

July 21, 2017

Debra Howland
Executive Director and Secretary
New Hampshire Public Utilities Commission
21 S. Fruit St., Suite 10
Concord, NH 03301-2429



Re:

Northern Utilities, Inc., New Hampshire Division - Docket DG 16-819

July 2017 Monthly Cost of Gas Report

Dear Director Howland:

Pursuant to the Commission's Order No. 25,959 in Docket DG 16-819, enclosed is Northern Utilities - New Hampshire Division's ("Northern" or the "Company") current calculation of its projected over or under collection of gas costs for the 2016 / 2017 summer season as well as for the 2016 /2017 annual period. The Company is also providing a summary of its hedging transactions and monthly inventory interest calculation, both updated through June 2017.

Northern's current calculation of costs has been updated to reflect the actual May 1, 2017 balance, actual costs and revenues for May and June 2017, and NYMEX futures prices as of July 18, 2017. The updated calculations indicate that a rate change is not required at this time. Support for this decision is provided in the attached summary and tables.

If you have any questions regarding this filing, please do not hesitate to contact me or Chris Kahl at (603)773-6425.

Very truly yours,

George H. Simmons Jr.

Enclosures

cc: Alex Speidel, Staff Counsel
D Maurice Kreis, Consumer Advocate

George H. Simmons Manager Regulatory Services

6 Liberty Lane West Hampton, NH 03842

one: 603-773-6534 x: 603-773-6734

simmons@unitil.com

New Hampshire Monthly Cost of Gas Report

July 2017 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, 2017 end of year balance. This is done by determining the October 31, 2017 Summer Season balance and comparing it to the corresponding end of year balance.

As shown on Table 1, Line 27, the projected Summer Season end of period balance is an under-collection of \$854,347. When combined with the Winter Season's projected end of period over-collection, Line 29, of \$(1,551,257), the projected end of year balance, Line 31, is an over-collection of \$(696,910). Although the projected summer season under-collection is greater the 4% of the total projected gas costs, any adjustment / increase in rates will increase the end of year balance. Therefore, no rate change is proposed at this time.

An increase in COG rates will only occur when the projected under-collection exceeds the 4% threshold and offsets the Winter Season over-collection balance. This amount, \$1,776,834, is shown on Line 36 of Table 1.

NORTHERN UTILITIES, INC. NEW HAMPSHIRE DIVISION

Calculation of the Projected Over or Under Collection of the Summer 2017 Period Cost of Gas

DG 16-819 July 2017 Estimated

1 Under/(Over) collection as of 05/01/17 [1]			\$	(2,086,122)	Table 2, PG 3, APRIL, LN 114
2				, , ,	
3 Forecasted firm therm sales 07/01/2017 - 10/31/2017 (Sun	nmer)	0.000.400			T.I. 0 B0 01: 0
4 Residential Heat & Non Heat 5 HLF Classes		2,262,433			Table 2, PG. 2 Line 2
6 LLF Classes		1,413,239 1,609,810			Table 2, PG. 2 Line 3 Table 2, PG. 2 Line 4
7		1,009,610			Table 2, PG. 2 Line 4
8 Current recovery rate per therm					
9 Residential heat & non heat		\$0.4055			Table 2, PG. 1 Line 7
10 HLF classes		\$0.3589			Table 2, PG. 1 Line 8
11 LLF classes		\$0.4465			Table 2, PG. 1 Line 9
12					·
13 Total	\$	(2,143,408)			(Ln4*Ln 9) + (Ln5*Ln10) +(LN6*Ln 11)
14					
15 Forecasted recovered costs at current rates 07/01/2017 - 1	10/31/2017		\$	(2,143,408)	LN 13
16 Actual recovered costs			\$	(555,549)	
17 Estimated total recovered costs 05/01/2017 - 10/31/2017			\$	(2,698,958)	Ln 15 + Ln 16
18					
19 Revised projected direct gas costs 05/01/17 - 10/31/17 [2] (\$	5,429,201	Table 2, PG 4, LN 71
20 Revised projected indirect gas costs 05/01/17 - 10/31/17 [3] (Summer)		\$	210,225	Table 2, PG 4, LN 104
21 Control Design to d Outron on One Opera			Φ.	5 000 400	11140 11100
22 Total Projected Summer Gas Costs			\$	5,639,426	LN 19 + LN 20
23 26					
27 Projected under/(over) collection as of 10/31/17			\$	854,347	LN 1 + LN 17+LN 22
28			Φ	054,547	LIN 1 + LIN 17+LIN 22
29 Winter Season Variance (Over-collection)			\$	(1,551,257)	Table 2, PG 3, APRIL, LN 110 - LN 114
30			Ψ	(1,001,201)	Table 2, 1 0 0, Al RIL, LIV 110 - LIV 114
31 Projected October 31, 2017 End of Year Balance (over-coll	ection)		\$	(696,910)	LN 27 + LN 29
32	collony		Ψ	(000,010)	LIVET TEIVES
34 Summer Season Under-collection Threshold (4% of Project	ted Summer	Cost)	\$	225,577	LN 22 * 4%
35			*	,	
36 Total Under-Collection Threshold			\$	1,776,834	(LN 29*-1)+LN 34
37				, ,	,
38 Over-collection Threshold (4% of Projected Summer Cost)			\$	(225,577)	LN 22 * 4% *-1
39					
40 Projected Summer Period Variance			\$	854,347	Ln 27
41					
Type of Variance			Und	er-collection	
43				_ ,.	
44 Rate Adjustment Required				No	If Ln 40 < Ln 36, No, else Yes

NOTES

- [1] Target balance used for determining Summer Period COG rates
- [2] Reflects futures prices as of July 18, 2017
- [3] Includes: Working Capital Allowance, Bad Debt Allowance, Production and Storage Capacity,

Miscellaneous Overhead, Refunds and Interest

Northern Utilities

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

-			1	Wii	nter	, ,				Summ			
Sales Revenues										(Forecast)	(Forecast)	(Forecast)	(Foreca
Volumes	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-1
Residential Heat & Non Heat							•	•		420,333	431,131	476,265	934
Sales HLF Classes										262,563	269,308	297,501	583
Sales LLF Classes										299,083	306,767	338,881	66
Total										981,979	1,007,206	1,112,647	2,18
Rates												, , , ,	, ,
Residential Heat & Non Heat CGA										\$0.4055	\$0.4055	\$0.4055	\$0
Sales HLF Classes CGA										\$0.3589	\$0.3589	\$0.3589	\$(
Sales LLF Classes CGA										\$0.4465	\$0.4465	\$0.4465	\$
Revenues										ψ0.1100	ψ0.1100	ψ0.1100	
Residential Heat & Non Heat										\$ (170,445)	\$ (174,824)	\$ (193,125)	\$ (37
Sales HLF Classes										\$ (94,234)		\$ (106,773)	\$ (20
Sales LLF Classes										\$ (133,541)			
Total Sales		¢ (2.702.460)	¢ (4.222.010)	\$ (5,049,884)	¢ (4.110.221)	¢ (4.100.900)	¢ (2.227.640)	\$ (160,478)	\$ (395,071)				
Total Sales		\$ (2,703,400)	\$ (4,232,010)	\$ (5,049,004)	\$ (4,110,321)	\$ (4,109,699)	\$ (3,327,640)	\$ (100,476)	\$ (395,071)	\$ (390,220)	\$ (406,450)	\$ (451,209)	Ф (ОС
				Wi	nter					Summ	er		
Gas Costs and Credits										(Forecast)	(Forecast)	(Forecast)	(Forec
	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-
Net Demand Costs (Net of Injection Fees & Cap. Assig	n.)										Ĭ		
Pipeline	•									\$ 271,333	\$ 274,823	\$ 274,823	\$ 27
Storage						1				\$ 550,631	\$ 554,066		\$ 5
Peaking										\$ 20,807		\$ 22,055	\$
Fotal Demand Costs										\$ 842,770	\$ 850,944	\$ 850,944	\$ 8
										, , , , , , , , ,	,	,	
Asset Management and Capacity Release													
NUI AMA Revenue										\$ (830,623)	\$ (830,623)	\$ (830,623)	\$ (8
NUI Capacity Release										\$ (5,393)			
NUI AMA Rev & Cap. Release Subtotal										\$ (836,016)			
NH AMA Revenue													
NH Capacity Release													\$
NH Total Asset Management and Capacity Release										\$ (306,071)	\$ (306,071)	\$ (306,071)	\$ (3)
PNGTS Refund										\$ (16.566.71)	\$ (16,566.71)	\$ (16.566.71)	\$ (16.
Net Demand Costs		\$ 1,105,488	\$ 835,704	\$ 1,012,794	\$ 993,820	\$ 997,079	\$ 275,747	\$ 587,761	\$ 595,692	\$ 520,132	\$ 528,306	\$ 528,306	\$ 52
NUI Commodity Costs													
										000 540	005.044	040.075	
NUI Total Pipeline Volumes										282,542	285,644	313,975	6:
Pipeline Costs Modeled in Sendout™												\$ 720,034	
NYMEX Price Used for Forecast											\$ 3.0440		\$
NYMEX Price Used for Update													\$
Increase/(Decrease) NYMEX Price										\$ 0.0310			\$
Increase/(Decrease) in Pipeline Costs												\$ 14,129	
Jpdated Pipeline Costs						1				\$ 702,185	\$ 691,066	\$ 734,163	\$ 1,7
Interruptible Volumes - NH										0	0	0	
Average Supply Cost (\$/MMBtu)										\$ 2.49	\$ 2.42	\$ 2.34	\$
Interruptible Cost - NH						1							\$
Total Updated Pipeline Costs												\$ 734,163	\$ 1,7
New Hampshire Allocated Percentage										34.91%	35.42%	35.63%	Ψ .,.
NH Updated Pipeline Costs		1				1				\$ 245,099			
Hedging (Gain)/Loss Estimate		+								10,000			→ 0
NYMEX Options Contracts													
Hedging Expenses]							
NYMEX Option Strike Price													
NYMEX Option Strike Price NYMEX Price Used for Forecast													
						1							
Strike Price Hit]							
Option Hedging Gain (Credit)													
Tota Northern Hedginf Net Cost						1							
New Hampshire Allocated Percentage]							
NH Futures Hedging Net Cost								\$ -		\$ -	\$ -	\$ -	\$
NH Commodity Costs													
Pipeline Excl Hedging										\$ 245,099	\$ 244,750	\$ 261,555	\$ 6
Hedging (Gain)/Loss Estimate						1							\$
Storage													\$
Peaking					Ì	1				Ŧ	-		\$

Northern Utilities

NEW HAMPSHIRE (Over) / Undercollection Analysis, Balances & Interest Calculation

Sales	Revenues		`			
Volum			Winter	Summer		Total
	esidential Heat & Non Heat		-	2,262,433		2,262,433
Sa	iles HLF Classes		-	1,413,239		1,413,239
Sa	lles LLF Classes		_	1,609,810		1,609,810
Total			-	5,285,482		5,285,482
Rates			-	-		-
Re	esidential Heat & Non Heat CGA					
	iles HLF Classes CGA					
Sa	iles LLF Classes CGA					
Rever	nues					
Re	sidential Heat & Non Heat		-	(917,417)		(917,417
Sa	iles HLF Classes		-	(507,212)		(507,212
Sa	lles LLF Classes		-	(718,780)		(718,780
Total	Sales		(23,533,223)	(2,698,958)		(26,232,181
				•	•	
Gas C	Costs and Credits		,			
			Winter	Summer		Total
Net D	emand Costs (Net of Injection Fees & Cap. Ass					
	peline		-	1,095,803		1,095,803
	orage		-	2,212,828		2,212,828
	aking		-	86,971		86,971
	Demand Costs		-	3,395,602		3,395,602
				, , , , , , , , , , , , , , , , , , , ,		.,,
Asset	Management and Capacity Release					
	JI AMA Revenue		-	(3,322,492)	\$	(3,322,492
NU	JI Capacity Release		-	(21,574)	\$	(21,574
	MA Rev & Cap. Release Subtotal		-	(3,344,065)		(3,344,065
NH	AMA Revenue		-	(1,214,912)	\$	(1,214,912
NE	Capacity Release		_	(9,374)		(9,374
	otal Asset Management and Capacity Release	\$	_	\$ (1,224,286)		(1,224,286
				* (1)==1	Ť	(1)==1)==1
DNIOT	70 D-61	•	(4.000.000)	¢ (00.400)	•	/00.003
PNGI	S Refund	\$	(1,990,806)	\$ (99,400)	\$	(66,267
		_			+-	
Net D	emand Costs	\$	(1,990,806)	\$ 2,071,916	\$	2,105,049
NUI C	Commodity Costs					
NL	JI Total Pipeline Volumes					1,506,053
Pir	peline Costs Modeled in Sendout™					
NY	MEX Price Used for Forecast				\$	3,771,534
NY					\$	3,771,534
	MEX Price Used for Update				\$	3,771,534
Inc	MEX Price Used for Update crease/(Decrease) NYMEX Price				\$	3,771,534
					\$	3,771,534
Inc	crease/(Decrease) NYMEX Price				\$	3,771,534
Ind Updat	crease/(Decrease) NYMEX Price crease/(Decrease) in Pipeline Costs				\$	3,771,534
Ind Updat Int	crease/(Decrease) NYMEX Price crease/(Decrease) in Pipeline Costs ded Pipeline Costs				\$	3,771,534
Inc Updat Int Av	crease/(Decrease) NYMEX Price crease/(Decrease) in Pipeline Costs ied Pipeline Costs erruptible Volumes - NH				\$	3,771,534
Inc Updat Int Av Int	crease/(Decrease) NYMEX Price crease/(Decrease) in Pipeline Costs ted Pipeline Costs erruptible Volumes - NH erage Supply Cost (\$/MMBtu)				\$	3,771,534
Updat Int Av Int Total	crease/(Decrease) NYMEX Price rease/(Decrease) in Pipeline Costs ed Pipeline Costs erruptible Volumes - NH erage Supply Cost (\$/MMBtu) erruptible Cost - NH Updated Pipeline Costs				\$	3,771,534
Ind Updat Int Av Int Total Ne	crease/(Decrease) NYMEX Price rease/(Decrease) in Pipeline Costs ed Pipeline Costs erruptible Volumes - NH erage Supply Cost (\$/MMBtu) erruptible Cost - NH				\$	
Updat Int Av Int Total Ne	crease/(Decrease) NYMEX Price rease/(Decrease) in Pipeline Costs ed Pipeline Costs erruptible Volumes - NH erage Supply Cost (\$MMBtu) erruptible Cost - NH Updated Pipeline Costs w Hampshire Allocated Percentage potated Pipeline Costs					
Updat Int Av Int Total Ne NH Up Hedgi	crease/(Decrease) NYMEX Price crease/(Decrease) in Pipeline Costs ed Pipeline Costs erruptible Volumes - NH erage Supply Cost (\$/MMBtu) erruptible Cost - NH Updated Pipeline Costs w Hampshire Allocated Percentage podated Pipeline Costs ng (Gain)/Loss Estimate					
Ind Updat Int Av Int Total Ne NH Up Hedgi	crease/(Decrease) NYMEX Price rease/(Decrease) in Pipeline Costs ed Pipeline Costs erruptible Volumes - NH erage Supply Cost (\$MMBtu) erruptible Cost - NH Updated Pipeline Costs w Hampshire Allocated Percentage potated Pipeline Costs					
Inc Updat Int Av Int Total Ne NH U Hedgi NYM	crease/(Decrease) NYMEX Price rease/(Decrease) in Pipeline Costs ed Pipeline Costs erruptible Volumes - NH errage Supply Cost (\$MMBtu) erruptible Cost - NH Updated Pipeline Costs w Hampshire Allocated Percentage pdated Pipeline Costs ing (Gain)/Loss Estimate MEX Options Contracts					
Inc Updat Int Av Int Total Ne NH U Hedgi NYM He	crease/(Decrease) NYMEX Price rease/(Decrease) in Pipeline Costs ed Pipeline Costs erruptible Volumes - NH erage Supply Cost (\$MMBtu) erruptible Cost - NH Updated Pipeline Costs w Hampshire Allocated Percentage pdated Pipeline Costs ng (Gain)/Loss Estimate MEX Options Contracts dging Expenses					
Inc Updat Int Av Int Total Ne NH Up Hedgi NYM He	crease/(Decrease) NYMEX Price crease/(Decrease) in Pipeline Costs ted Pipeline Costs erruptible Volumes - NH erage Supply Cost (\$/MMBtu) erruptible Cost - NH Updated Pipeline Costs w Hampshire Allocated Percentage podated Pipeline Costs ng (Gain)/Loss Estimate MEX Options Contracts bydging Expenses //MEX Option Strike Price					
Inc Updat Int Av Int Total Ne NH Up Hedgi NYM He NY Sti	crease/(Decrease) NYMEX Price rease/(Decrease) in Pipeline Costs ed Pipeline Costs erruptible Volumes - NH errage Supply Cost (\$\frac{8}{MMBtu}\) erruptible Cost - NH Updated Pipeline Costs w Hampshire Allocated Percentage pdated Pipeline Costs ng (Gain)/Loss Estimate (EX Option Scottasts diding Expenses 'MEX Option Strike Price					
Inc Updat Int Av Int Total Ne NH Up Hedgi NYM He NY Sti	crease/(Decrease) NYMEX Price crease/(Decrease) in Pipeline Costs et of Pipeline Costs erruptible Volumes - NH erage Supply Cost (\$/MMBtu) erruptible Cost - NH Updated Pipeline Costs w Hampshire Allocated Percentage pdated Pipeline Costs or (Gain)/Loss Estimate AEX Options Contracts diging Expenses MEX Option Strike Price MEX Price Used for Forecast rike Price Hit tition Hedging Gain (Credit)				\$	
Inc Updat Int Av Int Total NH Up Hedgi NYM Hedgi NYM Hed	crease/(Decrease) NYMEX Price rease/(Decrease) in Pipeline Costs ed Pipeline Costs erruptible Volumes - NH erage Supply Cost (\$\frac{8}{MMBtu}\) erruptible Cost - NH Updated Pipeline Costs w Hampshire Allocated Percentage odated Pipeline Costs ng (Gain)/Loss Estimate IEX Option Scontracts sidging Expenses 'MEX Option Strike Price 'MEX Price Used for Forecast rike Price Hit otton Hedging Gain (Credit) ta Northern Hedginf Net Cost					
Inc Updat Int Av Int Total Ne NH Up Hedgi NYM He NY NY Str Op Ne	crease/(Decrease) NYMEX Price rease/(Decrease) in Pipeline Costs ed Pipeline Costs erruptible Volumes - NH erage Supply Cost (\$MMBtu) erruptible Cost - NH Updated Pipeline Costs w Hampshire Allocated Percentage pdated Pipeline Costs g (Gain)/Loss Estimate MEX Options Contracts dging Expenses (MEX Option Strike Price (MEX Price Used for Forecast ike Price Hit titon Hedging Gain (Credit) tta Northern Hedginf Net Cost w Hampshire Allocated Percentage	\$		\$ -	\$	
Inc Updat Int Av Int Total Hedgi NYM He NY NY Str Op To	crease/(Decrease) NYMEX Price rease/(Decrease) in Pipeline Costs ed Pipeline Costs erruptible Volumes - NH errage Supply Cost (\$\frac{8}{MMBtu}\) erruptible Cost - NH Updated Pipeline Costs w Hampshire Allocated Percentage pdated Pipeline Costs ng (Gain)/Loss Estimate (EX Option Strike Price MEX Option Strike Price MEX Price Used for Forecast rike Price Hit tion Hedging Gain (Credit) ta Northern Hedginf Net Cost w Hampshire Allocated Percentage I Futures Hedging Net Cost	\$		\$ -	\$	
Inc Updat Int Av Int Total Ne NH Up Hedgi NYM Hedgi NH Hedg	crease/(Decrease) NYMEX Price crease/(Decrease) in Pipeline Costs ed Pipeline Costs erruptible Volumes - NH erage Supply Cost (\$\frac{8}{MMBtu}\) erruptible Cost - NH Updated Pipeline Costs w Hampshire Allocated Percentage beta Pipeline Costs ing (Gain)/Loss Estimate (EX Option Strike Price //MEX Option Strike Price //MEX Price Used for Forecast rike Price Hit tion Hedging Gain (Credit) ta Northern Hedginf Net Cost w Hampshire Allocated Percentage Hetures Hedging Net Cost Hetures Hedging Net Cost				\$	1,356,00
Inc Updat Int Avv Int Total Ne NH Updat NH Updat NH Updat NH Updat NH Updat NY	crease/(Decrease) NYMEX Price crease/(Decrease) in Pipeline Costs ed Pipeline Costs erruptible Volumes - NH erage Supply Cost (\$MMBtu) erruptible Cost - NH Updated Pipeline Costs w Hampshire Allocated Percentage pdated Pipeline Costs org (Gain)/Loss Estimate MEX Options Contracts diging Expenses (MEX Option Strike Price (MEX Price Used for Forecast rike Price Hit totion Hedging Gain (Credit) tat Northern Hedginf Net Cost w Hampshire Allocated Percentage of Futures Hedging Net Cost commodity Costs belline Excl Hedging	\$		\$ 1,356,005	\$ \$	1,356,006
Inc Updat Int Av Int Total Ne NH Up Hedgi NY NY Stit Op To Ne NH NH Co NH NH Co Phil	crease/(Decrease) NYMEX Price rease/(Decrease) in Pipeline Costs ed Pipeline Costs erruptible Volumes - NH rerage Supply Cost (\$\frac{8}{MMBtu}\) erruptible Cost - NH Updated Pipeline Costs w Hampshire Allocated Percentage pdated Pipeline Costs ing (Gain)/Loss Estimate MEX Option Strike Price MEX Price Used for Forecast rike Price Hit strice Hit strice Hit strice Hit strice Hedging Net Cost w Hampshire Allocated Percentage H Futures Hedging Net Cost seminative Costs seminative Strike sem	\$		\$ 1,356,005 \$ -	\$ \$ \$	1,356,006
Inc Updat Int Avv Int Total Ne NH UJ Hedgi NYM He NY NY Sti Op Too Ne NH NH Cc Pip HH HE Sto	crease/(Decrease) NYMEX Price crease/(Decrease) in Pipeline Costs ed Pipeline Costs erruptible Volumes - NH erage Supply Cost (\$MMBtu) erruptible Cost - NH Updated Pipeline Costs w Hampshire Allocated Percentage pdated Pipeline Costs org (Gain)/Loss Estimate MEX Options Contracts diging Expenses (MEX Option Strike Price (MEX Price Used for Forecast rike Price Hit totion Hedging Gain (Credit) tat Northern Hedginf Net Cost w Hampshire Allocated Percentage of Futures Hedging Net Cost commodity Costs belline Excl Hedging	\$		\$ 1,356,005	\$ \$	3,771,534 1,356,005 1,356,005

Northern Utilities, Inc. New Hampshire Division Table 2 Page 2 of 4

Northern Utilities

116

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

69	Inventory Finance Charge								\$ -		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
70 71	Total Anticipated Direct Cost of Gas	1	\$	2.397.354 \$	3.579.916	¢ 20	889.473	\$ 3,429,081	\$ 2,969,782	\$ 1,405,270	\$ 1.047.168	\$ 901.211	\$ 770.169	\$ 778.061	¢ 704 720	\$ 1.137.873
72	Total Anticipated Direct Cost of Gas		Φ	2,391,354 p	3,379,910	φ 3,0	Wint		\$ 2,909,762	\$ 1,405,270	\$ 1,047,100	\$ 901,211	\$ 770,109 Sum		\$ 754,720	φ 1,137,073
73							*******	CI .					(Forecast)	(Forecast)	(Forecast)	(Forecast)
74		-	Oct-16	Nov-16	Dec-16	Jan-	17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17
75	Working Capital		OCI-16	NOV-10	Dec-16	Jan	-17	reb-17	IVIAI-17	Apr-17	Iviay-17	Juli-17	Jui-17	Aug-17	Sep-17	OCI-17
76	Total Anticipated Direct Cost of Gas		\$	2,535,615 \$	3,718,177	¢ 40	027,734	\$ 3,567,342	\$ 3,108,043	\$ 1,543,531	\$ 1,064,461	\$ 918,505	\$ 770,169	\$ 778,061	\$ 794,720	\$ 1,137,873
77	Working Capital Percentage		φ	0.0887%	0.0887%		0.0887%	0.0887%	0.0887%			0.0950%	0.0950%		0.0950%	0.0950%
78	Working Capital Allowance		¢	2,249 \$	3.298		3.573									
79	Beginning Period Working Capital Balance		φ	1,083 \$	3,339		6,651									
80	End of Period Working Capital Allowance		\$	3,332 \$			10,224									
81	Interest		\$	6 \$			25				\$ 10,776			\$ 21,302		
01	litterest		Φ	0 9	15	φ	25	p 35	φ 43	φ 55	57	Φ 00	φ 03	Φ 65	Φ 00	φ /1
82	End of period with Interest	\$	1,083 \$	3,339 \$	6,651	\$	10,249	\$ 13,447	\$ 16,247	\$ 17,767	\$ 18,835	\$ 19,768	\$ 20,562	\$ 21,367	\$ 22,190	\$ 23,342
83	Bad Debt	1														
84	Projected Bad Debt	\$	- \$	(147) \$	(52)		5,903									
85	Beginning Period Bad Debt Balance		\$	135,847 \$	136,096		136,441					\$ 204,478	\$ 229,228			
86	End of Period Bad Debt Balance		\$	135,700 \$			142,344						\$ 254,228			\$ 311,736
87	Interest		\$	396 \$			407						\$ 755			\$ 966
88	End of Period Bad Debt Balance with Interest	\$	135,847 \$	136,096 \$	136,441	\$ 1	142,750	\$ 148,137	\$ 153,446	\$ 171,960	\$ 204,478	\$ 229,228	\$ 254,983	\$ 280,819	\$ 306,736	\$ 312,702
89	Local Production and Storage Capacity		\$	70,110 \$	70,110		70,110	\$ 70,110	\$ 70,110	\$ 70,110	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
90	NH PUC Consulting Costs			\$		\$	-			\$ -	- \$					
91	Miscellaneous Overhead		\$	68,151 \$	68,151	\$	68,151	\$ 68,151	\$ 68,151	\$ 68,151	\$ 17,293	\$ 17,293	\$ 17,293	\$ 17,293	\$ 17,293	\$ 17,293
94	Gas Cost Other than Bad Debt and Working Capita	ıl Over/l														
95	Beginning Balance Over/Under Collection		\$	1,215,774 \$			539,706							\$ (2,036,293)		
96	Net Costs - Revenues		\$	(167,853) \$			022,150)					\$ 523,433			\$ 360,805	
97	Ending Balance before Interest		\$	1,047,922 \$			482,444)							\$ (1,649,389)		
98	Average Balance		\$	1,131,848 \$		\$	28,631							\$ (1,842,841)		
99	Interest Rate			3.50%	3.50%		3.50%	3.50%	3.50%				3.75%		3.75%	3.75%
100	Interest Expense		\$	3,301 \$	2,317		84 5		\$ (4,458)							
101	Ending Balance Incl Interest Expense	\$	1,215,774 \$	1,051,223 \$	539,706		482,360)							\$ (1,655,148)		
102 103	Total Over/Under Collection Ending Balance	\$	1,352,705 \$	1,190,658 \$	682,798	\$ (3	329,362)	\$ (865,954)	\$ (1,864,160)	\$ (3,637,379	\$ (2,710,357)	\$ (2,169,591)	\$ (1,760,748)	\$ (1,352,962)	\$ (970,026)	\$ (696,910)
103	Total Indirect Cost of Gas	\$	1,352,705 \$	144,067 \$	144,235	\$ 1	148,251	\$ 144,648	\$ 141,911	\$ 149,152	\$ 40,332	\$ 34,627	\$ 36,893	\$ 38,175	\$ 39,424	\$ 20,774
105				, , ,	,											
106	Total Cost of Gas	\$	1,352,705 \$	2,541,421 \$	3,724,151	\$ 4,0	037,724	\$ 3,573,729	\$ 3,111,694	\$ 1,554,422	\$ 1,087,500	\$ 935,838	\$ 807,063	\$ 816,236	\$ 834,144	\$ 1,158,646
107			1							Γ.				T -		
108	Total Interest	\$	- \$	3,704 \$	2,728	\$	515	\$ (1,741)	\$ (3,976)	\$ (8,583	(9,903)	\$ (7,613)	\$ (6,132)	\$ (4,858)	\$ (3,624)	\$ (2,601)
109 110			5310.53				Enc	l of Period Balar	nce, All Accounts	\$ (3.637.379)					
111			00.0.00				_110		, , , 100001110	+ (0,00.,010	,					
112							-				_					
113								Vinter Period								
114							Т	arget ending Ba	ilance*	\$ (2,086,122)					
115																

* See Annual COG filing, Schedule 3, Page 3 of 4, APR-17, LN 109

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

Inventory Finance Charge	\$	-	\$	-	\$	-
Total Anticipated Direct Cost of Gas	\$	17,670,876	\$	5,429,201	\$	23,100,077
				_		
W 1: 0 % I		Winter		Summer		Total
Working Capital Total Anticipated Direct Cost of Gas					\$	23,964,230
Working Capital Percentage					φ	23,904,230
Working Capital Allowance					\$	21,698
Beginning Period Working Capital Balance					Ψ	21,000
End of Period Working Capital Allowance						
Interest					\$	561
End of period with Interest						
Bad Debt						
Projected Bad Debt	\$	33,544	\$	136,004	\$	169,547
Beginning Period Bad Debt Balance						
End of Period Bad Debt Balance					_	7.00
Interest					\$	7,308
End of Period Bad Debt Balance with Interest	_		_			
Local Production and Storage Capacity NH PUC Consulting Costs	\$	420,658	\$	-	\$	420,658
Miscellaneous Overhead	\$	408,908	\$	103,760	\$	512,668
Gas Cost Other than Bad Debt and Working Capital	Ψ	400,300	Ψ	105,700	Ψ	312,000
Beginning Balance Over/Under Collection					\$	(14,906,805
Net Costs - Revenues					\$	(2,198,778
Ending Balance before Interest					\$	(17,105,582
Average Balance					\$	(16,006,194
Interest Rate						
Interest Expense Ending Balance Incl Interest Expense					\$	(49,951
Total Over/Under Collection Ending Balance						
Total Over/Order Collection Ending Balance						
Total Indirect Cost of Gas	\$	2,224,969	\$	210,225	\$	2,435,193
Total Cost of Gas	\$	18,543,140	\$	5,639,426	\$	25,535,270
	_	,,	7	-,, :=-	-	
Total Interest	\$	(7,352)	\$	(34,730)	\$	(42,082
*						

Northern Utilities, Inc. New Hampshire Division
Table 2
Page 4 of 4

Northern Utilities, Inc. Price Risk Management Profit and Loss Statement June 2017

Account # 53325

Current

ACB (\$64,708.38) TE \$143,338.00 LV \$78,629.62

ACTIVITY -	Purchase Cost and Profit and Loss			•	-		Expense	Profit and Loss
					Option	Strike	Option	
Date	Description	State		Contracts	Premuim	Price	Purchase Cost	
	Net P&L							\$0.00
TRANSACT	ION COSTS						Subtotal	Total
	Transaction Cost-Enter Options Transaction Cost-Exit Options	Both		0 0	\$7.36		\$0.00 \$0.00	
	Total New Transaction Costs							\$0.00
OPEN CALI	OPTION POSITIONS-Expense and Open Tr	ade Equity			Total			Total
		State	QTY	Actual Option Premium	Option Purchase Cost	Strike Price	06/30/17 Futures Price	Current Open Trade Equity
05/02/16 05/26/16 06/28/16 07/27/16 08/29/16	Nov17 Options Dec17 Options Jan18 Options Feb18 Options Mar18 Options	Both Both Both Both Both	12 20 29 30 25	0.2300 0.2370 0.2475 0.2470 0.2400	\$27,600.00 \$47,400.00 \$71,775.00 \$74,100.00 \$60,000.00	\$3.500 \$4.000 \$4.300 \$4.500 \$4.650	\$3.118 \$3.267 \$3.356 \$3.336 \$3.268	\$0.00 \$0.00 \$0.00 \$0.00 \$0.00
	Total Expense, Open Trade Equity				\$280,875.00			\$0.00
OPEN CALI	OPTION POSITIONS- Long Option Value				Total			
		State	QTY	Current Option Premium	Current Option Value	Strike Price		
05/02/16 05/26/16 06/28/16 07/27/16 08/29/16	Nov17 Options Dec17 Options Jan18 Options Feb18 Options Mar18 Options	Both Both Both Both Both	12 20 29 30 25	0.1062 0.0844 0.1136 0.1394 0.1558	\$12,744.00 \$16,880.00 \$32,944.00 \$41,820.00 \$38,950.00	\$3.500 \$4.000 \$4.300 \$4.500 \$4.650		
06/30/17	Total Long Option Value	20		01.1000	\$143,338.00	Ų 11000		
MARGIN CA	ASH BALANCE						Subtotal	Total
06/01/17	Beginning Balance-carried forward from	last month						(\$84,708.38)
	Interest Credit Net Deposit to Margin Account Option Premiums of new activity Monthly Transaction Costs						\$0.00 \$20,000.00 \$0.00 \$0.00	
	Total Monthly Cash Adjustment							\$20,000.00
06/30/17	Ending Balance (ACB)							(\$64,708.38)

NORTHERN UTILITIES, INC. DETERMINATION OF INVENTORY FINANCING FROM MONEY POOL June 2017

	Total Inventory	Average bal beg + end / 2	Internally Financed	Money Pool Interest Rate	Interest to Defer	NH	ME
January 2016	\$8,349,188.69	\$9,797,354.69	\$9,797,354.69	1.70%	\$13,879.59	\$5,887.72	\$7,991.87
February	\$6,881,382.39	\$7,615,285.54	\$7,615,285.54	1.71%	\$10,851.78	\$4,603.33	\$6,248.46
March	\$6,466,038.05	\$6,673,710.22	\$6,673,710.22	1.71%	\$9,510.04	\$4,034.16	\$5,475.88
April	\$6,932,113.54	\$6,699,075.80	\$6,699,075.80	1.71%	\$9,546.18	\$4,049.49	\$5,496.69
May	\$7,347,477.88	\$7,139,795.71	\$7,139,795.71	1.72%	\$10,233.71	\$4,341.14	\$5,892.57
June	\$7,775,720.99	\$7,561,599.44	\$7,561,599.44	1.73%	\$10,901.31	\$4,624.33	\$6,276.97
July	\$8,390,100.35	\$8,082,910.67	\$8,082,910.67	1.76%	\$11,852.12	\$5,027.67	\$6,824.45
August	\$9,003,112.57	\$8,696,606.46	\$8,696,606.46	1.79%	\$12,953.71	\$5,494.96	\$7,458.74
September	\$9,643,843.60	\$9,323,478.09	\$9,323,478.09	1.81%	\$14,040.27	\$5,955.88	\$8,084.39
October	\$10,336,838.18	\$9,990,340.89	\$9,990,340.89	1.81%	\$15,044.50	\$6,381.88	\$8,662.62
November	\$10,177,266.05	\$10,257,052.11	\$10,257,052.11	1.84%	\$15,692.96	\$6,656.95	\$9,036.01
December	\$8,176,192.96	\$9,176,729.50	\$9,176,729.50	1.98%	\$15,151.98	\$6,427.47	\$8,724.51
January 2017	\$5,803,856.23	\$6,990,024.59	\$6,990,024.59	2.05%	\$11,935.23	\$5,062.92	\$6,872.30
February	\$3,991,804.55	\$4,897,830.39	\$4,897,830.39	2.05%	\$8,362.88	\$3,547.53	\$4,815.34
March	\$1,988,672.70	\$2,990,238.62	\$2,990,238.62	2.19%	\$5,445.13	\$2,309.82	\$3,135.31
April	\$3,252,033.76	\$2,620,353.23	\$2,620,353.23	2.27%	\$4,956.51	\$2,102.55	\$2,853.96
May	\$4,492,308.93	\$3,872,171.35	\$3,872,171.35	2.29%	\$7,389.39	\$3,134.58	\$4,254.81
June	\$5,803,856.23	\$5,148,082.58	\$5,148,082.58	2.44%	\$10,467.77	\$4,440.43	\$6,027.34
Inventory ACCT #	LNG		<u>MMBTU</u>	<u>AMOUNT</u>			
515152	Inventory - Liquified Nat NATURAL GAS	ural Gas	9,556	\$63,801.44			

ACCT#		MMBTU	AMOUNT
	LNG		
515152	Inventory - Liquified Natural Gas		
	NATURAL GAS	9,556	\$63,801.44
515114&115	Natural Gas Underground - SS-1 and FSS-1		
515116	Natural Gas Underground - SSNE	96,163	\$218,928.27
515113	Natural Gas Underground - MCN	1,825,850	\$5,521,126.52
516525	Washington 10 prepaid	-	
Total Inventor	y	-	\$5,803,856.23