

May 24, 2018

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

Northern Utilities, Inc., New Hampshire Division - Docket DG 17-144 Re:

May 2018 Monthly Cost of Gas Report

Dear Director Howland:

Pursuant to Commission Order No. 26,068 in Docket DG 17-144, enclosed is Northern Utilities - New Hampshire Division's ("Northern" or the "Company") latest calculation of its projected end-of-period over-/under-collection of gas costs for the 2017/2018 Summer Period as well as for the 2017/2018 Annual Period.

Northern's calculation of the projected imbalance between gas costs and revenue has been updated to reflect actual costs and revenues from November 2017 through April 2018, and NYMEX gas futures prices reported on May 18, 2018. The calculation indicates a change in Cost of Gas rates is not required at this time. Support for this decision is provided in the attached summary and tables.

Typically, in its Monthly Cost of Gas Reports, the Company provides a summary of its hedging activity and monthly inventory interest calculations. However, effective May 1, 2018, Northern terminated its hedging program and all prior hedges have expired. Thus, a hedging activity summary is no longer required. Further, effective April 1, 2018, the Company replaced its Washington 10 storage contract with a Union Gas storage service. Under the terms of the new service agreement, Northern will not incur monthly interest or carrying charges on inventory. With the Company's remaining storage contracts representing about 6% of Northern's total inventory, monthly interest charges have become a small and insignificant cost (for example, the April 2018 expense is about \$150). Accordingly, the Company finds that reporting monthly inventory interest calculations is of minimal use and is no longer required. The Company will continue to include the remaining monthly inventory interest expense in its annual Cost of Gas reconciliation.

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,

Searcy Main/
George H. Simmons Jr.

George H. Simmons Manager Regulatory Services

6 Liberty Lane West Hampton, NH 03842

Phone: 603-773-6534 Fax: 603-773-6734 simmons@unitil.com

cc: Alex Speidel, Staff Counsel

Enclosures

D. Maurice Kreis, Consumer Advocate

### New Hampshire Monthly Cost of Gas Report

### **Summer Period**

### May 2018 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, 2018 expected end of year balance. This is done by determining if the October 31, 2018 Summer Season balance exceeds the threshold for a rate change and, if exceeded, the rate change would lower the expected end of year balance.

As shown on Table 1, Line 24, the projected end of Summer Period balance is an over-collection of (\$100,894). This balance is below the 4% Summer Period threshold (Line 36) for requiring a change in COG rates. Therefore, no COG rate changes are proposed at this time. In addition, the expected over-collection helps offset the Winter Period under-collection of \$715,341 (Line 26) thereby reducing the projected end of year balance to \$614,127 (Line 28).

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 Summer 2017-2018 Period Cost of Gas DG 17-144

## May 2018 Estimated

					/ <del>*   -                     </del>	
1	Target under/(over) collection as of 05/01/18				(\$2,708,745)	Table 2, PG. 3, Line 99
2	Forecasted firm therm sales 05/01/2018 - 10/31/2018					
3 4	Residential Heat & Non Heat		3,398,435			Table 2, PG. 2, Line 2
	HLF Classes					Table 2, PG. 2, Line 2 Table 2, PG. 2, Line 3
5	LLF Classes		1,757,926			Table 2, PG. 2, Line 3 Table 2, PG. 2, Line 4
6 7	LLF Classes		2,713,210			Table 2, FG. 2, Line 4
8	Current recovery rate per therm					
9	Residential heat & non heat		\$0.3975			Table 2, PG. 1, Line 7
10	HLF classes		\$0.3543			Table 2, PG. 1, Line 8
-	LLF classes		\$0.3343 \$0.4254			Table 2, PG. 1, Line 9
12	LLF Classes		φυ.4254			Table 2, FG. 1, Line 9
13	Total	\$	(3,127,910)			(LN 4 * Ln 9) + (LN 5 * LN 10) + (LN 6 * LN 11)
14	Total	Φ	(3,127,910)			(LN 4 LN 9) + (LN 5 LN 10) + (LN 6 LN 11)
15	Forecasted recovered costs at current rates 05/01/2018 - 10/31	1/2019		Ф	(3,127,910)	LN 13
16	Actual Recovered Costs	1/2010		\$ \$	(3,127,910)	LIN 13
17	Estimated total recovered costs 11/01/17 - 04/30/18			\$	(3,127,910)	LN 15 + LN 16
18	Listillated total recovered costs 11/01/17 - 04/30/10			Ψ	(3,127,910)	LIN 13 + LIN 10
19	Revised projected direct gas costs 11/01/17 - 04/30/18 [1]			\$	5,465,422	Table 2, PG. 2, Line 71
20	Revised projected unect gas costs 11/01/17 - 04/30/16 [1]			\$	270,340	Table 2, PG. 4, Line 101
21	Revised projected indirect gas costs 11/01/17 - 04/30/16 [2]			Ψ	270,340	Table 2, FG. 4, Line 101
22	Total Projected Summer Period Gas Costs			\$	5,735,762	LN 19 + LN 20
23	Total i Tojected Summer i enod Gas Gosts			Ψ	3,733,702	LIN 19 + LIN 20
24	Projected October 31, 2018 Summer Season Balance				(\$100,894)	LN 1 + Ln 17 + LN 19 + LN 20
25	1 Tojected October 31, 2010 Summer Season Balance				(ψ100,094)	LIN I + LII II + LIN IS + LIN 20
26	Winter Season Variance (under-collection)			\$	715,020	Table 2, PG 3, LN 111
27	willer Season variance (under-conection)			Ψ	113,020	Table 2, FG 3, LIV 111
28	Projected October 31, 2018 End of Year Balance			\$	614,127	LN 24 +LN 26
29	1 Tojected October 31, 2010 End of Tear Balance			Ψ	014,127	LIV 24 TLIV 20
30	Projected October 31, 2018 Summer Season Balance			\$	(100,894)	LN 24
31	Frojected October 31, 2016 Summer Season Balance			Ψ	(100,094)	LIN 24
32	Projected Summer Period Imbalance Type			0	ver-collection	
33	Projected Summer Period imbalance Type			O.	ver-collection	
33	Projected Summer Period Imbalance %`				-1.76%	LN 24 / LN 22
35	Projected Summer Period Imbalance %				-1.70%	LIN 24 / LIN 22
36	4% Summer Season Over-collection Threshold			φ	(220, 420)	LN 22 * 4%
36 37	4% Summer Season Over-collection Threshold			\$	(229,430)	LIN 22 476
37 38	Total Annual Under-collection Threshold			Φ	044.454	LN 26 + LN 36*-1
	Total Annual Under-collection Threshold			\$	944,451	LIN 20 + LIN 30"-1
39 40	Pate Adjustment Paguired				No	IE (ABS) IN 30 - (ABS) IN 36 No ELSE Voc
40	Rate Adjustment Required				INO	IF (ABS) LN 30< (ABS) LN 36, No ELSE Yes

#### NOTES

- [1] Reflects futures prices as of May 18, 2018
- [2] Includes: Working Capital Allowance, Bad Debt Allowance, Production and Storage Capacity, Miscellaneous Overhead, and Interest

#### **Northern Utilities**

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

		1		VVI	nter	1	I	<i>(</i> <b>-</b>	<i>(</i> =	Sum			·-
ales Revenues					I	ĺ		(Forecast)	(Forecast)	(Forecast)	(Forecast)	(Forecast)	(Forec
olumes	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-
Residential Heat & Non Heat								702,997	482,427	419,957	422,211	443,199	92
Sales HLF Classes								363,643	249,548	217,233	218,399	229,256	47
Sales LLF Classes								561,252	385,156	335,281	337,080	353,837	74
otal								1,627,891	1,117,130	972,471	977,690	1,026,291	2,14
ates								.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	.,,	Ç,	,	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	_,.
Residential Heat & Non Heat CGA								\$0.3975	\$0.3975	\$0.3975	\$0.3975	\$0.3975	9
Sales HLF Classes CGA								\$0.3543	\$0.3543		\$0.3543	\$0.3543	
Sales LLF Classes CGA								\$0.4254	\$0.4254	\$0.4254	\$0.4254	\$0.4254	
evenues													
Residential Heat & Non Heat									\$ (191,765)		\$ (167,829)		
Sales HLF Classes								\$ (128,839)	\$ (88,415)	\$ (76,966)	\$ (77,379)	\$ (81,225)	\$ (1
Sales LLF Classes							\$ -	\$ (238,756)	\$ (163,845)	\$ (142,629)	\$ (143,394)	\$ (150,522)	\$ (3
otal Sales		\$ (1.965.771)	\$ (5.152.151)	\$ (6,668,252)	\$ (4.898.752)	\$ (5.053.884)	\$ (2.990.600)		\$ (444,025)		\$ (388,601)		
		1 + (.,,,	<del>+ (-)</del>	(-,,	1 + ( ),0000,000,	1 + (=)===;	1 (=,===,===,	<del>+ (=  ====/</del>	<del>+ ()===/</del>	· (000)0=-/	+ (000)00.7	4 (101)010/	
				Wi	nter					Sum	mer		
				T	Inter			(=)	(=)			(=	/=
as Costs and Credits								(Forecast)	(Forecast)	(Forecast)	(Forecast)	(Forecast)	(Fore
	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct
et Demand Costs (Net of Injection Fees & Cap. As	sian )												
	o.g,							¢ 270.005	¢ 270.005	¢ 070.005	Ф 070.0CF	¢ 270.020	e 0
Pipeline								\$ 278,965			\$ 278,965	\$ 278,020	\$ 2
Storage					İ	I		\$ 443,264	\$ 410,369	\$ 410,369	\$ 410,369	\$ 410,369	\$ 4
Peaking					İ	I		\$ 42,108	\$ 42,108	\$ 42,108	\$ 42,108	\$ 42,108	\$
		1			<b> </b>	<b> </b>		\$ 764,337		_	\$ 731,442	\$ 730,497	
otal Demand Costs		1		-	<b>+</b>	1		φ /64,33/	\$ 731,442	\$ 731,442	φ 131,442	φ /30,49/	\$ 7
					İ	I							l
sset Management and Capacity Release					1	1							l
NUI AMA Revenue					1	1		\$ (394,079)	\$ (394,079)	\$ (394,079)	\$ (394,079)	\$ (394,079)	\$ (3
								,		ψ (334,073)	Φ (334,073)	φ (554,075)	φ (5
NUI Capacity Release								\$ -	\$ -	\$ -	\$ -	\$ -	\$
UI AMA Rev & Cap. Release Subtotal								\$ (394,079)	\$ (394,079)	\$ (394,079)	\$ (394,079)	\$ (394,079)	\$ (3
NH AMA Revenue									\$ (175,799)	, , ,	\$ (175,799)		\$ (1
								φ (175,755)	ψ (175,755)	ψ (175,755)	Φ (175,755)	Φ (175,755)	ψ (1
NH Capacity Release								\$ -	\$ -	\$ -	\$ -	\$ -	\$
H Total Asset Management and Capacity Release								\$ (175,799)	\$ (175,799)	\$ (175,799)	\$ (175,799)	\$ (175,799)	\$ (1
NGTS Refund								\$ -	\$ -	\$ -	\$ -	¢	\$
NG13 Kelulu								φ -	φ -	φ -	<b>φ</b> -	φ -	Φ
et Demand Costs		\$ 749,069	\$ 854,867	\$ 927,541	\$ 1,087,774	\$ 969,649	\$ 667,322	\$ 588,539	\$ 555,644	\$ 555,644	\$ 555,644	\$ 554,698	\$ 5
III Common ditu Conto													
UI Commodity Costs													
NUI Total Pipeline Volumes							883,856	474,732	321,807	282,899	284,126	306,404	6
Pipeline Costs Modeled in Sendout™							\$ 2,395,366	\$ 1,273,432	\$ 862,289	\$ 761,921	\$ 763,018		\$ 1,6
NYMEX Price Used for Forecast							\$ 2.7890	\$ 2.8900	\$ 2.9200	\$ 2.9400	\$ 2.9500	\$ 2.9200	\$
NYMEX Price Used for Update							\$ 2.6900	\$ 2.8210	\$ 2.8470	\$ 2.8790	\$ 2.8930	\$ 2.8750	\$
Increase/(Decrease) NYMEX Price							\$ (0.10)		\$ (0.07)				
Increase/(Decrease) in Pipeline Costs					İ	I	\$ (87,502)		\$ (23,492)				
					1	1							
pdated Pipeline Costs					İ	I	\$ 2,307,864	\$ 1,240,675			\$ 746,823	\$ 786,581	\$ 1,6
Interruptible Volumes - NH				1	I	I	0	0	0	. 0	0	0	1.
Average Supply Cost (\$/MMBtu)					İ	I	\$ 2.61	\$ 2.61	\$ 2.61	\$ 2.63	\$ 2.63	\$ 2.57	\$
Interruptible Cost - NH					İ	I	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$
otal Updated Pipeline Costs					1	1	\$ 2,307,864	\$ 1,240,675	\$ 838,797	\$ 744,665	\$ 746,823	\$ 786,581	\$ 1,6
New Hampshire Allocated Percentage					İ	I	36.46%	34.56%	34.92%	34.54%	34.57%	33.68%	Ψ .,σ
H Updated Pipeline Costs							\$ 841,529	\$ 428,797	\$ 292,898	\$ 257,190	\$ 258,210	\$ 264,928	\$ 5
edging (Gain)/Loss Estimate		1			<del> </del>	<del> </del>	Ψ 041,029	Ψ 720,131	Ψ ∠3∠,030	Ψ 231,130	Ψ 230,210	Ψ ∠04,3∠0	ψ ὑ
					1	1							l
NYMEX Options Contracts					İ	I							l
Hedging Expenses					1	1							İ
NYMEX Option Strike Price				1	I	I	1					]	l
NYMEX Price Used for Forecast				1	I	I	1						l
Strike Price Hit				1	I	I	1					]	l
Option Hedging Gain (Credit)					İ	I							l
Tota Northern Hedginf Net Cost					İ	I							1
				1	I	I	1						l
New Hampshire Allocated Percentage					1	1		_					١.
NH Futures Hedging Net Cost		]						\$ -	\$ -	\$ -	\$ -	\$ -	\$
H Commodity Costs				1	I	<u> </u>	1						1
Pipeline Excl Hedging					İ	I	\$ 841,529	\$ 428,797	\$ 292,898	\$ 257,190	\$ 258,210	\$ 264,928	\$ 5
Hedging (Gain)/Loss Estimate					İ	I	\$ -	\$ -	\$ -	\$	\$ -	\$ -	\$
Storage				1	I	I	\$ -	\$ -	\$ -	¢ -	\$ -	ě	ě
					İ	I	-		~	φ		φ 4 74 ^	φ
Peaking					L	<b>_</b>	\$ 5,018	\$ 5,039	\$ 4,917	\$ 5,026	\$ 5,031	\$ 4,719	\$
otal Commodity Costs		\$ 1,131,186	\$ 3,765,770	\$ 5,871,853	\$ 3,550,135	\$ 2,617,328	\$ 1,247,555	\$ 433,836	\$ 297,816	\$ 262,216	\$ 263,241	\$ 269,648	\$ 5
		1		l	1		l	\$ -	\$ -	\$ -	\$ -	\$ -	\$
ventory Finance Charge											Ψ		

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

NEW HAMPSHIKE (Over) / Undercollectio	ranaiysis, Ba	iances & inter	est Calculatio	n	
Sales Revenues	,		Prior		
Volumes	Winter	Summer	Period		Total
Residential Heat & Non Heat	winter	3,398,435	rellou		3,398,435
Sales HLF Classes	]	1,757,926			1,757,926
Sales LLF Classes	_	2,713,210			2,713,210
Total	_	7,869,571			7,869,571
Rates	-	-			-
Residential Heat & Non Heat CGA					
Sales HLF Classes CGA					
Sales LLF Classes CGA					
Revenues					
Residential Heat & Non Heat	-	(1,350,878)			(1,350,878)
Sales HLF Classes	-	(622,833)			(622,833)
Sales LLF Classes		(1,154,199)			(1,154,199)
Total Sales	(26,729,410)	(3,127,910)			(29,857,320)
Gas Costs and Credits	Winter	Summer			Total
		Summer			Total
Net Demand Costs (Net of Injection Fees & Cap. As					
Pipeline	-	1,671,899			1,671,899
Storage	-	2,495,109			2,495,109
Peaking	-	252,650			252,650
Total Demand Costs	-	4,419,659			4,419,659
Asset Management and Capacity Release					
NUI AMA Revenue	-	(2,364,475)		\$	(2,364,475)
NUI Capacity Release	-	-		\$	-
NUI AMA Rev & Cap. Release Subtotal	-	(2,364,475)		\$	(2,364,475)
NH AMA Revenue	_	(1,054,792)		\$	(1,054,792)
NH Capacity Release	_	(1,001,102)		\$	(1,001,102)
NH Total Asset Management and Capacity Release	\$ -	\$ (1,054,792)		\$	(1,054,792)
	1.				
PNGTS Refund	\$ (1,387,970)	) \$ -		\$	-
Net Demand Costs	\$ (1,387,970)	\$ 3,364,866		\$	3,364,866
	•				
NUI Commodity Costs					
NUI Total Pipeline Volumes					3,168,447
Pipeline Costs Modeled in Sendout™				\$	8,504,765
NYMEX Price Used for Forecast					
NYMEX Price Used for Update					
Increase/(Decrease) NYMEX Price					
Increase/(Decrease) in Pipeline Costs	1			l	
Jpdated Pipeline Costs	1			l	
Interruptible Volumes - NH Average Supply Cost (\$\( MMRtu \)	1			l	
Average Supply Cost (\$/MMBtu) Interruptible Cost - NH	1				
Total Updated Pipeline Costs	1			l	
New Hampshire Allocated Percentage	1			l	
NH Updated Pipeline Costs	<b>+</b>	1		\$	2,912,246
Hedging (Gain)/Loss Estimate	<b>†</b>	1		Ψ	2,012,240
NYMEX Options Contracts	1				
Hedging Expenses	I			l	
NYMEX Option Strike Price	1			l	
NYMEX Price Used for Forecast	I			l	
Strike Price Hit	1			l	
Option Hedging Gain (Credit)	1			l	
Tota Northern Hedginf Net Cost	I			\$	-
New Hampshire Allocated Percentage	1				
NH Futures Hedging Net Cost	\$ -	\$ -		\$	-
NH Commodity Costs					
Pipeline Excl Hedging	\$ 841,529			\$	2,912,246
Hedging (Gain)/Loss Estimate	\$ -	\$ -		\$	-
Storage	\$ -	\$ -		\$	
Peaking Face Control C	\$ 5,018			\$	34,855
Total Commodity Costs	\$ 18,183,827	\$ 2,100,555		\$	20,284,382
Inventory Finance Charge	\$ -	\$ -	l	\$	
Total Anticipated Direct Cost of Gas	\$ 23,440,048	\$ 5,465,422		\$	28,905,470
. J.a	_ \$ 20,440,040	ψ 0,-100,π22	l	Ψ	20,000,470

#### **Northern Utilities**

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

72								Winter								Summer										
73															(Forecast)		(Forecast)	(Fo	recast)	(F	orecast)	(	Forecast)	(F	orecast)	
74		(	Oct-17		Nov-17	Dec-17		Jan-18		Feb-18		Mar-18		Apr-18	May-18		Jun-18	Ju	ıl-18	1	Aug-18		Sep-18	(	Oct-18	
75	Working Capital																									
76	Total Anticipated Direct Cost of Gas			\$	2,020,074	\$ 4,760,457	\$	6,939,213	\$	4,777,729	\$	3,726,797	\$	2,054,698	\$ 1,022,375	\$	853,459	\$	817,859	\$	818,885	\$	824,346	\$ '	1,128,497	
77					0.1077%	0.1077%		0.1077%		0.1077%		0.11%		0.11%	0.11%	,	0.11%		0.11%		0.11%		0.11%		0.11%	
78				\$	2,176	\$ 5,127	\$	7,474	\$	5,146	\$	4,014	\$	2,342	\$ 1,166	\$	973	\$	932	\$	934	\$	940	\$	1,286	
79	Beginning Period Working Capital Balance			\$	3,429	\$ 5,620	\$	10,777	\$	18,302	\$	23,522	\$	27,626	\$ 30,076	\$	31,357	\$	32,449	\$	33,505	\$	34,566	\$	35,637	
80	End of Period Working Capital Allowance			\$	5,604	\$ 10,748	\$	18,251	\$	23,448	\$	27,536	\$	29,968	\$ 31,242	\$	32,330	\$	33,382	\$	34,439	\$	35,506	\$	36,924	
81	Interest			\$	16	\$ 29	\$	51	\$	74	\$	90	\$	108	\$ 115	\$	119	\$	123	\$	127	\$	131	\$	136	
82	End of period with Interest	\$	3,429	\$	5,620	\$ 10,777	\$	18,302	\$	23,522	\$	27,626	\$	30,076	\$ 31,357	\$	32,449	\$	33,505	\$	34,566	\$	35,637	\$	37,060	
83	Bad Debt																									
84	Projected Bad Debt	\$	-	\$	(12,901.55)	\$ (3,279.80)	\$	(2,812.78)	\$	48,970.46	\$	(467.28)	\$	33,605.75	\$ 30,733.90	\$	30,733.90	\$ 30	,733.90	\$ :	30,733.90	\$	30,733.90	\$ 3	30,733.90	
85	Beginning Period Bad Debt Balance			\$	13,172	\$ 294	\$	(2,991)	\$	(5,819)	\$	43,218	\$	42,903	\$ 76,732	\$	107,812	\$	139,007	\$	170,320	\$	201,750	\$	233,298	
86	End of Period Bad Debt Balance			\$	270	\$ (2,986)	\$	(5,803)	\$	43,152	\$	42,750	\$	76,508	\$ 107,466	\$	138,545	\$	169,741	\$	201,054	\$	232,484	\$	264,032	
87	Interest			\$	24	\$ (5)	\$	(16)	\$	66	\$	152	\$	224	\$ 345	\$	462	\$	579	\$	696	\$	814	\$	932	
88		\$	13,172	\$	294	\$ (2,991)	\$	(5,819)	\$		\$	42,903		76,732	\$ 107,812	\$	139,007	\$	170,320	\$	201,750	\$	233,298	\$	264,965	
89	Local Production and Storage Capacity			\$	70,110	70,110	\$	70,110	\$	70,110	\$	70,110	\$	70,110	\$ -	\$	-	\$	-	\$	-	\$	-	\$	-	
90	Miscellaneous Overhead			\$	69,710	\$ 69,710	\$	69,710	\$	69,710	\$	69,710	\$	69,710	\$ 15,734	\$	15,734	\$	15,734	\$	15,734	\$	15,734	\$	15,734	
91	Gas Cost Other than Bad Debt and Working Capita	I Ove	r/Under Col	llecti																						
92	Beginning Balance Over/Under Collection			\$	354,283	\$ 409,938	\$	19,002	\$	290,510	\$	170,302	\$	(1,158,532)	\$ (2,100,533)	\$	(1,716,604)	\$ (1,	297,075)	\$	(854,035)	\$	(410,384)	\$	21,049	
93				\$	54,303	\$ (391,694)	\$	270,961	\$	(121,023)	\$	(1,327,088)		(935,902)		\$			447,066	\$	446,017			\$	290,430	
94	Ending Balance before Interest			\$	408,587	\$ 18,244	\$	289,963	\$	169,488	\$	(1,156,785)	\$	(2,094,434)	\$ (1,709,460)	\$	(1,291,435)	\$ (	850,009)	\$	(408,018)	\$	21,777	\$	311,479	
95	Average Balance			\$	381,435	\$ 214,091	\$	154,483	\$	229,999	\$	(493,242)	\$	(1,626,483)	\$ (1,904,997)	\$	(1,504,020)	\$ (1,	073,542)	\$	(631,026)	\$	(194,303)	\$	166,264	
96	Interest Rate				4.25%	4.25%		4.25%		4.25%		4.25%		4.50%	4.50%		4.50%		4.50%		4.50%		4.50%		4.50%	
97	Interest Expense			\$		\$ 758	\$	547	\$	815	\$	(1,747)	\$	(6,099)					(4,026)	\$	(2,366)	\$	(729)	\$	623	
98	Ending Balance Incl Interest Expense	\$	354,283	\$	409,938	\$ 19,002	\$	290,510	\$	170,302	\$	(1,158,532)	\$	(2,100,533)	\$ (1,716,604)	\$	(1,297,075)	\$ (	854,035)	\$	(410,384)	\$	21,049	\$	312,102	
99	Total Over/Under Collection Ending Balance	\$	370,884	\$	415,852	\$ 26,788	\$	302,993	\$	237,042	\$	(1,088,004)	\$	(1,993,725)	\$ (1,577,436)	\$	(1,125,619)	\$ (	650,210)	\$	(174,068)	\$	289,984	\$	614,127	
100																										
101	Total Indirect Cost of Gas	\$	370,884	\$	130,485	\$ 142,450	\$	145,064	\$	194,891	\$	141,862	\$	170,001	\$ 40,950	\$	42,382	\$	44,077	\$	45,859	\$	47,625	\$	49,447	
102	2							•																		
103	Total Cost of Gas	\$	370,884	\$	2,010,739	\$ 4,763,087	\$	6,944,457	\$	4,832,800	\$	3,728,839	\$	2,084,878	\$ 1,063,325	\$	895,842	\$	861,936	\$	864,744	\$	871,971	\$ '	1,177,944	
104	ı		,		, , , , , ,	, , , , , , , , , , , , , , , , , , , ,				, , , , , , , , , , ,		. , , ,		. , , , 1		•	-,				, ,					
105		\$	-	\$	1,391	\$ 782	\$	583	\$	955	\$	(1,504)	\$	(5,767)	\$ (6,683)	\$	(5,059)	\$	(3,323)	\$	(1,543)	\$	217	\$	1,692	
106					,																					
107							April	30, 2018 Ta	rge	t Balance				(\$2,708,745)												
100							•		_																	

 April 30, 2018 Target Balance
 (\$2,708,745)

 April 30, 2018 Actual Balance
 \$ (1,993,725)

 Variance
 \$ 715,020

# Northern Utilities NEW HAMPSHIRE (Over) / UndercollectionAnalysis, Balances & Interest Calculation

		_							
72									
73							Prior		
74			Winter		Summer		Period		Total
75	Working Capital								
76	Total Anticipated Direct Cost of Gas							\$	29,744,390
77	Working Capital Percentage							Ť	20,1 1 1,000
78	Working Capital Allowance	\$	26,279	\$	6,231	\$	3,429	\$	35,938
79	Beginning Period Working Capital Balance	Ψ	20,210	Ψ	0,201	Ψ	0,420	Ψ	00,000
80	End of Period Working Capital Allowance								
81	Interest							\$	1,121
82	End of period with Interest							Ψ	1,121
83	Bad Debt	_							
84	Projected Bad Debt	\$	184,403	\$	11,146	\$	13,172	\$	208,721
85	Beginning Period Bad Debt Balance	Φ	104,403	Φ	11,140	Φ	13,172	Φ	200,721
	End of Period Bad Debt Balance								
86									4.075
87	Interest							\$	4,275
88 89	End of Period Bad Debt Balance with Interest Local Production and Storage Capacity	\$	420,658	\$				\$	420,658
		\$		\$	94.406	\$			
90	Miscellaneous Overhead Gas Cost Other than Bad Debt and Working Capita		418,262	Ъ	94,406	Э		\$	512,668
91 92	Beginning Balance Over/Under Collection							•	(0.070.000
	Net Costs - Revenues							\$	(6,272,080
93								\$	(18,525
94	Ending Balance before Interest							\$	(6,290,604
95	Average Balance							\$	(6,281,342
96	Interest Rate							_	(00.05
97	Interest Expense							\$	(23,656
98	Ending Balance Incl Interest Expense								
99	Total Over/Under Collection Ending Balance								
100		Ļ		_		_		_	
101	Total Indirect Cost of Gas	\$	924,753	\$	270,340	\$	370,884	\$	1,565,978
102									
	Total Cost of Gas	\$	24,364,801	\$	5,735,762	\$	370,884	\$	30,471,447
104									
105	Total Interest	\$	(3,561)	\$	(14,699)			\$	(18,260
106									
107									
108									
109									
110									
111									

Table 2 Page 4 of 4