$ 18,818
Gas Cost Other than Bad Debt and Working Capital Over/Under Collection													
Beginning Balance Over/Under Collection		\$ (2,731,062)	\$ (3,020,010)	\$ (2,583,515)	\$ (2,568,801)	\$ (2,746,422)	\$ (3,458,380)	\$ (4,030,298)	\$ (3,590,836)	\$ (3,089,599)	\$ (2,552,536)	\$ (2,006,534)	\$ (1,463,632)
Net Costs - Revenues		\$ (276,395)	\$ 448,726	\$ 24,891	\$ (167,122)	\$ (699,703)	\$ (557,125)	\$ 454,516	\$ 514,433	\$ 548,207	\$ 555,007	\$ 549,757	\$ 496,623
Ending Balance before Interest		\$ (3,007,457)	\$ (2,571,284)	\$ (2,558,624)	\$ (2,735,923)	\$ (3,446,124)	\$ (4,015,506)	\$ (3,575,782)	\$ (3,076,403)	\$ (2,541,392)	\$ (1,997,529)	\$ (1,456,778)	\$ (967,009)
Average Balance		\$ (2,869,260)	\$ (2,795,647)	\$ (2,571,069)	\$ (2,652,362)	\$ (3,096,273)	\$ (3,736,943)	\$ (3,803,040)	\$ (3,333,620)	\$ (2,815,495)	\$ (2,275,033)	\$ (1,731,656)	\$ (1,215,320)
Interest Rate		5.25%	5.25%	4.75%	4.75%	4.75%	4.75%	4.75%	4.75%	4.75%	4.75%	4.75%	4.75%
Interest Expense		\$ (12,553)	\$ (12,231)	\$ (10,177)	\$ (10,499)	\$ (12,256)	\$ (14,792)	\$ (15,054)	\$ (13,196)	\$ (11,145)	\$ (9,005)	\$ (6,854)	\$ (4,811)
Ending Balance Incl Interest Expense	\$ (2,731,062)	\$ (3,020,010)	\$ (2,583,515)	\$ (2,568,801)	\$ (2,746,422)	\$ (3,458,380)	\$ (4,030,298)	\$ (3,590,836)	\$ (3,089,599)	\$ (2,552,536)	\$ (2,006,534)	\$ (1,463,632)	\$ (971,819)
Total Over/Under Collection Ending Balance	\$ (2,745,296)	\$ (3,016,703)	\$ (2,566,279)	\$ (2,522,024)	\$ (2,693,930)	\$ (3,401,478)	\$ (3,971,396)	\$ (3,522,018)	\$ (2,994,078)	\$ (2,430,234)	\$ (1,848,895)	\$ (1,278,934)	\$ (759,565)
Total Indirect Cost of Gas	\$ (2,745,296)	\$ 162,264	\$ 158,973	\$ 176,638	\$ 152,491	\$ 149,430	\$ 144,483	\$ 13,680	\$ 32,326	\$ 34,455	\$ 45,150	\$ 39,022	\$ 41,564
Total Cost of Gas	\$ (2,745,296)	\$ 2,326,960	\$ 4,460,809	\$ 3,881,860	\$ 3,011,770	\$ 2,272,702	\$ 1,345,112	\$ 949,254	\$ 873,808	\$ 854,509	\$ 876,673	\$ 883,318	\$ 1,185,177
Total Interest	\$ -	\$ (12,577)	\$ (12,186)	\$ (10,051)	\$ (10,303)	\$ (12,040)	\$ (14,563)	\$ (14,801)	\$ (12,871)	\$ (10,714)	\$ (8,452)	\$ (6,178)	\$ (4,027)

April 30th Target Balance	\$ (3,553,724)
April 30th Projected Balance	\$ (3,971,396)
Variance	\$ (417,672)

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Northern Utilities
NEW HAMPSHIRE (Over) / Undercollection Anal

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	Winter	Summer	Prior Period	Total
Working Capital				
Total Anticipated Direct Cost of Gas				\$ 22,828,036
Working Capital Percentage				
Working Capital Allowance	\$ 23,486	\$ 7,210	\$ (47,165)	\$ (16,469)
Beginning Period Working Capital Balance				
End of Period Working Capital Allowance				
Interest	\$ (849)	\$ (505)		\$ (1,354)
End of period with Interest				
Bad Debt				
Projected Bad Debt	\$ 48,862	\$ 143,122	\$ 32,931	\$ 224,915
Beginning Period Bad Debt Balance				
End of Period Bad Debt Balance				
Interest	\$ 1,637	\$ 3,525		\$ 5,162
End of Period Bad Debt Balance with Interest				
Local Production and Storage Capacity				\$ 476,106
				\$ -
Miscellaneous Overhead				\$ 580,455
Gas Cost Other than Bad Debt and Working Capital Over/L				
Beginning Balance Over/Under Collection				\$ (33,841,626)
Net Costs - Revenues				\$ 1,891,815
Ending Balance before Interest				\$ (31,949,810)
Average Balance				\$ (32,895,718)
Interest Rate				
Interest Expense				\$ (132,573)
Ending Balance Incl Interest Expense			\$ (2,731,062)	
Total Over/Under Collection Ending Balance				
Total Indirect Cost of Gas	\$ 944,279	\$ 206,198	\$ (2,745,296)	\$ (1,594,819)
Total Cost of Gas	\$ 17,299,213	\$ 5,622,739	\$ (2,745,296)	\$ 20,176,656
Total Interest	\$ (71,720)	\$ (57,044)		\$ (128,764)